

Strategies for Improving the Competitiveness of MSMEs through the Utilisation of Information and Communication Technology

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Abstract

The purpose of this study is to identify factors that influence the use of ICT by MSMEs, analyse the effect of ICT use on the competitiveness of MSMEs, and develop appropriate strategies to improve the use of ICT by MSMEs. This research is qualitative in nature. Data collection techniques include listening and recording important information to conduct data analysis through data reduction, data display, and conclusion drawing. This study found that ICT utilisation can be an important strategy in improving the competitiveness of MSMEs. In its utilisation, MSMEs can utilise ICT to improve efficiency and effectiveness in business management, expand their market, and improve brand and product promotion more efficiently and effectively. The government and private sector need to play an active role in providing adequate access and technology infrastructure, providing training and guidance for MSMEs, as well as providing online platforms and encouraging collaboration between MSMEs.

Keywords: *Strategy, Competitiveness, MSMEs, ICT*

A. INTRODUCTION

The research is grounded in the context of the current global economy, which is characterized by intensifying competition and a growing number of businesses vying for market share (Ausat & Suherlan, 2022). The aforementioned circumstance necessitates prompt adaptation by business entities, including Micro, Small and Medium Enterprises (MSMEs), in

order to ensure the uninterrupted operation of their businesses (Subagja et al., 2022) and (Sutrisno et al., 2022). In the current landscape of business competition, it is imperative for MSMEs to adopt strategic measures in order to sustain their operations and achieve success. There exist multiple factors that compel MSMEs to remain operational in the face of a highly competitive global economy, including but not limited to heightened levels of competition. In the context of the global economy, competitiveness refers to the presence of numerous market participants vying for a comparable share of the market. MSMEs are faced with the challenge of competing against both domestic and global rivals, including large corporations. In order to maintain viability, MSMEs must provide distinctive value propositions, establish product or service differentiation, and cultivate competitive advantages that distinguish them from their rivals. However, it is imperative to acknowledge the significance of technology and innovation. The global business landscape has been transformed by advancements in technology. In order to maintain competitiveness, it is imperative for MSMEs to effectively leverage technology and innovation. It is recommended that the organization incorporate information and communication technology, establish an online presence, and leverage social media platforms to enhance market penetration and optimize operational efficacy. In the face of escalating competition, it is imperative to incorporate innovations in product, process, or business models. Furthermore, MSMEs encounter various obstacles, including alterations in governmental regulations, fluctuations in the costs of raw materials, and the progressively dynamic nature of consumer lifestyles (Ausat & Suherlan, 2021) and (Yusuf et al., 2022).

The utilization of Information and Communication Technology (ICT) is a viable approach to enhance the competitiveness of MSMEs. The utilization of ICT has been found to offer various advantages to MSMEs. These benefits include the acceleration of business processes, facilitation of data management, enhancement of efficiency, and expansion of market reach (Ausat, Siti Astuti, et al., 2022) and (Sampe et al., 2022). The utilization of ICT presents a significant opportunity for enhancing the competitiveness of MSMEs. ICT encompasses the utilization of computer hardware, software, computer networks, and the internet to facilitate the management of information and communication. ICT facilitates the automation of various business processes for MSMEs, including but not limited to inventory management, supply chain management, and transaction processing. The utilization of accounting software, supply chain management systems, and e-commerce solutions can enable MSMEs to enhance their operational efficiency, save time and labor, and promptly address

customer demands. ICT enables MSMEs to expand their market reach by utilizing the internet. Professionals in this field possess the ability to construct and oversee websites, virtual marketplaces, and digital commerce systems with the aim of engaging with consumers on a local, national, or global scale. The utilization of this strategy enables MSMEs to surmount geographical constraints and broaden their market coverage. The findings of prior research indicate that the adoption of ICT in Indonesia has a positive impact on the performance of MSMEs (Yusriza et al., 2017). The findings indicate that the utilization of ICT among MSMEs is linked to enhanced operational efficacy, superior promotional activities, and heightened levels of customer contentment. The implementation of ICT in MSMEs have a favorable impact on their overall business performance (Ongori & Migiro, 2010). This finding is consistent with previous research in the field. The research indicates that MSMEs that proficiently utilize ICT exhibit elevated levels of customer contentment, improved operational efficacy, and heightened productivity. Notwithstanding, a considerable number of MSMEs have yet to effectively leverage ICT due to a range of factors, including insufficient proficiency and expertise in ICT utilization, exorbitant expenses, and inadequate infrastructure (Sadiq et al., 2022) and (Nazir & Roomi, 2021).

MSMEs hold significant importance in the Indonesian context, as they account for approximately 60% of the total employment and 40% of the gross domestic product (GDP) (Kemenkeu, 2022). Notwithstanding the significant contributions of MSMEs to the Indonesian economy, they continue to encounter a range of challenges, including limited access to capital, markets, and technology (Kamar et al., 2022). Hence, the appropriate approach to utilizing ICT may serve as a remedy to enhance the competitiveness of MSMEs and contribute to the augmentation of the country's economic growth (Kraugusteeliana et al., 2022).

The Resource-Based View (RBV) is a frequently utilized theory in studies pertaining to ICT strategies aimed at enhancing the competitiveness of MSMEs. The present theory centers on the internal resources of an organization and their capacity to be utilized efficiently in order to attain a competitive edge. Within the realm of MSMEs, ICT can be regarded as a resource that has the potential to confer a competitive edge. ICT has the potential to enhance the performance of MSMEs in several ways. These include streamlining operational processes, optimizing supply chain management, facilitating access to markets and customers, and broadening the geographical scope of business operations. The RBV approach will be utilized in a study to examine the ICT resources and capabilities that are possessed by MSMEs (Agus

Zainul Arifin, 2020). The objective is to determine how these resources can be leveraged to achieve a competitive edge. Moreover, the utilization of the RBV framework in investigating methods to enhance the competitiveness of MSMEs via ICT will facilitate comprehension of the significance and influence of ICT resources and capabilities on the competitive advantage of MSMEs. The findings of this research can offer direction for MSMEs and other relevant parties in devising efficacious approaches to embracing and leveraging ICT for enhancing MSME competitiveness.

Henceforth, the present study shall concentrate on tactics aimed at enhancing the competitiveness of MSMEs by leveraging ICT. The study aims to ascertain the determinants that impact the utilization of ICT among MSMEs. Additionally, it seeks to evaluate the impact of ICT usage on the competitiveness of MSMEs and devise suitable tactics to enhance the adoption of ICT by MSMEs. Consequently, the present study is anticipated to make a valuable contribution towards the advancement of MSMEs in Indonesia, thereby facilitating the augmentation of the country's economic growth.

B. METHOD

This study's researchers can save time and effort by avoiding data collection in the field by instead reading the relevant literature. The internet and scholarly journal archives were scoured using keywords pertinent to this debate to retrieve articles on strategy, competitiveness, MSMEs, and ICT. When constructing a reputable reference list, the writers were not required to use only specific online resources such as Emerald Insight, Research Gate, or Elsevier journal portals. The authors restricted the keyword search to competitiveness strategies, MSMEs, and ICT. The years 2016 and up to the present were the range of time that was considered for the search of journals, articles, and publications. When we were collecting references, we used a variety of publication portals and put keywords there. Nevertheless, only the downloaded papers, journals, and publications that are most relevant to competitiveness strategies and their links to MSME development through ICT will be used. The rest will be discarded. This article includes a total of 58 citations and references from other works.

In this investigation, researchers choose to focus on the details. One approach of data collection was attentive listening for pertinent information, followed by data reduction, data presentation, and conclusion drawing. To be more explicit, we simplified, categorized, and eliminated irrelevant data during the data reduction phase so that the remaining data could be

used to generate useful insights and conclusions. So, it is essential to analyze the data through the reduction stage. This pruning phase allowed us to determine which pieces of information were most useful in achieving our end aim. We started with a total of 78 references. After going through this first procedure, however, there were finally 58 cited sources. Then, we presented the information. This process follows on from data reduction, in which raw data is whittled down into a more manageable set that can be more readily analyzed and from which conclusions may be formed. A narrative style of presentation is used here (in the form of field notes). It will be simpler to organize and structure the data according to a pattern of relationships if we present it in this way. Last but not least, inductive reasoning is used to the facts. In the final phase of qualitative data analysis, you'll return to the initial goals you established. At this phase, we attempt to draw conclusions and develop remedies based on the information we have gathered by spotting trends, patterns, and outliers. We believe our sources to be reliable enough to draw inferences from them. We've been trying to come to a reasonable conclusion like this so that everything is clearer.

C. RESULT AND DISCUSSION

Micro, Small, and Medium Enterprises (MSMEs) possess substantial potential to substantially contribute to the economic growth of Indonesia at a national level (Halim, 2020). Notwithstanding, a number of MSMEs encounter diverse challenges in enhancing their competitiveness, among which is the deficiency in the adoption of ICT in their operational procedures (Lubis & Junaidi, 2016). Hence, the implementation of ICT as a means to enhance the competitiveness of MSMEs is of significant importance. the integration of ICT in MSMEs can enhance operational efficiency and efficacy, expedite business procedures, enhance productivity and product excellence, and expand market and customer reach (Ausat, Suherlan, et al., 2022). Furthermore, the utilization of ICT can facilitate the enhancement of branding and product promotion for MSMEs via various digital platforms such as social media, websites, and mobile applications (Almaududi Ausat et al., 2021). An effective approach that can be adopted is to enhance the digital and technological proficiency of MSME proprietors and employees. The provision of training and mentorship in the application of ICT in business operations has been shown to enhance comprehension of how to effectively leverage such technology to optimize business processes (Mwantimwa, 2019); (Haleem et al., 2022) and (Jarle Gressgård et al., 2014). Furthermore, the proliferation of online platforms and mobile

applications has the potential to facilitate market expansion for MSMEs and streamline online transactions for customers (Wulandari et al., 2022) and (Kilay et al., 2022). This can potentially enhance the sales and competitiveness of MSMEs in the market.

The employment of Information and Communication Technology (ICT) to enhance the competitiveness of Micro, Small, and Medium Enterprises (MSMEs) is a crucial endeavor in response to the intensifying competition in the business landscape (Ausat & Peirisal, 2021). The utilization of Information and Communication Technology (ICT) has been identified as a crucial element in enhancing business efficacy and potency, as well as aiding Micro, Small, and Medium Enterprises (MSMEs) in confronting progressively intricate business predicaments (Hernita et al., 2021) and (Kusumaningtyas et al., 2022). Notwithstanding, a considerable number of micro, small, and medium enterprises (MSMEs) fail to effectively leverage technology in their operations. The absence of digital and technological proficiency is a contributing factor to this phenomenon. Consequently, it is imperative to provide training and guidance pertaining to the utilization of Information and Communication Technology (ICT) in the business sector, as it plays a pivotal role in enhancing the competitiveness of Micro, Small, and Medium Enterprises (MSMEs). Furthermore, the proliferation of digital platforms and mobile applications has the potential to facilitate the expansion of market reach and augmentation of sales for micro, small, and medium enterprises (MSMEs) as evidenced by various studies (Nafiuddin & Hamdan, 2020); (Khaskheli et al., 2017); (Bagale et al., 2021); (Costa & Castro, 2021) and (Rakshit et al., 2021). the utilization of online platforms and mobile applications can facilitate the expansion of market reach for MSMEs, particularly in areas that are difficult to access (Daga, 2023). Additionally, these technologies can enhance the convenience of conducting online transactions for customers.

The enhancement of competitiveness among MSMEs through the utilization of ICT necessitates careful consideration of factors such as technology infrastructure, data security, and customer privacy (Hopia et al., 2023). Hence, it is imperative for the government, technology firms, and other pertinent establishments to collaborate and ensure that MSMEs can proficiently and securely leverage technology. Effective utilization of ICT can enhance the operational procedures of MSMEs, leading to heightened efficiency, and broader market reach (Basry & Sari, 2018). Furthermore, the utilization of ICT can facilitate MSMEs in enhancing their brand promotion and product marketing with greater efficacy and efficiency, ultimately leading to heightened competitiveness within the market (Farida & Setiawan, 2022) and

(Adrian, 2018). Notwithstanding, there exist various obstacles that need to be surmounted in the application of ICT for MSMEs. A significant obstacle pertains to the restricted availability of appropriate technological infrastructure, particularly in remote regions. Furthermore, the insufficiency of technologically trained human resources can pose a hindrance to the optimal utilization of technology (Ausat, Widayani, et al., 2022) and (Muhamad et al., 2023). Hence, it is imperative to foster collaboration among the government, private enterprises, and other pertinent establishments to surmount these limitations. Furthermore, providing instruction and support to owners and employees of MSMEs regarding the integration of ICT into their business practices may serve to mitigate the constraints imposed by a shortage of skilled labor.

In light of the intensifying business competition, the approach of leveraging ICT to enhance the competitiveness of micro, small, and medium enterprises (MSMEs) represent a crucial measure. Through the effective utilization of ICT, MSMEs can enhance their business management efficiency and effectiveness, broaden their market reach, and elevate their competitiveness within the market. Nonetheless, effective utilization of ICT requires collaboration among diverse stakeholders to surmount the challenges that impede its optimal deployment.

There are several strategies that can be implemented to improve the competitiveness of MSMEs through the utilisation of ICT. Here are some strategies that can be implemented:

1. Expand access and technology infrastructure.

The optimization of MSMEs potential can be facilitated through the implementation of ICT strategies aimed at enhancing competitiveness. Such strategies may involve expanding access to technological infrastructure. The Resource-Based View (RBV) theory can be employed to elucidate the correlation between ICT strategies and the competitiveness of MSMEs in the given context (widjaja & Yuga, 2020). The initial objective pertains to enhancing connectivity. This approach entails endeavors to enhance the accessibility of reliable internet and telecommunication networks for MSMEs. Enhanced accessibility can facilitate MSMEs in enhancing their communication, acquiring information, and leveraging digital platforms for marketing their merchandise. Furthermore, it is important to consider the aspect of training and education. It is imperative to offer training and education to MSMEs regarding the proficient utilization of ICT. This will enable them to effectively employ ICT tools and applications to enhance productivity, optimize inventory management, engage in online marketing, and provide superior customer service. The RBV theory places significant emphasis on the

significance of distinct and challenging-to-replicate resources and capabilities in the development of a competitive advantage (Priem & Butler, 2001). The possession of proficient ICT infrastructure and sufficient accessibility are valuable assets that can confer a competitive edge upon MSMEs. The utilization of advanced and current technology can enhance operational efficacy and promptness in addressing market demands, thereby conferring a competitive edge that is arduous for rivals to emulate (Harahap, Kraugusteeliana, et al., 2023). Fundamentally, an ICT strategy that encompasses the expansion of access and technology infrastructure has the potential to enhance the competitiveness of MSMEs (Sutrisno et al., 2023). The Resource-Based View (RBV) framework elucidates the manner in which distinctive resources and capabilities pertaining to ICT employment can confer a competitive edge to MSMEs. The effective utilization of ICT can enhance the business productivity, efficiency, and innovation of MSMEs (Subagja et al., 2023). Additionally, it can facilitate improved market access and competitiveness for MSMEs in the current digital era. Hence, it is plausible for the government to assume responsibility for enhancing technological infrastructure across all territories, encompassing remote regions. The establishment of fundamental infrastructure, such as internet networks and sufficient electricity accessibility, can facilitate the achievement of this objective. It is possible for the government to offer subsidies or incentives to technology service providers with the aim of encouraging their operation in underdeveloped regions.

2. Provide training and mentorship for MSMEs.

The enhancement of MSMEs' competitiveness through training and mentoring can be achieved by implementing various ICT strategies that are associated with RBV (Resource-Based View). The Resource-Based View (RBV) theory posits that a firm's competitive advantage stems from its possession of distinctive and non-replicable resources (Fahy, 2000). Within this particular context, it is plausible to regard ICT as a valuable asset that has the potential to confer a competitive edge to MSMEs provided that it is effectively administered (Ausat, 2023). Training and mentoring in technology utilization is an ICT strategy that can enhance the competitiveness of MSMEs and its correlation with RBV. MSMEs may benefit from receiving training and support in comprehending and employing ICT, including but not limited to online marketing, inventory management, or financial management through the use of specialised software (Harahap, Ausat, et al., 2023). The provision of training and mentoring services is expected to enhance the capacity of MSMEs to effectively utilise ICT as a distinctive and difficult-to-replicate resource. From the perspective of Resource-Based View (RBV), the ICT

strategies serve as distinctive resources for MSMEs. By means of effective training and guidance, MSMEs can enhance their utilization of ICT to establish competitive advantages that are challenging for rivals to duplicate. Within the framework of the Resource-Based View (RBV), ICT assumes the role of a valuable resource that possesses attributes of rarity, inimitability, and non-substitutability, thereby conferring a competitive advantage to the firm. Consequently, providing training and guidance on the effective utilization of ICT in business operations can facilitate MSMEs to maximize the benefits of technology. The provision of training and guidance in the field of ICT can be carried out by proficient entities, such as universities or technology service providers.

3. Provide online platforms for MSMEs.

The implementation of ICT strategies, specifically the utilization of online platforms, can enhance the competitiveness of MSMEs. This can be achieved through the development and deployment of digital infrastructure, which can facilitate the establishment and expansion of MSMEs. The present discourse aims to explicate the strategies in the context of Resource-Based View (RBV) theory, particularly in the domain of online platform development. The employment of digital platforms, such as e-commerce websites, mobile applications, or e-commerce platforms, can enhance the competitive edge of MSMEs (Sudirjo et al., 2023). By utilizing these platforms, MSMEs have the opportunity to advertise their merchandise and services, conduct online sales, and expand their customer base. This approach aligns with the Resource-Based View (RBV) theory, which underscores the significance of distinct resources and capabilities possessed by an entity. The utilization of online platforms represents a significant and uncommon asset for micro, MSMEs, given that not all MSMEs possess the means or capacity to construct such platforms. Furthermore, the digitization of commercial operations. MSMEs have the potential to enhance their competitiveness through the adoption of ICT to digitize their internal business operations (Harahap, Sutrisno, et al., 2023). The implementation of inventory management systems that are integrated with online platforms can enhance the ability of MSMEs to effectively manage their inventory (Rijal et al., 2023). The utilization of data tracking and analytics tools can assist MSMEs in comprehending customer behavior, market trends, and requisite demands (Mikalef et al., 2019). Within the framework of Resource-Based View (RBV), the adoption of digitalization in business operations is regarded as a valuable resource that can confer a competitive edge to MSMEs that execute it effectively. According to the Resource-Based View (RBV) theory, the adoption of an ICT

strategy that encompasses the provision of an online platform for MSMEs can confer a competitive edge by virtue of the scarce and valuable resources and capabilities that it embodies. MSMEs that effectively utilize digital infrastructure can expand their market reach, optimize their business operations, foster collaboration, gather and analyze data, and cultivate pertinent digital proficiencies (Ausat, Al Bana, et al., 2023). The implementation of these measures has the potential to enhance the competitiveness of MSMEs and enable them to effectively participate in a market that is progressively becoming more competitive. Hence, it is plausible for either the government or private enterprises to furnish digital platforms to MSMEs to advertise their merchandise and broaden their consumer base. Online platforms refer to websites or mobile applications that are user-friendly and readily available to potential customers worldwide.

4. Encourage collaboration between MSMEs

Enhancing competitiveness of MSMEs can be achieved through collaborative efforts among them. Online platforms or meeting places can be established by either the government or private sector to facilitate collaboration among MSMEs in the areas of product and service development, resource sharing, and the exploitation of mutual strengths (Guimarães et al., 2021). The implementation of ICT strategies aimed at fostering collaboration among MSMEs has the potential to enhance their competitiveness (Ausat, Azzaakiyyah, et al., 2023). The following are some examples of such strategies. Initially, the process of constructing a digital platform: Develop digital platforms that enable the facilitation of collaboration and exchange of information among MSMEs. The aforementioned platforms may comprise virtual business gateways, interactive discussion boards, or digital social communities that cater to micro, small, and medium enterprises. By utilising these platforms, MSMEs have the ability to exchange knowledge, experiences, and business prospects, ultimately enhancing collaboration amongst themselves (Dwivedi et al., 2023). Secondly, the topic of discussion pertains to supply chain management systems. Deploy ICT enabled supply chain management systems for MSMEs (S. Budiarto et al., 2017). The implementation of technological tools, such as inventory management systems, shipment tracking, and data analysis, can enhance the operational efficiency of MSMEs and foster collaboration with both internal and external business partners within their supply chain. Thirdly, it is recommended that MSMEs implement digital marketing tactics and leverage e-commerce platforms to advertise their products and services. MSMEs can expand their customer reach, enhance their visibility, and establish

partnerships with other business entities by leveraging social media, websites, and e-commerce platforms. Within the framework of the Resource-Based View (RBV), this particular strategy can be associated with the aforementioned theory in the following manner: Initially, it is imperative to consider valuable resources: The utilisation of ICT in conjunction with collaborative efforts among MSMEs yields significant benefits and resources (Kusmantini et al., 2020). The utilisation of digital platforms, supply chain management systems, and data consolidation has facilitated the acquisition of valuable information, efficient inventory management, and optimal business decision-making for MSMEs. Secondly, it is important to note that resources are limited in availability. Effective implementation of ICT and collaboration among MSMEs can be a limited commodity. The effective adoption of ICT is not universally accessible or feasible for all MSMEs, and not all MSMEs possess robust business partnerships (Arendt, 2008). Hence, the adoption of this particular approach by MSMEs can potentially confer a distinct competitive edge. Ultimately, resources that are difficult to replicate. The implementation of ICT and fostering cooperation among MSMEs can potentially serve as valuable resources that are difficult for competitors to replicate. The process of obtaining and assimilating appropriate information technology and fostering robust collaboration among MSMEs necessitates a significant investment of time, resources, and comprehensive expertise. This presents a challenge for rivals to swiftly reproduce. Moreover, the efficacy of this approach is contingent upon cultural variables and the inter-organizational connections forged among MSMEs, which are not readily duplicable by prospective market entrants. Within the framework of Resource-Based View (RBV), the implementation of ICT strategies and fostering collaboration among MSMEs facilitate the exploitation of both internal and external resources that possess characteristics of being valuable, rare, difficult to imitate, and irreplaceable. This establishes a firm foundation for augmenting the competitiveness of MSMEs, fortifying their standing in the marketplace, and generating a durable competitive edge.

With the utilisation of the above strategies, MSMEs are expected to improve their competitiveness in the market. However, the implementation of these strategies should be done systematically and sustainably to achieve optimal results.

D. CONCLUSION

Based on the presented data and discourse, it can be inferred that the utilisation of ICT can serve as a crucial strategy in enhancing the competitiveness of MSMEs. Micro, Small, and Medium Enterprises (MSMEs) can leverage ICT to enhance their operational efficiency and effectiveness, broaden their market reach, and promote their brand and products more efficiently and effectively. The utilisation of ICT for MSMEs poses several challenges, including limited access to adequate technology infrastructure and a shortage of human resources trained in technology. Hence, it is imperative to foster collaboration among the government, private sector, and other pertinent entities to surmount these challenges. Several strategies can be implemented to enhance the competitiveness of MSMEs through the utilisation of ICT. These strategies include but are not limited to expanding access to technology infrastructure, offering training and guidance to MSMEs, providing online platforms for MSMEs, and fostering collaboration among MSMEs.

To enhance the competitiveness of MSMEs by leveraging ICT, it is imperative for both the public and private sectors to proactively facilitate sufficient access to technology infrastructure, deliver training and mentorship to MSMEs, and establish online platforms while fostering collaboration among MSMEs. Moreover, it is imperative for MSMEs to comprehend the potential and advantages of ICT in their business development and demonstrate a steadfast commitment to consistently enhancing their knowledge and skills in the utilisation of ICT.

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