



Transforming the Roots of Competitive Advantage: The New Strategy of ASEAN Firms Post-COVID-19

M. Elfan Kaukab ^{a,b} and Ali Akbar Anggara ^{b,c*}

^a Faculty of Economics and Business, Universitas Sains Al-Qur'an, Wonosobo, Indonesia.

^b Centre for Public Policy, Management and Business Studies, GRI Institute, Purwokerto, Indonesia.

^c Faculty of Economics and Business, Universitas Muhammadiyah Purwokerto, Purwokerto, Indonesia.

Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Research has identified factors like dynamic capabilities and distinctive competencies that contribute to competitive advantages. However, these factors often underperform in turbulent situations like the current global pandemic, making it hard to maintain a competitive edge. This study aims to establish a new foundation for competitive advantage post-pandemic. We hypothesize that pandemic leadership and resilience systems enhance the link between distinctive competencies and competitive advantage. Using structural equation modeling on a sample of 200 ASEAN multinational firms, we found a positive relationship between dynamic capabilities and competitive advantage via distinctive competencies. Additionally, pandemic leadership and resilience systems beneficially moderate this relationship. The study contributes to the literature by

*Corresponding author: E-mail: aliakbarang@ump.ac.id;

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highlighting the critical roles of pandemic leadership and resilience systems in sustaining competitive advantage during crises.

Keywords: Pandemic leadership; resilience system; competitive advantage; distinctive competencies; dynamic capabilities.

1. INTRODUCTION

Competitive advantage remains a primary goal for firms and a central theme in strategic management research [1]. Several factors, including dynamic capabilities and distinctive competencies, are recognised as influential in achieving this advantage [2,3,4,5]. Notably, dynamic capabilities play a significant role in shaping distinctive competencies [2]. It is vital to evaluate these competencies and their impact on a company's competitiveness [6]. Distinctive competencies are the unique strengths that distinguish a business from its competitors, enabling it to offer products at substantially lower costs [7]. Consequently, cultivating these competencies is crucial for securing a competitive edge [2].

Nonetheless, the pandemic has exacerbated the difficulty of maintaining such an advantage [8]. Under typical conditions, the traditional model of competitive advantage holds true, but it reacts differently during crises like the current pandemic. A pandemic, defined as a global virus outbreak affecting a vast population [9], has profoundly altered the global economic and commercial landscape [52-60]. For instance, the aviation industry drastically reduced flights in response to rising infection rates and travel restrictions. Many industries have experienced significant distress, with stock markets showing signs of collapse [82-91]. Governments have responded by increasing stimulus funding to mitigate the economic disruptions caused by supply chain blockages and lost business. The pandemic's impact underscores the need to reassess traditional competitive advantage models and adapt to the changing environment.

During the COVID-19 pandemic, ASEAN firms faced significant challenges and economic downturns, disrupting supply chains, reducing consumer demand, and causing operational difficulties across various sectors. This adversity spurred many ASEAN companies to adapt their strategies to the new normal [37-41]. Firms had to balance economic performance [10] with necessary restrictions. While many companies struggled, some leveraged the crisis to improve

performance or transform business models, demonstrating that highly resilient firms might hold a competitive advantage [11].

This study introduces innovative foundations for competitive advantage tailored to pandemic conditions, asserting that dynamic capabilities and distinctive competencies alone are inadequate. Crisis management theory highlights that crises, as emotionally charged public events, can trigger adverse stakeholder reactions, jeopardising a firm's financial health, reputation, or survival, and therefore demand specialised leadership [12,42-51]. While dynamic capabilities are crucial in stable environments, the pandemic has unveiled significant shortcomings in many businesses' resilience systems. Numerous firms have succumbed due to a lack of resilience—the ability to sustain normal operations during crises with minimal disruption to key functions. Effective crisis leadership requires swift crisis response, prioritising employee health and safety while ensuring the continuity of critical processes and systems [11]. Remarkably, Accenture's research (2020) reveals that only about 10% of businesses have truly mastered resilience.

This study delves into the influence of pandemic leadership and resilience systems on the interplay between distinctive competencies and competitive advantage. It aims to discern whether these factors facilitate or impede a company's recovery and ongoing competitive edge [77-81]. Furthermore, the study investigates how the pandemic has altered the dynamics between dynamic capabilities, distinctive competencies, and competitive advantage, as well as the pivotal role of pandemic leadership and resilience systems in the post-pandemic landscape [61-71]. The principal aim of this study is to craft a transformation model for the foundations of competitive advantage in the wake of the COVID-19 pandemic [32-36]. From these overarching goals, four specific objectives emerge: (1) to scrutinise the impact of dynamic capabilities on distinctive competencies; (2) to assess how distinctive competencies influence competitive advantage; (3) to examine the moderating effect of resilience systems on the relationship between distinctive competencies

and competitive advantage; and (4) to evaluate the moderating role of pandemic leadership on the relationship between distinctive competencies and competitive advantage.

2. METHODS

Conducting an empirical exploration across ASEAN nations, this study engaged companies spanning diverse sectors including agriculture, mining, manufacturing, consumer goods, construction, finance, and more. The research employed purposive sampling, focusing on multinational corporations due to their heightened exposure to global market constraints and the substantial impact of the pandemic on their operations. The study gathered responses from 200 ASEAN multinational firms through an online survey.

The sample size determination adhered to the 10-times method, which calculates sample size based on ten times the estimated number of indicators and paths [13]. Data collection was conducted using an online questionnaire. Structural Equation Modeling (SEM) via SmartPLS was employed to scrutinise the hypotheses. Rigorous checks for sampling bias were ensured through a one-sample t-test, following methodologies by Hair, Anderson, Babin, and Black [14], and Elfil and Negida [15]. Furthermore, Harman's single factor test was utilised to confirm the absence of common method bias, aligning with guidelines from Aguirre, Miguel, and Hu [16], and Podsakoff & McKenzie [17]. This study aims to forge an innovative framework for competitive advantage, meticulously tailored to navigate the unprecedented challenges posed by the pandemic.

Dynamic Capabilities encompass the ability of an organisation to effectively integrate, develop, and reorganise its resources to respond to changing environments [18,2]. This concept is structured around three key dimensions: absorptive capacity, adaptive capacity, and innovative capacity, which collectively enable firms to navigate uncertainties and seize new opportunities in dynamic markets. Distinctive Competency refers to the unique strengths of a company that enable it to differentiate itself and offer products or services at significantly lower costs compared to competitors (Porter, 1979) [2]. These competencies are evident across four primary dimensions: new market entry strategies, operational efficiencies, product and service

innovation, and safety standards. They underline a firm's capacity to carve out a distinct niche and sustain a competitive edge in diverse market conditions.

Competitive Advantage denotes the superior value and profitability achieved by a firm compared to its rivals (Porter, 1979) [2]. It is assessed through both financial metrics and broader strategic perspectives, encompassing factors that enhance market positioning, customer loyalty, and operational efficiency. Pandemic Leadership emerges as a critical leadership style tailored to effectively manage crises such as pandemics [12]. This approach is characterised by its focus on early signal detection, proactive preparation and prevention measures, swift containment and damage control strategies, robust business recovery plans, and continuous learning and adaptation to evolving challenges. System Resilience describes a system's ability to maintain essential operations and functions during significant disruptions, minimising the impact on critical business processes (Jacson, 2014; Duchek, 2020). It involves adopting resilient technologies and fostering organisational flexibility to swiftly adapt to unforeseen disruptions and maintain operational continuity.

3. RESULTS AND DISCUSSION

This study has performed Common Method Bias (CMB) with Harman's single factor score to evaluate bias instrument.

Table 1 is indicating that it is representative of the population being studied (Sig. > 0.05 suggests statistical significance in this context). It also suggests that there is no significant bias observed in both the sample chosen and the instrument used for data collection. Bias in research can occur in various forms, such as sampling bias where the sample does not accurately represent the entire population, or method bias where the measurement instrument affects the responses given by participants. The reference to Aguirre, Miguel, & Hu [16] and Podsakoff & McKenzie [17] likely pertains to methods used to detect and mitigate such biases in research studies.

In addition to validating the sample's representativeness and addressing potential biases through statistical significance testing (Sig. > 0.05), this study also employed the Harman's single factor test. According to

Table 1. Representative test

Variable	t statistics	value	Sig. value	
Distinctive Competencies	1.872	20	0.063	No Bias Issues
Pandemic Leadership	1.580	23	0.116	No Bias Issues
Resilience system	-.296	24	0.767	No Bias Issues
Competitive Advantage	1.199	21	0.232	No Bias Issues

Source: Primary data processed, 2024

Table 2. Convergent validity

		LF	AVE	CR
Competitive Advantage	CA3	0.698	0.425	0.812
	CA4	0.490		
	CA5	0.733		
	CA6	0.747		
	CA7	0.701		
	CA8	0.485		
Distinctive Competencies	DiC1	0.716	0.524	0.846
	DiC2	0.753		
	DiC3	0.734		
	DiC4	0.682		
	DiC5	0.735		
Pandemic Leadership	PL1	0.747	0.654	0.918
	PL2	0.706		
	PL3	0.789		
	PL4	0.774		
	PL5	0.747		
	PL6	0.834		
Resilience system	SR1	0.760	0.588	0.895
	SR2	0.855		
	SR3	0.896		
	SR4	0.790		
	SR5	0.824		
	SR6	0.713		
Predictive Relevance (Q2)	0.213			
Goodness of Fit (GoF)	0.382			

Source: Primary data processed, 2024

Podsakoff and McKenzie [17], this test is crucial for assessing common method bias, where responses may be influenced by the measurement instrument rather than the constructs being studied. The Harman's single factor test examines whether a single factor accounts for a majority of the variance in the data. If one factor explains more than 50% of the total variance, it suggests that common method bias might be influencing the results. In this study, the variance accounted for by the single factor was found to be 25.174%, well below the threshold of 50%. This finding indicates that the study's data does not exhibit significant common method bias, affirming the reliability of the responses and ensuring that the data is suitable for further detailed analysis and interpretation. It underscores the rigorous methodological

approach taken to maintain the validity and integrity of the study's findings.

The study established a threshold of 0.40 for the loading factor (LF), which assesses the strength of relationship between each item and its underlying construct [19]. Table 2 presented all loading factors exceeding this threshold, affirming the suitability of most items. However, items CA1 and CA2 were excluded from further analysis due to their inadequate loading factors, indicating they did not effectively measure the construct of competitive advantage. Average Variance Extracted (AVE) measures the proportion of variance captured by a construct's items relative to measurement error. According to Fornell and Larcker [20], an AVE above 0.5 is desirable for robust construct definition. Despite

competitive advantage showing an AVE of 0.4, slightly below the threshold, other constructs met or exceeded the criterion, ensuring reliable measurement. Composite Reliability (CR) evaluates the internal consistency of items within a construct, with a CR above 0.7 indicating satisfactory reliability [20]. The study confirmed that all constructs surpassed this threshold, underscoring the reliability of the measurement model despite the lower AVE for competitive advantage.

Q2 assesses the predictive relevance of a model's constructs, with a value exceeding 0.15 suggesting moderate predictive power [14]. Here, a Q2 value of 0.213 indicated that the model effectively predicted its endogenous variables, supporting their significant contributions to the

study's outcomes. Goodness-of-Fit (GoF) evaluates the overall fit of the structural model to the data. A GoF value above 0.36 signifies a well-fitting model [21,22]. The study reported a GoF value of 0.382, indicating that the observed constructs align well with the proposed model, substantiating its validity for further analysis. In summary, through rigorous statistical analyses and adherence to established thresholds, the study ensured the validity and reliability of its measurement model. These findings support the robustness of the study's results and underscore its suitability for detailed analysis and interpretation within the research context.

The hypothesis was evaluated by bootstrapping function in Smart-PLS. The results are illustrated in the following Fig. 1.

Based on Fig. 1, it can be summarized as follows:

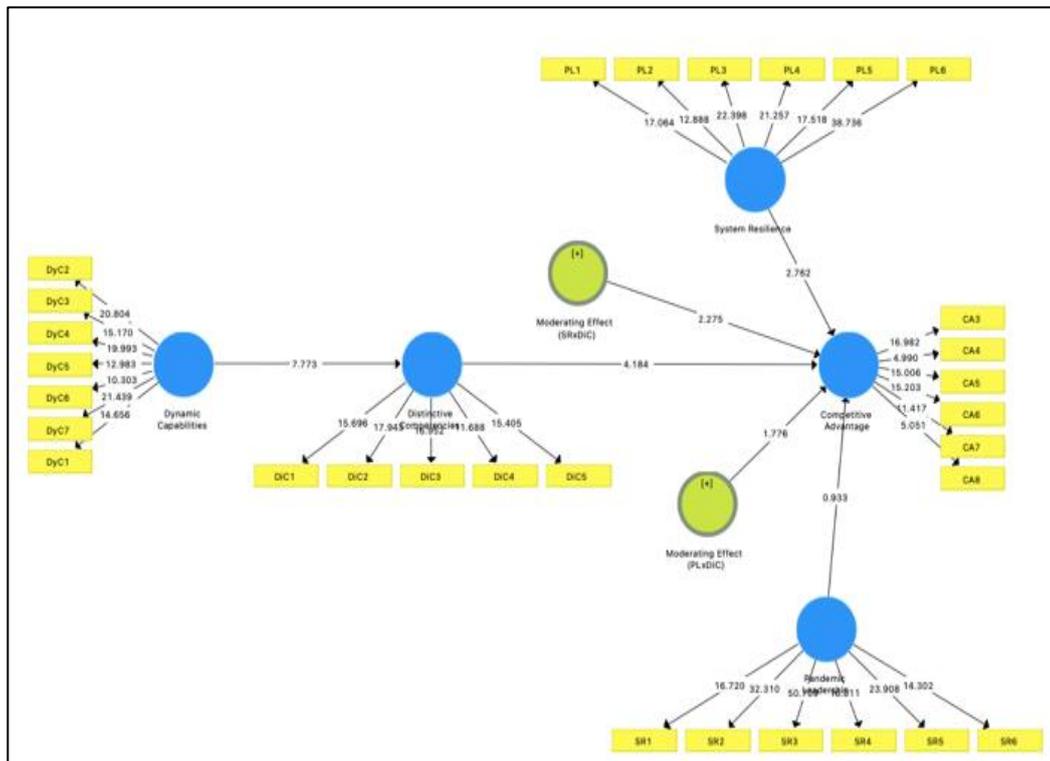


Fig. 1. Hypothesis test output

Table 3. Output summary

	β	T	P	
Dynamic Capabilities -> Distinctive Competencies	0.461	7.773	0.000	Accepted
Distinctive Competencies -> Competitive Advantage	0.308	4.184	0.000	Accepted
PL*DiC -> Competitive Advantage	0.119	1.776	0.039	Accepted
SR*DiC -> Competitive Advantage	0.135	2.275	0.012	Accepted

Source: Primary data processed, 2024

Table 3 indicates that all relationships examined in the study were statistically significant, with p-values below 0.05 and t-statistics exceeding 1.96. This confirms that the proposed hypotheses (Ha) were supported, while the null hypotheses (Ho) were rejected. Specifically, the study found a significant positive effect of dynamic capabilities on distinctive competencies. The results demonstrate that an increase in dynamic capabilities during the pandemic led to a substantial 46.1% enhancement in distinctive competencies. This underscores the critical importance for organisations to cultivate dynamic capabilities to effectively navigate and respond to evolving circumstances. Dynamic capabilities are pivotal in enabling firms to develop unique strengths that set them apart from competitors [18,2]. According to Porter (1979) and Hill et al. [2], companies that successfully harness these capabilities can establish distinctive competencies that drive competitive advantage. Camisón & Villar [6] further highlight the significance of identifying and cultivating these distinctive competencies, which are specific capabilities closely tied to core business functions, enabling firms to differentiate themselves in the marketplace.

Distinctive competencies play a pivotal role in business strategy, influencing either cost reduction or differentiation strategies across primary and support activities such as logistics, operations, marketing, sales, service, and technology (Porter, 1985). The specific competencies developed by an organisation depend on its core business and strategic goals (Ceglinski, 2020). Particularly in the context of pandemic survival, organisations must cultivate unique capabilities to navigate challenges effectively. Organisations equipped with strong dynamic capabilities can swiftly respond to environmental changes, identify critical factors, innovate decision-making processes, reallocate resources, and effectively coordinate functions (Law et al., 1998). These capabilities are crucial for adapting and developing distinctive competencies during crises like pandemics, where environmental dynamism requires continuous enhancement of core competencies [18,3]. The study underscores that enhancing distinctive competencies during a pandemic can lead to a substantial 30.8% increase in competitive advantage. Distinctive competencies, defined by Porter [7] as unique strengths enabling differentiation or cost leadership, are pivotal for achieving and sustaining competitiveness [2]. However, the unpredictable

nature of pandemics, coupled with global challenges like climate change and financial crises, intensifies the difficulty of acquiring and maintaining competitive advantage [8]. Such environments necessitate specific competencies to adapt and derive sustainable advantages (Li and Liu, 2012).

Distinctive competencies play a crucial role in shaping a company's strategic advantage, offering unique strengths that differentiate it from competitors. According to Haeckel (1999), even minor advantages in these specific capabilities can lead to significant strategic gains. For instance, companies with strong distinctive competencies are proactive during pandemics, actively seeking and interpreting data to better understand their operational environment (Neill et al., 2007). This proactive approach not only ensures survival but also enhances service and product quality, fosters innovation in new product development, and ultimately establishes a competitive edge. Benroider (2002) and Hill et al. [2] underscore several essential competencies for companies to navigate and thrive during pandemics. These include the ability to swiftly adapt to new environmental conditions, leverage technology effectively, maintain efficient operations and control, ensure consistent delivery of products/services, and prioritize robust health and safety measures for employees. Competitive advantage, as defined by Hill et al. [2], is the primary objective for businesses, achievable through the cultivation and enhancement of distinctive competencies. Strengthening these competencies enables companies not only to survive but also to thrive amidst uncertainties such as pandemics. Therefore, businesses must focus on developing significant and unique competencies that allow them to adapt, innovate, and maintain resilience in challenging times.

Pandemic leadership plays a crucial role in enhancing the relationship between distinctive competence and competitive advantage, as indicated by a 11.9% increase in the impact of distinctive competence on competitive advantage when firms adopt pandemic leadership during crises. This novel concept, introduced in the study, draws from leadership theory and crisis management strategies. Leadership, as defined in leadership theory, involves the capability to lead, influence, or direct others effectively [23]. Crisis management leadership, specifically during pandemics, necessitates leaders who can organize teams to detect signals, prepare,

Table 4. Six Abilities of Pandemic Leader

	Loading Factor
1. Inquisitiveness; a leader should have more capacity than a follower. The willingness to learn and improve is needed to be a great pandemic leader. They learn by doing to master new environments during a pandemic.	0.834
2. Protectiveness; a leader decides to protect the health and safety of employees from the pandemic. The leader thinks that the employee is an essential asset to be protected. A company cannot operate well without human resources.	0.789
3. Agile; the situation has become dynamist during the pandemic. The company faces uncertainty and threatens with a modest decision. A leader may need to make decisions quickly in a pandemic.	0.774
4. Knowledgeable; a leader should know about what he/ she confronts. A leader needs critical thinking and innovation to establish a new model for business recovery.	0.747
5. Awareness; allows a leader to have a situation-aware pandemic and its impact	0.747
6. Transparency; a leader speaks the truth about worst-case scenarios throughout build the prevention system.	0.706

Source: Primary data processed, 2024

prevent, contain and mitigate damage, facilitate business recovery, and foster organizational learning in response to crises [12]. A pandemic leader exemplifies specific leadership abilities essential for navigating disruptions and threats posed by pandemics. The study identifies six critical abilities that define pandemic leadership, detailed in Table 4. These abilities enable leaders to effectively guide their organizations through challenging times, ensuring resilience and strategic advantage in the face of crises.

In the context of a pandemic, maintaining present capabilities alone is inadequate for sustaining competitive advantage (Li and Liu, 2012). The volatile and rapidly evolving environment can erode previously held advantages, necessitating leadership capable of managing short-term crises effectively [24]. To safeguard a company's distinctive competencies during such times, pandemic leaders must possess specific knowledge and capabilities to innovate and adapt swiftly. They play a crucial role in creating conditions where distinctive competencies can exert a significant influence on competitive advantage. Furthermore, enhancing resilience systems significantly enhances the impact of distinctive competencies on competitive advantage, increasing it by 13.5% [25]. This underscores the critical role of resilience systems for businesses during pandemics, enabling them to direct their distinctive competencies towards building robust resilience frameworks. The global pandemic of 2019 has highlighted the

vulnerabilities of international and national systems, demonstrating the speed with which disruptions can render existing advantages obsolete [8,25]. In such an unpredictable environment, merely developing distinctive competencies is insufficient to ensure competitive advantage (Li and Liu, 2012).

A business that effectively acquires and maintains resilience demonstrates significant performance during crises, adapting through innovative business models [11]. Successful adaptation and innovation can create a competitive advantage, crucial for navigating challenges like changing consumer behaviors, disrupted supply chains, and evolving market routes. Conversely, businesses ill-prepared for such disruptions risk collapse, revealing gaps in their resilience systems [26,11]. Resilience systems refer to an organization's ability to sustain operations during crises, minimizing disruptions to business functions and achieving optimal outcomes [27]. By strategically planning interventions, resilience systems can mitigate shocks and enhance overall business performance. In the context of a pandemic, integrating new technologies becomes a critical resilience strategy [28]. Accenture [11] outlines six foundational building blocks for business resilience: architecture and performance, digital workplace, automation, cloud, service continuity, and cybersecurity. These blocks are effective when businesses maintain flexibility in their strategies, operations, and revenue streams [11].

Table 5. The Six-blocks of resilience system

	Loading Factor
1. Technology adoption	0.760
2. Migration into digital workplace	0.855
3. Data security with cloud system	0.896
4. Organize the goal and build same perception	0.790
5. Establish the company's flexibility	0.824
6. Develop the alternative revenue stream	0.713

Source: Primary data processed, 2024

This study refines Accenture's six-block model to enhance its applicability across businesses of varying sizes and industries. It introduces specific parameters and metrics to measure the effectiveness of resilience systems, ensuring they are adaptable and robust in facing diverse challenges.

According to Accenture [11], prior to COVID-19, only 10% of leading companies had implemented resilience systems. These systems are crucial for ensuring minimal disruption to critical business processes and operations during crises. Throughout the COVID-19 pandemic, resilience systems have proven instrumental in enabling businesses to survive and maintain their competitive advantages [11]. Resilience systems are applied across various disciplines, encompassing organizational, social, economic, and engineering domains, aimed at preserving a company's performance and competitive edge during turbulent times [29,30,31,72-76].

4. CONCLUSION

Based on the findings of this study, several significant conclusions emerge regarding the dynamics of competitive advantage, pandemic leadership, and resilience systems in the context of the COVID-19 pandemic. Firstly, the study underscores the critical link between distinctive competencies and competitive advantage, aligning with established competitive advantage frameworks (Porter, 1979) [2]. Secondly, it highlights the pivotal role of pandemic leadership as a moderator, positively influencing the relationship between distinctive competencies and competitive advantage. Thirdly, the study identifies resilience systems as a crucial quasi-moderator, demonstrating their essentiality for business resilience and competitive positioning during the pandemic. These insights underscore the importance for businesses to integrate robust leadership strategies and resilient systems to navigate and thrive in volatile environments such as global pandemics.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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