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Organizational Inertia, Digital Capabilities, Digital Transformation, and Firm Competencies

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ABSTRACT

In responding to this digitally disruptive era, firms have become actively managing their digital transformation as well as scholars have become increasingly interested in the digital transformation phenomenon. However, the digital transformation change process remains largely unknown since most industries have not yet achieved digital transformation success. This study argues that organizational inertia is a prerequisite for firm competencies through digital capabilities and digital transformation. Therefore, this study aims to investigate the impact of organizational inertia on digital capabilities and digital transformation to optimize firm competencies. The dataset was obtained from a quantitative survey of 125 firms in Indonesia, which was processed using the Structural Equation Model (SEM). We find that organizational inertia indirectly impacts firm competencies through digital capabilities and digital transformation. Organizational inertia impacts digital capabilities, not digital transformation, whereas digital capabilities impact digital transformation and a firm's competencies. Nevertheless, organizational learning, capabilities, and resources are not the antecedents of organizational inertia. This study en-riches the organization behavior and strategic management literature by examining the impact of organizational inertia on the success of digital transformation, and its impact on firm competencies. Our findings embrace practices of the digital transformation process by enhancing firms' digital capabilities, particularly in digital transformation response, identification of digital opportunities, innovative digital technology product development, acquisition, and mastering state-of-the-art digital technology.

Keywords: Organizational Inertia; Digital Capabilities; Digital Transformation; Firm Competencies; Organizational Learning; Organizational Capabilities; Organizational Resources

1. INTRODUCTION

Currently, entire industry sectors are being disrupted by digital technologies in our ever-changing world. The impact of digital technologies continuously changes firms' external environment in terms of competition and customer expectations (Hess et al., 2016; Kane, 2019). Practically, digital technologies have entered consumers' lives, but they are also disrupting practically all industries by allowing firms to obtain an increasing number of competitive advantages (Tsiavos & Kitsios, 2022). Suppose firms cannot adapt to the new digital reality. In that case, they will likely fail and become victims of "digital Darwinism," in which established firms may go out of business and only firms that are responsive to and adaptable to digital trends will survive and remain in this new competitive environment (Schwartz, 2001). Additionally, the post-COVID-19 pandemic challenges encourage firms to move by raising their awareness to quicken digital transformation (Blackburn et al., 2020). Firms have actively managed their digital transformation in response to this new reality, and academics are becoming more interested in the digital transformation issue (Tsiavos & Kitsios, 2022). There is a large and varied body of literature on digital transformation, but it lacks consensus on what it is (Warner & Wäger, 2019) and what it includes (Wessel et al., 2021). Digital transformation is defined as organizational change brought upon and shaped by the broad adoption of digital technologies (Hanelt et al., 2021). Chu et al. (2019) posit

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that the firm's support for new commercial activities using digital technologies, the integration of business processes using digital technologies, and the firm's support for communicating commercial information using digital technologies are the three ways that digital transformation is measured. Without a doubt, digital transformation is a multifaceted process that begins with the realization that a digital transformation is necessary, is followed by a thorough digital strategy, and is followed by the identification of potential impediments (Tsiavos & Kitsios, 2022). However, Liu et al. (2011) argue that managing digital transformation can be difficult. Thus, a firm needs to be ready for its resources and capabilities, such as digital capabilities (Khin & Ho, 2019a).

2. LITERATURE REVIEW

2.1 Organizational Learning, Organizational Capabilities, Organizational Resources, and Organizational Inertia

Inertia is one of the biggest obstacles to digital transformation (Vial, 2019). The term "inertia" is generally used in the body of knowledge on digital transformation to describe employee reluctance or obstacles that emerge during firms' transformation journeys (Schmid 2019; Vial, 2019). Organizational inertia ias a type of resistance to change based on prior experiences and actions (Vial, 2019; Haskamp et al., 2021). The relevance of path dependence as a limiting factor for innovation through digital technologies is highlighted by the relevance of inertia, where existing resources and capabilities can act as obstacles to disruption (Vial, 2019) According to Haskamp et al. (2021), organizational learning, organizational capabilities, and organizational resources are some of the antecedents of inertia. The ability of an organization to learn and gain new information is known as organizational learning. The organization's current capacity for learning and acquiring new information has been identified as a source of inertia (Liao et al., 2008; Haskamp et al. 2021). An organisation's ability to undertake a coordinated set of tasks while utilizing its resources to obtain a specific result is referred as organizational capabilities (Konopik et al., 2022). The lack of certain capabilities on the organizational level has been mentioned as a source of inertia (Töytäri et al., 2017; Tripsas, 2009; Vial, 2019; Haskamp et al., 2021). According to Barney (2001), Organizational resources are the tangible and intangible assets that a business uses to develop and carry out plans to increase production effectiveness or marketing effectiveness for target customers. Pre-existing resources have been recognized as sources of inertia, such as supply chains, industrial networks, and sales networks (Liang et al., 2017; Vial, 2019; Haskamp et al., 2021). Due to resource rigidity, firms cannot adopt the implications of new IT/IS (Liang et al., 2017). Some firms may lose their current competencies and market positions due to implementing new IT/IS (Hong & Kim, 2020; Mishra & Saji, 2013). For instance, the clients of these firms demand that they continue to employ the current technologies and systems (Liang et al., 2017). In addition, some firms may not benefit from engaging in innovative IT-related operations (Saji & Nair, 2010). This study offers insight into the relationship between organizational inertia and organizational learning, competencies, and resources. As a result, the following can be suggested as the first, second, and third hypotheses:

Hypothesis 1 (H1): Organizational learning has a positive impact on organizational inertia.

Hypothesis 2 (H2): Organizational capabilities has a positive impact on organizational inertia.

Hypothesis 3 (H3): Organizational resources has a negative impact on organizational inertia.

2.2 Organizational Inertia, Digital Transformation, and Digital Capabilities

Digital transformation is seen as a deliberate response to industrial and societal changes frequently caused by new digital technology (Vial, 2019). The use of new digital technologies, such as artificial intelligence, mobile, blockchain, cloud, and Internet of things (IoT) technologies, to enable significant business improvements to enhance customer experience, streamline operations, or develop new business models is defined as digital transformation (Warner & Wäger, 2019). Firms experiencing digital transformation must overcome significant obstacles and various inertial factors (Haskamp et al., 2021). According to practitioner studies, "organizational inertia from deeply ingrained behaviors"

is why 70% of digital transformation initiatives fail to achieve their goals (Forth et al., 2020). Recent empirical research examining firms' digital transformation journeys also supports this, identifying organizational inertia as a significant barrier to mastering digital transformation (Schmid, 2019; Setzke, 2020; Vial, 2019). In addition, numerous empirical studies contend that inertia is a significant factor in digital transformation. Inertia within organizations negatively impacts digital transformation, according to a recent study by Airikkala (2021). In today's fiercely competitive climate, the effective production of ideas via digital technology has become essential for organizational survival (Nambisan et al., 2019). A company's ability to manage digital technology for developing new products is called its digital capability (Khin & Ho, 2019). However, the incumbent company has difficulty developing new digital capabilities (Vial, 2019; Warner & Wäger, 2019). Problems develop when new technology is perceived as a threat to the company's core values and results in inertia from multiple sources (Tripsas, 2009). This research seeks to understand the impact of organizational inertia on digital transformation & digital capabilities. Therefore, we hypothesize:

Hypothesis 4 (H4): Organizational inertia has a negative impact on digital transformation.

Hypothesis 5 (H5): Organizational inertia has a negative impact on digital capabilities.

2.3 Digital Capabilities, Digital Transformation, and Firm Competencies

Managing digital transformation might be challenging, but capability and resource readiness are essential (Wang et al., 2021). According to Carcary et al. (2016), an organization must acquire various capabilities across a wide range of domains, which may vary based on the industry and the demands of the business. According to research by Westerman et al. (2012), 77% of respondents cited skills deficiencies as a barrier to digital transformation. They contend that digital skills must extend beyond traditional IT to encompass specialized technologies like social media and mobile and the analytical abilities necessary to extract value from large. A firm's ability to manage digital technology for developing new products is referred to as its digital capabilities (Khin & Ho, 2019b). Firms increasingly use digital capabilities to improve their business models, operational procedures, and consumer experiences through digital transformation (Westerman et al., 2012). A recent study demonstrates that digital capabilities immediately benefit digital transformation (Rupeika-Apoga et al., 2022). Firms are becoming more conscious of the need to adapt their operations, strategies, and routines to the challenges posed by the "new normal" (Loureiro et al., 2021). To maintain business continuity, firms have started to streamline and improve the efficiency of their processes using digital tools. Thus, a shifting and unstable environment is to blame for the rise in the popularity of digital capabilities (Zhen et al., 2021). Previous research indicated that digital innovation mediates the influence of digital capabilities on a firm's performance, which positively impacts financial and non-financial performance. According to other research, digital capabilities make a firm more flexible and save money (Drnevich & Croson, 2013). Lack of data, however, makes it difficult to determine how business strengths and digital capabilities interact. Therefore, our study seeks to fill this gap by investigating the impact of digital capabilities on digital firms' competencies. This study investigates the impact of digital capabilities on digital transformation & firms' competencies. Therefore, the sixth and seventh hypotheses can be:

Hypothesis 6 (H6): Digital capabilities has a positive impact on digital transformation.

Hypothesis 7 (H7): Digital capabilities has a positive impact on firm competencies.

2.4 Digital Transformation and Firm Competencies

Digital transformation impact is mainly assessed at the organizational level (Vial, 2019). Undoubtedly, digital transformation is a potent tool that firms can use to create and preserve competitive advantages in the digital era (Bharadwaj et al., 2013; Svahn et al., 2017). Firms first seek to increase operating efficiency or lower costs through digital transformation since IT facilitates organizational activities (Melrose et al., 2021; Björkdahl, 2020). There is a positive link between digital transformation and process-based operating performance and a U-shaped association between digital transformation and profit-oriented financial performance (Guo & Xu, 2021). According to other research, digital transformation enhances several corporate activities, including supply chains, sales, and services (Qiu et al., 2021; Hansen & Sia, 2015; Yeow et al., 2018). According to

Capgemini Consulting's study of international firms, digital transformation has dramatically increased the financial metrics of firms like revenue, profitability, and market value (Westerman & Bonnet, 2015). However, lack of evidence to establish the relationship between digital transformation and a firm's competencies. Ritter (2006) defined firm competencies as "high-level routines (or collection of routines) that, together with its implementing input flows, confers upon an organization's management a set of decision options for producing significant outputs of a particular type". This research seeks to investigate the impact of digital transformation on firm competencies. Thus, we hypothesize that:

Hypothesis 8 (H8): Digital transformation has a positive impact on firm competencies.

3. RESEARCH METHODOLOGY

This research is a descriptive study with a deductive approach, which begins by considering related theories, develops hypotheses relevant to the research question, and performs hypothesis testing with a research strategy that utilizes primary data from surveys or questionnaires. This study uses quantitative methods. The questionnaire was launched in two stages, the first stage was for piloting to determine if any further improvements to the measurements were needed, and the second stage was data collection using a modified or refined questionnaire to respondents excluding the pilot respondents in the targeted population. Each construct will be assessed based on data collected and analyzed using statistical tools. The target sample of this study is a diverse management level of respondents who worked in diverse firms operating in various industry sectors in Indonesia (consisting of staff/officer level, junior management, middle management, and senior management team). An empirical study was conducted from May 16th to June 15th, 2022 (the post-COVID-19 pandemic). This study uses a google forms questionnaire that was distributed to respondents who were asked to participate in the survey by sending them the questionnaire's link through WhatsApp, which gained 125 valid respondents. This study uses structural equation modelling (SEM) using LISREL software to analyze the data obtained from the survey. Hair et al. (2019) suggest SEM as a statistical model better than other regression or multivariate techniques to explain relationships among multiple variables. SEM is most recommended when the model of the study involves multiple variables. Several measurements measure all variables as per related references (Table 1).

Table 1. Variable Measurement

Variables	Measurements	References
Organizational Learning	Knowledge Acquisition	Jiménez-Jiménez & Sanz-Valle (2011)
	Knowledge Distribution	
	Knowledge Interpretation	
	Organizational Memory	
Organizational Capabilities	Surprise & Crisis Anticipation Ability	Ouakouak et al. (2013)
	New Ideas Generation Ability	
	Fast Strategic Decision Ability	
Organizational Resources	Material Resources	Hong & Kim (2020)
	Technology Resources	
	Financial Resources	
Organizational Inertia	Socio-Technical Inertia	Schmid (2019)
	Economic Inertia	Haag (2014)
	Political Inertia	

Table 1. Variable Measurement (continued)

Digital Capabilities	Digital Technology Acquisition	Khin & Ho (2018)
	Digital Opportunities Identification	
	Digital Transformation Response	
	Mastering State-of-The-Art Digital Technology	
	Innovative Digital Technology Product Development	
Digital Transformation	Supporting New Commercial Activities	Chu et al. (2019)
	Business Process Integration	
	Supporting Communication of Commercial Information	
Firm Competencies	Production Competencies	Izadi et al. (2018)
	Sales & Marketing Competencies	
	Informational Competencies	

4. RESULTS

There are eight tested hypotheses, four hypotheses are supported (H5, H6, H7, H8); and four hypotheses are not supported (H1, H2, H3, H4). The summary result of the hypotheses testing is shown in Table 2. The four hypotheses of our study are firmly supported by our data (t-value >= 1.96). The first is that organizational inertia has a significant negative impact on digital capabilities (H5); Second, digital capabilities has a significant positive impact on digital transformation (H6); Third, digital capabilities has a significant positive impact on firm competence (H7); Forth, digital transformation has a significant positive impact on firm competencies (H8). Interestingly, four hypotheses are not supported (t-value < 1.96). The model shows that organizational inertia is not impacted by organizational learning (H1), organizational capabilities (H2), and organizational resources (H3), and organizational inertia does not impact digital transformation.

Table 2. Summary Result of Hypotheses Testing

No	Hypotheses	β*	t-Value	Remarks	Conclusion
H1	Organizational Learning has a negative impact on Organizational Inertia	0.05	0.18	Insignificant	Not Supported
H2	Organizational Capabilities has a negative impact on Organizational Inertia	-0.01	-0.02	Insignificant	Not Supported
H3	Organizational Resources has a positive impact on Organizational Inertia	-0.03	-0.24	Insignificant	Not Supported
H4	Organizational Inertia has a negative impact on Digital Transformation	-0.07	-1.08	Insignificant	Not Supported
H5	Organizational Inertia has a negative impact on Digital Capabilities	-0.21	-2.53	Significant	Supported
H6	Digital Capabilities has a positive impact on Digital Transformation	0.73	6.78	Significant	Supported
H7	Digital Capabilities has a positive impact on Firm Competencies	0.42	3.56	Significant	Supported
H8	Digital Transformation has a positive impact on Firm Competencies	0.29	2.43	Significant	Supported
H8	Digital Transformation has a positive impact on Firm Competencies	0.29	2.43	Significant	Supported

5. DISCUSSION

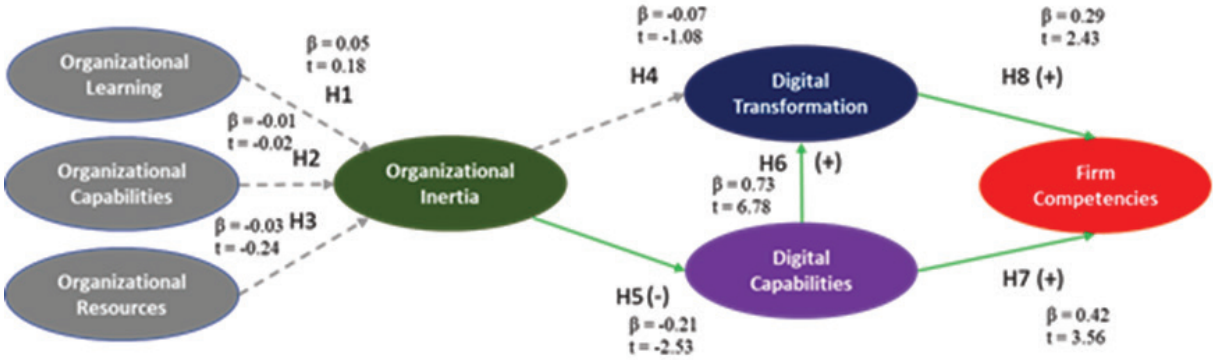

Figure 1. Final Research Model

The study answers questions about the relationship between organizational learning, organizational capabilities, organizational resources, organizational inertia, digital capabilities, digital transformation, and firm competencies, whereas the final research model could describe that: (1) Organizational learning does not impact organizational inertia; (2) Organizational capabilities does not impact organizational inertia; (3) Organizational resources does not impact organizational inertia; (4) Organizational inertia does not impact digital transformation; (5) Organization inertia positively impacts digital capabilities; (6) Digital capabilities positively impacts digital transformation; (7) Digital capabilities positively impact firm competencies; (8) Digital transformation positively impacts firm competencies.

This study finds that the optimal path to overcome organizational inertia toward digital transformation and firm competencies during digital disruption is determined by digital capabilities; where during these turbulent times, digital capabilities play an important role to ensure the firm is surviving and thriving through exploring and exploiting digital technologies, due to the importance of a firm's ability to effectively research and utilize digital technology for economic success (Khin & Ho, 2018). It is in line with Daniel et al. (2022) who mention digital technology integration is one of the digital transformation success factors along with operational agility, digital culture, and digital leadership, whereas digital transformation differs from just an IT upgrade. Thus, it requires digital organizational culture for emerging technologies adaptation. According to Cohen et al. (2017), digital capabilities can be used to manage the optimum use of technological resources for the process of digital transformation and innovation.

This study also finds that organizational inertia negatively impacts digital capabilities. It supports Nambisan (2017), Vial (2019), and Warner & Wäger (2019). This study also shows that digital capabilities improve firm competencies through digital means. It supports Westerman et al. (2012) and Rupeika-Apoga et al. (2022). This study also finds that organizational inertia does not impact digital transformation. From a practical point of view, during the post-COVID-19 pandemic in Indonesia, the firm's digitalization and other firms' internal changes are forced mainly by the regulators. So, the transformation process happened tends to be driven by external factors. In this context, the current high level of resistance within the firm may not necessarily negatively impact the digital transformation's success.

This study finds that organizational learning does not impact organizational inertia. Our finding may support Liao et al. (2008) who show organizational inertia affects organizational learning instead of organizational learning affecting organizational inertia. In managerial practice during the COVID-19 pandemic, employees have been forced into digitalized work. Although in the beginning, it creates obstacles in form of organizational inertia, then it becomes a learning practice in adapting to the digital work environment.

Our study also finds that organizational capabilities do not impact organizational inertia. It may support Larsen and Lomi (2002) that find that organizational inertia and capabilities work as dynamic accumulation processes. Organizational inertia (resistance to change) is a function of organizational

size, age, capabilities, and an organization-specific threshold for change. The organizational capabilities work as 'dynamics of routines' represented by the evolutionary mechanism of variation, selection, and retention. Change creates disparities that are converted into performance, then performance converts routines into capabilities through the learning process. By reducing the learning rate, organizational inertia slows down new capabilities formation, affecting performance in the end. Managerially, the higher organizational inertia in the digital work environment may reduce organizational capabilities.

This study finds that organizational resources do not impact organizational inertia. From a practical point of view, during the COVID-19 pandemic, the firm's digital transformation and internal changes are mostly forced by external factors, such as pandemic regulations & protocols. In this situation, pre-existing resources are not identified as sources for inertia.

6. CONCLUSION

This study provides insights into understanding the relations of organizational inertia, digital capabilities, digital transformation, and firm competencies. It suggests that during the digital disruption era firm needs to secure its digital capabilities first, to achieve firm competencies through digital transformation. We find that digital capability is the key in creating firm competencies (production, sales and marketing, and informational competencies). In this study, digital capabilities consist of digital opportunities identification, digital transformation response, digital technology acquisition, mastering state-of-the-art digital technology, and innovative digital technology product development. Nevertheless, in enabling the firm to build its digital capabilities, we suggest it overcome organizational inertia, which consists of political inertia, socio-technical inertia, and economic inertia.

The results of the study also suggest that organizational inertia itself does not impact digital transformation that involves business process integration, supporting communication of commercial information, and supporting new commercial activities, as this study is conducted during turbulent times of the post-COVID-19 pandemic, which became the push factors for each organization and its employee to change with a low level of resistance.

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