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The Impact of Digital Transformation on Business Model Innovation Through Strategic Agility and Strategic Flexibility: Heavy Equipment Trading Companies in Indonesia

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ABSTRACT

Over the past 20 years, digital technology has become a source of competitive advantage in the global business community. Digital technology is valued for its perceived benefits in the size of its abundant flexibility and differentiates companies from their competitors. The researchers conclude that companies have a common understanding that digital transformation has been mapped out to affect a company's business performance. The development of digital transformation at this time can lead to strategic steps in the form of strategic agility and flexibility, where the use of digital can encourage companies to react and move faster. In addition, the digital utilization process can increase innovation in the company's business model to achieve a more effective and efficient performance.

Keywords: Digital Transformation, Strategic Agility, Strategic Flexibility, Innovation Business Model.

1. BACKGROUND

In an increasingly competitive industrial environment, business people are trying to develop and adapt by making several changes. These changes aim to increase sustainable competitive advantage and obtain the expected performance results (Mohammad, 2019). Organizational efforts in facing an increasingly competitive industrial environment are more directed towards increasing competitiveness, growing market share, increasing cooperation, developing employees and increasing employee satisfaction (Bartunek & Woodman, 2015). Some of these things are done to ensure the long-term viability of the organization.

In literature, organizational change is defined as the adoption of a new idea or behavior by an organization. Change is defined into the three most common types that occur in an organization: developmental, transitional, and transformational (Anderson & Anderson, 2010). Technological changes drive transformations in how organizations run their business (Fichman, Dos Santos & Zheng, 2014). The complexity of the business environment has changed the economic environment faced by companies, which has influenced the evolution of company strategies in responding to environmental changes as a matter of company survival (Pagani, 2013). Some academics argue that the evolution of strategy is directly related to the improvement of digital technology (Segaetsho, 2019).

Over the past 20 years, digital technology has become a competitive advantage in the global business community (Matt, Hess & Benlian, 2015). Digital technologies are valued for the perceived benefits of abundant flexibility measures and differentiate companies from their competitors (Tallon & Pinsonneault, 2011; Pagan, 2013). Researchers have proposed various components of digital transformation in the area of organizational effectiveness. In general, discussions related to digital transformation involve value propositions, value capture and organizational structure. The researchers conclude that companies have a common understanding that digital transformation has been mapped out to affect a company's business performance (Segaetsho, 2019).

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In discussions related to technology and strategy in their research, Fitzgerald et al. (2013) have highlighted the fact that there is a growing trend of organizations leveraging technology to enhance organizational strategic agility. There is concern that the quality of the nascent digital transformation needs to catch up with the rapid pace of technological change, given that the pool of available knowledge on digital transformation and its relationship to business needs to be more consistent and dispersed (Segaetsho, 2019).

In digital transformation, there are several lessons that organizations can take related to the use of data, information, workforce behavior and customer behavior (Gong, Yang, & Shi, 2020). In a dynamic environment, organizations must increase the maturity of digital knowledge. Organizations that are less digitally mature are more fragile, while organizations with higher levels of digital maturity are generally more flexible (Fletcher & Griffiths, 2020)

The new digital environment requires enterprises to use digital technologies and platforms for data collection, integration and utilization, to adapt to the platform economy (Petrakaki, Hilberg, & Waring, 2018). Therefore, digitization is seen as an entrepreneurial process in which companies apply business model innovation (BMI) to take advantage of the value embedded in innovation (Chesbrough, 2010). Companies that adopt digital technology regard data flow as highly important and place them as a central role in supporting digital transformation strategies (Pasaribu & Widjaja, 2020).

Digital transformation is the use of new digital innovations to enhance a company's competitiveness and competitive advantage. Digital transformation is a change that fundamentally improves a company's business model and value chain (Pasaribu & Widjaja, 2020). Business models help companies apply a digital lens to innovate that can create new value for organizations (Vaska, Massaro, Bagarotto, & Dal Mas, 2021). However, the process of developing digital transformation and the opportunities it creates for business model innovation is still quite long, especially related to the integration of digital transformation strategies and business transformation strategies (Pasaribu & Widjaja, 2020)

In addition to digital transformation, business model innovation can be shaped through strategic agility and strategic flexibility. The concept of strategic agility consists of strategic sensitivity, leadership unity, and resource fluidity (Clauss et al., 2019). Strategic sensitivity is a pillar of capability through which a company can gather input from its environment, detect significant opportunities in the market, and sense internal strengths or constraints relevant to strategic priorities (Lewis et al., 2014). With strategic sensitivity, companies become more aware of the new capabilities, technologies, and processes needed to create new value for customers or to offer existing value to customers differently. Overall, strategic sensitivity is an essential determinant of business model innovation (Clauss et al., 2019).

Companies that engage in business model innovation are challenged to develop new business ideas by using new organizational capabilities and integrating all business model elements in the external environment (Zott & Amit, 2015). Such comprehensive change requires a high degree of strategic flexibility, that is, a dynamic ability to cope with changing environments by allocating and reconfiguring enterprise resources, processes and strategies (Van Tonder, Schachtebeck, Nieuwenhuizen, & Bossink, 2020).

At this time, the phenomenon that occurs in Indonesia is a shift in people's lifestyles towards the use of digital into every aspect of life. The rapid development of technology encourages people to learn and get used to using digital technology. This also impacts the business environment because by utilizing digital technology, companies are given the convenience of accessing any existing or new information.

This condition will certainly be a disruption for some companies including trading companies at heavy equipment sectors that still use the traditional way of carrying out their activities, or who are just starting digitization to improve services to customers, increase flexibility and ensure cost reduction. Organizations will find it challenging to increase competitiveness among similar companies that have preceded digitizing their business processes. Even though the number of companies providing heavy equipment products is not too many In Indonesia, the impact of technological developments has a significant enough influence on the performance of companies engaged in heavy equipment sales.

The COVID-19 pandemic causes limitations in offering products to customers directly; this condition requires companies to look for new services through digital solutions to improve their performance as a consequence of the company's efforts to maintain the stability of its performance. Moreover, with technological development, customers accustomed to company services have switched to digital technology.



Everything about how it works, rules and project specifications related to heavy equipment needs to be available digitally. Therefore, it will be challenging for the heavy equipment company business unit to switch to using digital technology as a business transformation process so that the business unit can survive and be productive. In building a change in business patterns towards digital, a new business model innovation is undoubtedly still needed; this innovation is expected to add value to the products or services offered.

In addition, it takes speed, agility and flexibility from each heavy equipment trading company to adapt to changes in the industrial environment that is happening today. Through this research, the researcher wants to raise the theme related to the impact of digital transformation on business model innovation through strategic agility and flexibility. It is hoped that this research can provide an overview and input for Indonesia's heavy equipment business industry.

2. THEORETICAL FRAMEWORK AND PROPOSITION BUILDING

2.1 *Theoretical Framework*

Digital business transformation is changing businesses in every industry by breaking down barriers between people, businesses and things. By breaking down these barriers, digital business transformation can create new products and services and find more efficient ways of doing business for organizations (Schwertner, 2017). Innovation has occurred in all types of organizations in every industry. The ability to change business processes and models, efficiency, workforce innovation, and personalization of experiences require digital business platforms driven by technology development results (Schwertner, 2017). Digital business transformation is the application of technology to build new business models, processes, software, and systems to improve organizational performance (Fletcher & Griffiths, 2020). Digital business transformation is the integration of new digital technologies into all areas of an organization's business and leads to fundamental changes in how organizations work (Schwertner, 2017). In digital transformation, a good organizational strategy is needed, has a clear vision for organizational development, and supports technology development (Gong et al., 2020). Successful digital transformation goes hand in hand with optimizing business processes regarding the most appropriate way to implement the strategies run by the organization. Digital transformation only sometimes provides strategic success in every organization (Schwertner, 2017).

Today's business value chains must be digitized, taking every aspect of the business into account. Digital solutions can reconfigure an existing business ecosystem, offer a new product or service, focus on a niche market, or simply add value to an existing customer experience (Bauer et al., 2018). Digital technology has created a much more volatile, complex and uncertain business environment. It is, therefore, essential to understand how these technologies can bring about changes in business models, structures, processes and organizational systems (Van Tonder et al., 2020). Some of the most common digital transformation goals were identified to increase flexibility, improve customer process quality, and reduce cost (Hofmann & Rüscher, 2017).

Literature reviews investigating the effect of strategic agility on firm performance are generally conducted in production and information technology. Agility is a value chain that affects business performance because, with this ability, companies can sense which market changes are important determinants of strategic agility (Kale et al., 2019). Although strategic agility does not have a direct impact on financial performance, strategic agility is beneficial in an ambiguous environment (Kale et al., 2019). Supported by research conducted by Vickery et al. (2010) and Tallon (2011) shows the positive impact of strategic agility on firm performance.

It is mentioned in several studies that strategic agility improves firm performance by creating a competitive advantage. Kumkale (2016) consider strategic agility to be a company's means of providing a competitive advantage. He also claims that companies must pay attention to the internal and external environment to ensure strategic agility. Businesses being strategically agile will gain competitive advantage and improved performance; Ofoegbu and Akanbi (2013) and Yang and Liu (2012) found that strategic agility significantly impacts business performance and is an essential resource for businesses to gain competitive advantage.

Given the two critical elements presented by Nambisan et al. (2019), that digitalization encourages the close integration of strategic elements. First, value creation processes and technological structures are becoming more accessible to external parties, resulting in more flexible product and service boundaries. In reaping the potential benefits of openness and generative processes, close alignment is required between the company's internal functions, organizational environment and technology (Dantsoho et al., 2020). Thus, conceptualizing a digital orientation demands the integration of internal and external strategic elements. Second, as the use of digital technology continues to increase, the close relationship between technology suites and organizational processes and routines is important (Khin & Ho, 2019).

In several studies revealing strategic flexibility as a consequence of business model innovation, referring to the literature that considers flexibility as an antecedent of business model innovation (Clauss, 2017). Business model innovation aims to consciously update the company's core business logic rather than limiting the scope of innovation to a single product or service (Schneider & Spieth, 2013).

Companies that engage in business model innovation are challenged to develop new business ideas by using new organizational capabilities and integrating all business model elements in the external environment (Zott & Amit, 2015). Such comprehensive change requires a high degree of strategic flexibility, that is, a dynamic ability to cope with changing environments by allocating and reconfiguring enterprise resources, processes and strategies (Van Tonder et al., 2020).

Explicit definition of business model concepts to achieve excellence and visibility (Arbussa, Bikfalvi, & Marqus, 2017). Related to business model innovation, in his research, Calvante et al. (2011) stated that the business model should provide the development of the company's activities with some stability and flexibility to accommodate changes. These changes are mapped through four stages: creation, expansion, revision and termination. The different focus concerns key changes in business model concepts identified as new products, services, new markets, and changes in the value chain presented and tested through strategic actions (Arbussa et al., 2017).

In their empirical research, Nadkarni and Narayanan (2007) highlights the importance of rapid organizational adaptation to environmental turbulence. Innovation is an important form of response and adaptation to a turbulent environment (Sánchez et al., 2011). Business model innovation describes, by itself, adaptable organizational behavior, as it implies meeting unmet customer needs or attracting new customer groups (Markides, 2006). Research on business model innovation (Buliga et al., 2016) advances the idea that business model innovation comes from resilient organizations and represents a resilient response to environmental turbulence.

2.2 Proposition Building

Shaping a successful digital transformation in an organization requires employees who have maturity in the use of digital. Although the highest level of management sets the strategic trajectory of the organization, implementation of daily strategies lies at lower management levels (Segaetsho, 2019). A lack of information regarding the adequacy of digital transformation in an organization can affect a company's strategic agility. The challenge for organizations in digital transformation is innovation and political exhaustion that concentrates authority on specific departments or individuals within the organization (Park et al., 2017).

In their research, Panda and Rath (2016) stated that the managerial aspect is crucial in pursuing digital transformation. If neglected, it hampers strategic agility and does not improve organizational capabilities. Digital transformation is an important driver of "glocalization" for multinational companies. Glocalization is described as the ability to adapt a business's value offering to the local preferences of the country and environment in which the company's operations are expanded (Segaetsho, 2019).

By increasing the sensitivity of market indicators, companies can take advantage of opportunities to adapt products or services according to market needs. However, in their research, Lu and Ramamurthy (2011) found that although digital transformation positively impacts other elements of strategic agility, it does not help companies to be more agile in taking advantage of market opportunities. This opposing view suggests many more latent aspects to be uncovered regarding the relationship. Based on the explanation



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above, the following proposition can be generated:

P1: Digital transformation influences changes in organizational agility.

The new digital environment requires enterprises to use digital technologies and platforms for data collection, integration and utilization, to adapt to the platform economy (Petrakaki et al., 2018). Therefore, digitization becomes an entrepreneurial process in which companies apply business model innovation (BMI) to take advantage of the value embedded in innovation (Van Tonder et al., 2020). Companies that adopt digital technology regard data flow as essential and place them as a central role in supporting digital transformation strategies (Pasaribu & Widjaja, 2020).

In their research, Latifi and Bouwman (2017) state that strategy drives business model innovation. Strategy setting is an organizational guideline for designing a sustainable business model to achieve an organization's business goals. Thus, the business model must be able to operationalize the organization's business strategy. The importance of strategy is also referred to as a key element of digitalization and digital transformation (Bharadwaj et al., 2013)

Digital transformation is the use of new digital innovations to enhance a company's competitiveness and competitive advantage. Digital transformation is a change that fundamentally improves a company's business model and value chain (Pasaribu & Widjaja, 2020). The role of the business model is significant in identifying several vital aspects behind the digital strategy. Business models help companies apply a digital lens to innovate that can create new value for organizations (Vaska et al., 2021). However, developing digital transformation and the opportunities it creates for business model innovation takes quite a long process, primarily when integrating digital and business transformation strategies (Pasaribu & Widjaja, 2020).

Business model innovation implies fundamental changes in the core elements of the business model; therefore, an organization requires a specific ability to manage change within the business ecosystem to succeed (Vils et al., 2017). Carcary et al. (2018) stated that businesses should initially focus more on several critical elements of fundamental capabilities. Digital skills development enables business leaders to design and implement transformative digital business strategies and agile organizational cultures (Van Tonder et al., 2020). Based on the explanation above, the following proposition can be generated:

P2: Digital transformation influences changes in organizational business model innovation.

Today's business value chains must be digitized, taking every aspect of the business into account. Digital solutions can reconfigure an existing business ecosystem, offer a new product or service, focus on a niche market, or simply add value to an existing customer experience (Bauer et al., 2018). Digital technology has created a much more volatile, complex and uncertain business environment. It is therefore, important to understand how these technologies can bring about changes in business models, structures, processes and organizational systems (Van Tonder et al., 2020). Some of the most common digital transformation goals were identified to increase flexibility, improve customer process quality, and ensure cost reduction (Hofmann & Rüscher, 2017).

Learning new knowledge reflects how organizations face significant crises regarding sustainability of organizational planning, organizational resilience and organizational ability to be more flexible (Fletcher & Griffiths, 2020). New scientific lessons that can be drawn from the organization's response to environmental change are learning related to digital transformation (Fletcher & Griffiths, 2020). In digital transformation, there are several lessons that organizations can take related to the use of data, information, workforce behavior and customer behavior (Gong et al., 2020). In a dynamic environment, organizations must increase the maturity of digital knowledge. Organizations that are less digitally mature are more fragile while organizations with higher levels of digital maturity are generally more flexible (Fletcher & Griffiths, 2020). Based on the explanation above, the following proposition can be generated:

P3: Digital transformation influences changes in the strategic flexibility of the organization.

Strategic agility consists of strategic sensitivity, leadership unity, and resource fluidity (Clauss et al., 2019). Strategic sensitivity is a pillar of capability through which a company can gather input from its environment, detect significant opportunities in the market, and sense internal strengths or constraints relevant to strategic priorities (Lewis et al., 2014). With strategic sensitivity, companies become more

aware of the new capabilities, technologies, and processes needed to create new value for customers or to offer existing value to customers differently. Overall, strategic sensitivity is an important determinant of business model innovation (Clauss et al., 2019).

The literature related to dynamic capabilities has stated that when companies perceive new opportunities in the market, a number of managerial decisions are needed to incorporate new information into the company's business model. Collective commitment among the company's top management is considered an important element in navigating changes in the value-creation process (Achtenhagen et al., 2013). Unity of leadership plays a vital role in reducing internal political problems, championing new revenue models and enabling companies to achieve new business model innovations (Clauss et al., 2019).

Innovating a company's product and service portfolio requires a high level of resource flexibility. The company's ability to allocate resources becomes the basis of the company's initiatives towards new developments and offerings. With this capability, the company can gain greater flexibility in rearranging its resources to support its new strategic agenda in the market (Clauss et al., 2019). Thus, resource fluidity plays a vital role in facilitating the process by which a company reassesses its value proposition for its customers, especially in companies with limited resources. The explanation above can produce the following proposition:

P4: Strategic agility has an influence on changes in organizational business model innovation.

Strategic flexibility emphasizes the reconfiguration of resources, processes and strategies to cope with external changes, thus reflecting a dynamic type of capability (Schneider & Spieth, 2014). Strategic flexibility takes a reactive or proactive perspective. Reactive describes the company's ability to react to environmental changes, while proactive is the ability to model, shape, or change the environment (Brozovic, 2016).

In several studies, strategic flexibility is revealed as a consequence of business model innovation, referring to the literature that considers flexibility as an antecedent of business model innovation (Van Tonder et al., 2020). Business model innovation aims to consciously update the company's core business logic rather than limiting the scope of innovation to a single product or service (Schneider & Spieth, 2013).

Companies that engage in business model innovation are challenged to develop new business ideas by using new organizational capabilities and integrating all business model elements in the external environment (Zott & Amit, 2015). Such comprehensive change requires a high degree of strategic flexibility, that is, a dynamic ability to cope with changing environments by allocating and reconfiguring enterprise resources, processes and strategies (Van Tonder et al., 2020). Based on the explanation above, the following proposition can be generated:

P5: Strategic flexibility influences business model innovation changes

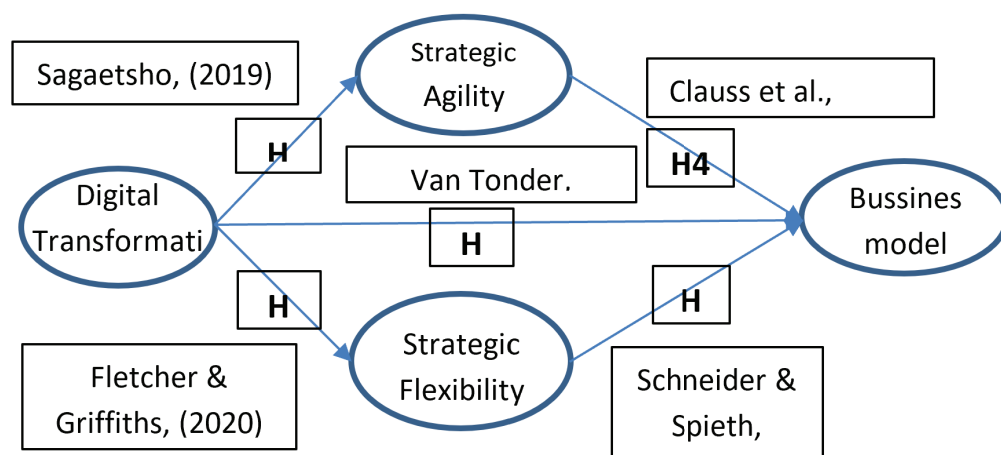


Figure 1. Conceptual Model Drawing



3. RESEARCH CONCLUSION

The figure above is a conceptual model used as a basis for conducting future research. The basis for developing the proposition uses several approaches from previously done research, in building the relationship between digital transformation and strategic agility, business model innovation and strategic flexibility. The three different studies that support this proposition are Sagaetsho (2019), Van Tonder (2020), and Fletcher & Griffith (2020).

In his research, Sagaetsho (2019) explained that to form successful digital transformation in an organization, employees who have maturity in digital use are needed; therefore organizations that utilize technology can increase their strategic agility. Moreover, Van Tonder et al. (2020) stated that digital transformation is seen as an entrepreneurial process in which companies apply business model innovation (BMI) to take advantage of the values embedded in innovation. Finally, according to Fletcher & Griffith (2020), organizations must increase the maturity of digital knowledge in a dynamic environment. Organizations that are less digitally mature are more fragile, while organizations with higher levels of digital maturity are generally more flexible. The three separate studies show that digital transformation variables affect the formation of strategic agility, business model innovation and strategic flexibility.

Another basis for building a proposition between the variables of strategic agility and strategic flexibility on business model innovation, is supported by research conducted by Clauss et al. (2019) and Schneider & Spieth (2014). In this study, strategic agility and flexibility can directly influence business model innovation. After that, the basis for developing the final proposition is related to the role of the strategic agility variable, model innovation and strategic flexibility that directly affect performance, which in forming this relationship is supported by research conducted by Kale et al. (2019), Nadkarni & Herrmann (2010) and Huang et al. (2013).

Through the development of these propositions, the novelty of this research is how Strategic Agility and Strategic Flexibility play a role in showing the impact of digital transformation on the Business Model Innovation of heavy equipment trading companies in Indonesia.

4. FURTHER RESEARCH RESULTS

Future research is expected to analyze more empirically the impact of digital transformation on business model innovation and performance of heavy equipment trading companies in Jakarta through the role of strategic agility and strategic flexibility. This research can be continued using quantitative methods and data collection techniques using a questionnaire survey method via a Google form. The data to be analyzed is primary data obtained from the results of a questionnaire survey distributed to heavy equipment trading companies.

Subsequent research should develop a model that describes the relationship between research variables based on the theoretical review carried out in the previous chapter. In this research model, the researcher will also explain several propositions to be tested. To support the proposition testing, the researcher will explain the measurement of each variable, unit of analysis and sample, data collection methods, research instruments, and analytical methods used.

Further research will use an instrument in the form of a questionnaire using 6 Likert scales to avoid neutral answers from respondents. According to Nemoto & Beglar (2014) the Likert scale is a detailed rating scale where respondents are given a scale in the form of numbers related to each category and the categories are sorted according to the position of the scale and respondents are asked to choose the specified category.

The analysis method for further research uses Structural Equation Modeling (SEM) analysis. SEM analysis aims to confirm the research model based on empirical data. The aim is to test the proposition of the relationship between the research variables. The evaluation of the SEM model is divided into the evaluation of the measurement model and the structural model. The measurement model describes the goodness of the relationship between the variables and their measuring items, while the structural model describes the influence between variables. The research model is second order, ie variables are measured by a number of dimensions and dimensions are measured by a number of question items, therefore the evaluation of the measurement model is carried out on the relationship between

dimensions and measurement items (first order) and evaluation between variables and their dimensions (second order) (Savalei & Bentler, 2010).

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