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Impact of Information Technology on Operational Performance of Medium-Sized Business Firms

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Abstract: *The corporate entity's use of information technology (IT) is not unrelated to the necessity of making decisions quickly and accurately. As technology enables organisations to process and use information to make choices, technology plays a part in the transformation of the organisational transformation process. However, many companies who are unable to transform their IT assets have developed into competitive advantages that are sustained over the long term. Another factor is the managerial process's incapacity to transform IT assets into IT capabilities. In actuality, the company has spent less money on the purchase of IT resources. No matter the size or kind of business, it is necessary to have the ability to use IT, despite the fact that different outcomes or advantages can be obtained depending on which business entities use IT. This study was done to find out how much of an impact IT has on improving the performance of small and medium-sized businesses in Indonesia, particularly. By examining its impact on operational performance inside the business entity, it should be done by evaluating the capabilities of medium-sized firms against: IT Adoption, IT Assimilation, and IT Strategic Alignment.*

Keywords: Assimilation, adoption, and capacities of information technology

I. INTRODUCTION

The use of information technology in commercial organisations is inextricably linked to the requirement for quick and accurate informational decision-making. To use the information to allow dialogue between decisions, communication is necessary. Information technology (IT) or information and communication technology (ICT) are frequently used interchangeably to refer to the use of technology in the management of commercial enterprises. Because these two phrases have the same meaning, they are frequently used together in both scientific and practical situations. After the fusion of communication technology and computer technology (both hardware and software) in the middle of the 20th century, the term ICT was born. Beyond other technological sectors, the fusion of the two technologies is advancing quickly. Information technology, if seen as merely the adoption of a technology, will produce long-term competitive advantage, as is well recognised. IT skills are required to develop the capacity to use IT resources efficiently in managing, comprehending, and utilising information needs, both as standalone resources and as a whole, to produce specialised abilities and distinctive qualities that are only owned by business entities and are challenging for other business entities to imitate. According to Kusmantini, business competition demands and organisational preparedness are the main internal elements that influence a company's decision to implement e-business, while technological proficiency and organisational readiness are the main external factors. This means that in addition to having restricted resources when adopting IT, SMEs also have some distinctive qualities that can be leveraged as a competitive advantage. If it is complemented by IT investment, by using creativity and innovation in its execution. Creativity and innovation are the appropriate ways for marketing strategies, according to Hadiyati and Lukiyanto. Therefore, when picking an IT investment, business owners and managers must carefully consider their options and perform meticulous calculations. Investment in and use of IT are unable to immediately and sustainably increase corporate competitiveness. In order for business entities to be able to enhance the value of benefits within a set amount of time following the usage of IT, there is a requirement for a learning process that is accumulated over time and is established through experience in technical, systems, organisation, and strategy integration.

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According to Ministry, in order for IT implementation in 121 banks in the United States to be successful, it must be able to reconcile the findings of two opposing impacts on business entities, namely: (a) IT strategy, which will be able to generate more revenue and prompt product diversity that can compete; and (b) transactional IT, which results in increased costs from the processes of production, operations, and product diversity creation. The two effects must work together to boost business entities' capacity. This is difficult to accomplish because the adoption of IT, which is meant to enhance the diversity of resources available (resource heterogeneity), is not always followed by an increase in revenue or competitiveness, and because the adoption of IT is typically simple to copy by other business entities if it has a positive impact or can alter the competitive landscape of the industry. An explanation of how business entities are able to formulate and develop the usage of their IT resources still has to be provided for strategic alignment IT. The impact of IT adoption as planned requires conditions known as isolation mechanisms, specifically the capacity to produce IT capabilities (IT capabilities that can be developed into special resources for business entities). Strategic alignment is still felt as a process that is formed from a long-standing unit of nature. In the analysis, two approaches are used to build the Strategic Alignment of IT and Business: (a) Strategic Alignment of IT as a process; and (b) Strategic Alignment of IT as a result. The two types of analysis used to build the strategic alignment model in this work are (a) strategic alignment as a process and (b) strategic alignment as an outcome, or an improvement in organisational performance. As a result, it is anticipated that this research will be able to explain how IT and business strategic alignment influences operational performance in medium-sized business units. Since the adoption of IT investments demands a large amount of investment is relatively costly and most poorly thought through by the owners or managers, research with small and medium enterprises (SMEs), whether in developed nations or developing ones, has not been done. While the variety of IT resources (resource heterogeneity) that SMEs own and the numerous advancements in the types of IT resources that are available run the risk of falling behind (becoming obsolete) if they are not used to develop distinctive business entity capabilities and are not easily copied or transferred (resource immobility) to the body of other efforts in creating long-term sustainable competitiveness. On the other hand, SMEs must be able to convert the usage of IT resources into advantageous outcomes that lead to innovation or commercial breakthroughs in order for SMEs to possess or acquire long-lasting competitive advantages that are at the top of their sectors. Due to the accumulation of experience and knowledge or the rapidity of adaptability to changes in the business environment, this endeavour is anticipated to be able to develop or obtain a competitive advantage that is sustainable.

II. THEORTICAL REVIEW

Information technology (IT) is a broad word that refers to all technical tools used to process and distribute information. The usage of IT in corporate entities in Indonesia is the subject of this study, thus it is crucial to comprehend the meanings of various IT terminology and terminologies in order to clarify the direction and aims of this study. You can find the presentation of a number of IT words and meanings in a number of sources. According to Stevenson, IT is the understanding of and use of computers and other electronic devices for information storage, processing, and transmission. Information technology is used in today's business operations to refer to a variety of things, including electronic data processing equipment, item codes used to identify and track the location of goods, data transmission over the internet, cyberspace trading, electronic mail, and much more. IT is defined by Williams & Sawyer as a technology that fuses computing operations with high-speed communication to transport data, voice, and video. Therefore, technology is used to: (1) aid in the creation of data, information, or knowledge that is automated, integrated, and capable of increasing productivity; (2) in text, visual, and audio formats, or multimedia; (3) with the main activities: data management, networking, computer hardware engineering, database and software design, as well as overall system management and administration.

According to Navas, information technology (IT) is the embodiment of all knowledge relating to the handling of information, enabling the development of a distinctive information system in each organisation. This means that even though the business fields are comparable and the quantity of capital possessed is likewise the same, the definition of IT is taken more broadly as a type of knowledge connected to information held by an organisation that is different from other organisations. Longley &Shain define IT as an activity to gather, process, store, and disseminate information in the form of sound, images, text, and numeric data, and its primary elements are computers and various forms of telecommunications. In light of the description provided above, it can be said that IT refers to a collection of tools used

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by businesses to manage information that they own and require. According to Melville, Kramer, and Gurbaxani, who defined the business value of IT as the impact of organisational performance on information technology at the intermediate process level and organisational level, which consists of efficiency and competitive impacts, IT has a significant value for business entities. This is the basis for why studies on the significance of IT must be put to the test in order to ascertain how they affect the productivity and competitiveness of business units.

Operational Effectiveness

Operational performance is an endeavour to integrate best practises with strategic decisions made to stand out from the competition and draw in customers. Operational performance is described by Tracey &Voderembse as the capacity of manufacturers as product creators to identify standards of expectations built for customers. Operational performance is a process that broadly aims to achieve delivery dependability, process flexibility, cost reduction, product or process innovation, and product quality, according to Jitpaiboon et al. According to Slack and Lewis, operational performance refers to how well an operational activity has performed in terms of quality, speed, accuracy in keeping promises (dependability), adaptability, and cost. Gong claims that a product's or service's capacity to continuously fulfil customer expectations constitutes quality. As opposed to this, the American National Standards Institute (ANSI) and The American Society for Quality (ASQ) define quality as a product or service's ability to have the features and characteristics it needs to fulfil its intended purpose. Therefore, a company is considered to have quality competence if it can use the quality of the goods or services it produces to: (a) satisfy consumer needs; (b) distinguish its products from those of competitors; and (c) create a competitive advantage that surpasses all competitors. Gong views adaptability from the perspective of competency. Based on the definition given above, one can determine the dimensions of flexibility. According to D'Souza and William [23], there are four taxonomic dimensions of flexibility that fall into two categories: flexibility that is driven by external factors (external-driven flexibility) and flexibility that is driven by internal factors (internal-driven flexibility). The ability of business entities to deal with changes in output levels is examined by volume flexibility, which is divided into two categories. Variable flexibility is defined as a business entity's capacity to produce a type or variety of products or services as well as the capacity to develop new products and services. While the flexibility brought on by internal causes can be split into two categories, namely:

Process Flexibility, which examines a company's capacity toFlexibility in Materials Handling Facilities refers to the capacity of business organisations to transport materials efficiently at each stage of the manufacturing or service process. It is the capacity of business entities to adjust and accommodate all types of changes in manufacturing or service processes. As a result of the integration of the production process, the operational cost performance dimension is created from the economical scale of production. Before 1960, businesses paid close attention to cost competences that concentrated on cost reduction and economies of scale. Companies that produced goods or services may utilise this strategy to survive and increase their market share (a defensive cost-based strategy). This strategy can be used to defeat competition by creating a cost advantage (cost-leadership strategy) that is able to accomplish growth and establish domination and leadership in international markets if the organisation has been successful in lowering costs and utilising the advantages of its economies of scale. After Japan was successful in leveraging its limited resources as a competitive advantage since the early 1970s, cost competence now faces challenges from a new globalisation in the shape of a productivity crisis. Beginning with the design stage of products, new product introductions, purchasing raw materials, parts, and components for production, assembly, distribution, and marketing, time competence as a source of competitive advantage was first described by Stalk in the Harvard Business Review journal in 1988. Since then, it has become widely recognised as a source of advantage. According to Gong, it is crucial to consider the customer's role as a measuring benchmark in competency-based on-time systems in order to increase production efficiency and enhance customer service. This can be achieved by ensuring that business entities are always focused on the market and by combining cross-functional activities from design, product manufacture, and marketing. These time-based competencies are broken down into two key areas that business entities must possess, according to Slack & Lewis. These areas are (a) speed, which emphasises the effectiveness of design time and production process activities, and (b) accuracy of fulfilment of promises (dependability), which focuses on lead-time management.

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Adoption of IT Concepts

Adoption of IT is the management of resources to enable the expected arrangement of corporate entities' strengths. IT adoption is described as the use of computer hardware and software applications to assist organisational management, business operations, and decision-making processes by Thong & Yap. Because of the numerous needs for routine operations innovation carried out by the organisation and the confidence of management decision makers that IT adoption will lead to an improvement in organisational performance, the IT adoption process typically arises from the organization's response to environmental changes. As a result of continual technology advancements and alterations to the business environment, such as shifts in the competitive landscape, organisations must periodically assess which IT selection platform to use. In a sustainable organisation, the goal of the IT adoption process is to foster an innovative power that can address the two problems mentioned above.

According to Kannabiran & Dharmalingan, the adoption of IT occurs as a result of the integration of effective resource use that gives a business entity the ability to have business power (enablers) and recognises or has the capacity to create the main barriers or barriers that business entities encounter when using IT (inhibitors). While Consoli divided the decision-making process for IT adoption into five categories, namely: (1) individual variables; (2) organisational aspects; (3) technology availability factors; and (4) economic reasons

environmental factors, and (5) other factors. Both of the aforementioned study's findings demonstrate that an organization's ability to successfully adopt IT depends on its managerial ability, technological readiness, organisational readiness, and the support of technology providers or pressure from relationships with suppliers, customers, and other business partners as well as the level of business competition in the market (environment pressure). In contrast, Yang, Lee, and Lee discussed three crucial aspects of IT adoption: (a) company strategy; (b) organisational resources; and (c) managerial style. These three elements will have an effect on how much money is spent on IT, how IT resources are used, and how management style is chosen for IT implementation.

The Assimilation of IT Idea

Wainright & Waring define IT Assimilation, the second phase of IT adoption, as the IT capabilities that business organisations possess and employ while using IT resources. This is done to support routine work on the business entity administration system, activity processes, and decision-making. This includes streamlining organisational performance and business process activities, as well as distributing or integrating the knowledge and information required by all currently operating departments to address current challenges. The degree of IT capabilities owned by business entities in relation to work processes is measured via a questionnaire that respondents must complete.

(a) system for business administration; and

(b) HR expertise and proficiency in common duties.

The concept of IT and business strategic alignment refers to connecting the needs and the existence of IT resources by utilising their potential or capacity in the practises and routines of existing business processes in order to produce practical capabilities and specific IT capabilities, namely a better evaluation of the organization's structure and processes or needs of new structures and processes due to the renewal of the organisation. The alignment of IT and business strategies involves integrating IT resources with business entity-owned strategies. Specifically, it involves the ability to establish and maintain relationships between IT functions and all organisational areas or departments through the integration of IT planning with business entity strategic planning, beginning with the formulation of goals, strategies, and processes. IT planning necessitates the capacity to foresee future changes, select the appropriate platform for those changes, and steer technology advancements in the direction of efficient company expansion. Examining how IT strategies and organisational strategies relate to one another in order to create an IT strategy that supports the organisational plan is the process of aligning IT and business strategies. According to Reich &Benbasat, the strategic alignment of IT and business refers to the degree to which business missions, objectives, and plans support information technology missions, objectives, and plans. According to Gendrom, Banks, and Miller, CIOs (Chief Information Officers) play a crucial role in the organisational strategy development brought on by the usage of IT resources that are in line with the business management of a company entity. The term alignment is defined as conformity (fit, congruence, match, agreement), which can be divided into four categories: (a) adaptation, which describes how individuals are in alignment with their work environments; (b) compatibility, which describes how individuals are in

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alignment with organisational structures; (c) assimilation, which describes how individuals and organisations are in alignment; and (d) coupling, which describes how individuals and organisations are in alignment with one another. If the CIO can identify the organisational requirements that are compatible with IT support and deployment in line with the organization's strategic objectives, alignment will take place.

The capabilities incorporated into IT adoption enable business entities to access IT resources, which are limited and desperately needed by business entities, according to Prajogo&Sohal, who emphasise the significance of IT adoption in developing operational performance. Additionally, it appears that business owners and managers expect the impact of IT adoption to produce innovation (innovation-oriented) that can increase the capacity to issue goods or services, in addition to performance-based efficiency (efficiency-oriented). The value of the outer loading price on low-value operational performance demonstrates this. This conclusion is consistent with the findings of the study by Loukis, Sapounas, and Aivalis.

IT Assimilation Capability can only produce Human Resources Capabilities related to the mastery of IT resources, such as IT Engineering Capabilities that can be used to solve common management issues within a business entity or produce IT Managerial Capabilities that can create and use IT functions to support the operational organization's success. The IT Assimilation Capability owned by medium-sized corporate organisations in hasn't been able to make an impact on the industrial market, particularly when it comes to outlasting long-term competition. Dynamic efficiency that generates key competences to excel in quality, speed, reliability, flexibility, and pricing has been regarded unable to be sustained over the long run. According to Baker & Jones, the ability to develop competencies that are built in two ways simultaneously, namely: (a) refinement competency, to produce continuous improvement from routine activities; and (b) renewal competency, to make creative leaps and organisational transformations towards more productive ones and leave behind old competency patterns that are considered ineffective, is required for the advantage of long-term competitiveness.

III. CONCLUSION

The following conclusions can be drawn from the description in the discussion and the research findings.

Because they can generate significant operational performance through the fusion of key elements of IT capability, such as IT and business strategic alignment factors, IT adoption, and assimilation IT, IT resources can enhance the competitiveness of medium-sized business entities.

Technology-based company management's success depends on IT strategic alignment. Because of the ability to plan and manage IT infrastructure and specify the platform IT architecture in constructing operational performance, IT adoption can enhance operational performance with a cycle of organisation. In the meanwhile, operational performance cannot be formed by IT Assimilation in medium-sized corporate enterprises.

It is recommended that other factors, such as age and the type of business entity, be able to be included in future research because the IT capabilities formed may be caused by the accumulation of how long a business entity has been in operation and the type of business entity determines the intensity of the use of IT resources, meaning the process of building up knowledge and expertise of HR in using IT resources can be done quickly.

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