

Alamsjah, Firdaus

Article

Ambidextrous leadership of publicly listed companies during turbulent times: The importance of agility and alliance capability

Global Business & Finance Review (GBFR)

Provided in Cooperation with:

People & Global Business Association (P&GBA), Seoul

Suggested Citation: Alamsjah, Firdaus (2022) : Ambidextrous leadership of publicly listed companies during turbulent times: The importance of agility and alliance capability, Global Business & Finance Review (GBFR), ISSN 2384-1648, People & Global Business Association (P&GBA), Seoul, Vol. 27, Iss. 3, pp. 41-55,
<https://doi.org/10.17549/gbfr.2022.27.3.41>

This Version is available at:

<https://hdl.handle.net/10419/305850>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<https://creativecommons.org/licenses/by-nc/4.0/>

Ambidextrous Leadership of Publicly Listed Companies during Turbulent Times: The Importance of Agility and Alliance Capability

Firdaus Alamsjah[†]

Industrial Engineering Department, BINUS Graduate Program - Master of Industrial Engineering, Bina Nusantara University

ABSTRACT

Purpose: The primary goal of this study is to evaluate the importance of developing organizational agility and alliance capability to survive during turbulence times such COVID-19 pandemic.

Design/methodology/approach: The study's data was gathered through a survey of 103 top management teams from 55 publicly listed companies in Indonesia, and the responses were analyzed to determine the relationships between leadership, agile organization, alliance management, and firm performance.

Findings: This study found that ambidextrous leadership at publicly listed companies has no direct impact on firm performance during times of turbulence. Agility and alliance management capability, on the other hand, fully mediate the relationship between ambidextrous leadership and firm performance.

Research limitations/implications: Leaders, particularly those in public listed companies, must continuously improve their organizational agility and alliance management capability to remain competitive and adaptive to face environmental changes. For utilizing organizational agility and alliance management capability as a firm strategy during times of turbulences, ambidextrous leaders are expected to balance exploiting and exploring practices.

Originality/value: This study compares the perceptions of top management team during and normal time and during the COVID-19 pandemic specifically on leadership, agility, and alliance management capability in a stock market environment.

Keywords: Ambidextrous leadership, Organizational agility, Alliance management capability, Firm performance, Public listed company

I. Introduction

The stock market plays an important role in the development of a country's industry and commerce, which has a significant impact on the country's economy. However, the COVID-19 pandemic has had a significant impact on the global economy, and managers may use alliance management capability as

an organizational response to environmental turbulence, particularly in developing countries (Alexiev et al., 2016). In highly volatile and uncertain times, organizations must develop organizational capability to effectively deal with unexpected events. Previous study (McCann & Selsky, 2012) classify organizational capability in dealing with change into three categories: organizational flexibility, organizational agility, and organizational resilience. This article investigates how a leader anticipates and responds to unexpected events by establishing an agile organization (Inman et al., 2011; Kale et al., 2019; Kurniawan et al., 2020; Yang &

Received: Apr. 10, 2022; Revised: May. 10, 2022; Accepted: May. 19, 2022

[†] Firdaus Alamsjah

E-mail: alamsjah@binus.edu

Liu, 2012) and developing alliance management capability (Kaupila, 2015; Luvison & de Man, 2015).

Thus, given the context of uncertainties and rapid environmental transformations in which the pandemic is embedded, it becomes critical that collective knowledge be adapted and current enough to cope with these environmental conditions, or the company's chances of survival diminish (Joshi & Campbell, 2003; Sosna et al., 2010; Teece et al., 2016).

According to dynamic capability theory, alliance capabilities can assist in sensing, seizing, and reconfiguring a firm's resource base. In summary, alliance capabilities may serve companies in two ways, according to our interpretation: one that enables continuous collaboration with alliance partners, management, integration, and learning from alliance relationships for maintaining competitiveness (strategic/operational capabilities), and another that serves as a higher-level capability for sensing, seizing, and reconfiguring resources (dynamic capabilities). In the former, alliance capability serves as a strategic or operational capability that enables exploitation, whereas in the latter, alliance capability serves as a dynamic capability that focuses on exploration (Kale & Singh, 2007; Wang & Rajagopalan, 2015). This distinction is critical for comprehending the ambidexterity concepts discussed in the literature.

As a result, organizational agility will enable an organization to be more resilient to a pandemic while maintaining acceptable performance during the pandemic. Many management and strategy scholars (Cummings & Holmberg, 2012; Ireland et al., 2002; Kale et al., 2009; Schreiner et al., 2009) have emphasized the importance of organizational capabilities in establishing, developing, and managing interorganizational partnerships. These capabilities, known as alliance management capabilities (Lambe et al., 2002), have been identified as critical resources in assisting firms in effectively pursuing their inter-organizational relationships (Draulans et al., 2003; Heimeriks et al., 2009; Schilke & Goerzen, 2010).

According to ambidexterity theory, alliance management capability can be divided into co-exploration and co-exploitation, depending on whether current resources are being exploited or new resources are being explored (Gupta et al., 2006; Hoffmann, 2007; Lavie

et al., 2010; March, 1991; Rothaermel & Deeds, 2004). According to recent research, ambidexterity can be achieved at any organizational level, including the level of inter-organizational collaboration to achieve short- and long-term performance (Gupta et al., 2006; Parmigiani & Rivera-Santos, 2011; Raisch et al., 2009). The co-exploration utilizes alliance management capability, with the main result being firm growth over a longer period of time. This is in contrast to co-exploitation, which was used to improve short-term financial performance. These two processes imply that alliance management capability is a critical resource, as it serves as the foundation for achieving two types of firm performance: long-term firm growth and short-term financial performance.

Crisis and leadership are inextricably linked. Leadership is an essential component of crisis management, including the selection of the crisis committee's chairman (Alas et al., 2010). In the literature, there are several definitions of crisis. COVID-19 is a big, bold, and ultimately irreversible revolution for leaders everywhere (Harris & Jones, 2020). COVID-19 has dramatically altered leadership conceptions and practices in government (Wilson, 2020), schools (Harris & Jones, 2020), corporations (Bartsch et al., 2020; Stoker et al., 2019), and many other industry sectors. Leadership best practices in normal times differ from those in times of crisis (Dirani et al., 2020).

An effective leader can assist the organization in dealing with a wide range of internal and external interruptions and challenges. During an internal crisis in a hierarchical corporate culture, for example, a directive leadership style is more effective; but, during an external crisis, a transformational leadership style may be more effective (Bowers et al., 2017). A clan or adhocracy culture, on the other hand, may necessitate transformative leadership in order to effectively manage both internal and external crisis situations (Bowers et al., 2017). In spite of this, such leadership encourages crisis circumstances on both the external and internal fronts. It has been suggested that ambidextrous leadership, which is defined as the interaction of two complementary leadership characteristics - opening and shutting - might stimulate both exploratory and

exploitative forces (Rosing et al., 2011; Rosing & Zacher, 2017).

In response to the aforementioned challenges, and in light of the scarcity of empirical studies comparing during and before the pandemic, particularly in the context of publicly traded enterprises, we developed the following research questions:

- RQ1:** Is it possible for ambidextrous leaders to directly influence the performance of their organizations?
- RQ2:** How effective is agile organization in mediating the relationship between ambidextrous leaders and strong firm performance?
- RQ3:** How effective is alliance management capability in mediating the relationship between ambidextrous leaders and firm performance?

The following is the structure of this paper: Section 2 contains reviews of the literature as well as the hypothesis development. Furthermore, Section 3 describes the approach in detail, and Section 4 offers the findings. Section 5 addresses the findings and inferences that can be taken from them. Finally, Section VI summarizes the findings of the study, as well as the management implications and limitations of the findings.

II. Literature Reviews and Hypothesis Development

A. Firm Performance

The stock market plays an important role in the development of the country's industry and commerce, which in turn has a significant impact on the country's overall economy. Although the COVID-19 pandemic has generated an unprecedented global catastrophe in several industry sectors (Craven et al., 2020) it has also had a very negative impact on many industries in Indonesia. Pandemic infections, such as the severe acute respiratory syndrome epidemic (Chen et al.,

2019; Chen et al., 2007) and the Ebola Virus Disease (EVD) outbreak (Ichev & Marinč, 2018), have had a detrimental impact on the stock market. And now it appears that the COVID-19 epidemic in Indonesia is having an influence on numerous sectors of the Indonesia Stock Exchange (Herwany et al., 2021).

Globally, the pandemic had an impact on the operations of 9,038 companies out of the Fortune 1000 corporations that were publicly traded. As a result of the pandemic, economic growth has also slowed significantly (Chalabi, 2020). World Bank estimates that the global economy will contract by 5.2 percent in 2020, and some research suggests that both the daily growth in total confirmed cases and the total number of deaths caused by COVID-19 have significant negative effects on stock returns across all industries (Al-Awadhi et al., 2020). It is the primary focus of this article to discuss financial achievements, which were expressed through a variety of indicators, including market share, ROI growth, operating income, and product position in the market.

It indicates that the way businesses deal with uncertainty is comparable to how they deal with the consequences of a pandemic. A number of important variables have been identified as contributing to firm performance under uncertainty, including the agile approach ; Hamsal et al., 2022 (Srinivasan et al., 2020), agile manufacturing (Inman et al., 2011), supply chain agility (Zimmermann et al., 2020), strategic agility (Shin et al., 2015), and alliance management capability ((Ireland et al., 2002; Kauppila, 2015; Shin et al., 2015).

B. Ambidextrous Leadership

The pandemic creates uncertainty and an unknown environment that necessitates innovation and the willingness to take risks. According to the ambidexterity theory of leadership for innovation (Rosing et al., 2011; Zacher & Rosing, 2015), ambidextrous leadership includes three elements: (1) opening leadership behavior to encourage explorative behavior and innovation; (2) closing leadership behavior to encourage exploitative behavior and efficient process; and (3) flexibility

over time to switch between both behaviors once a situation requires. These three elements are required during the pandemic (Liu et al., 2022; Mofijur et al., 2021).

Empirical studies, on the other hand, have yielded inconsistent, if not contradictory, findings about the relationship between leadership and firm performance (Gerlach et al., 2020; Peterson et al., 2012). These inconsistencies may be due in part to differences in data, measurement, and analysis methods used across studies. Several leadership styles, including servant leadership (Chen et al., 2016; Peterson et al., 2012), transactional leadership, and transformational leadership, all have a direct impact on firm performance (Berraies & Bchini, 2019; Yıldız et al., 2014). Furthermore, leadership is critical in passing disruption (Huang & Farboudi Jahromi, 2021; Odeh et al., 2021). However, most leadership styles during crises are transformational (Zhang et al., 2012) and we argue that during a crisis, it is necessary to both exploit and explore skills, rather than just exploring transformational leadership skills.

As a result, we contend that

H1: Ambidextrous leadership has a direct impact on firm performance

C. Organizational Agility

With multiple constraints during a pandemic, such as physical distance and a limited number of allowable workers, the speed to respond to the unknown necessitates a firm's ability to enable sensing environmental changes and responding efficiently and effectively (Felipe et al., 2016). This relates to the theory of dynamic capability view and the concept of organizational agility, which is founded on two key elements: organizational adaptability as a reactive factor and organizational flexibility as a proactive factor (Overby et al., 2006; Sherehiy et al., 2007). Furthermore, in order to achieve the required levels of agility, the organization must develop strong dynamic capabilities that allow it to deal with deep uncertainty and promote the ability to respond quickly to market changes

(Teece et al., 2016). To deal with the high level of uncertainty during the pandemic, an organization must exercise three interconnected dimensions: (1) customer agility - leveraging the voice of customers to gain market intelligence), (2) partnering agility - learning from business partners to improve the firm's response to the market), and (3) operational agility - rapidly redesigning to exploit dynamic marketplace conditions (Sambamurthy et al., 2003). Previous research has demonstrated that having good organizational agility is advantageous because it serves as a good mediating variable to achieve firm performance from IT capabilities (Mao et al., 2014), absorptive capacity (Kale et al., 2019), and e-commerce capability (Li et al., 2020).

Given the previous research, organization agility may play a role in the impact of ambidextrous leadership on firm performance, so the following hypothesis is proposed:

H2: Organizational agility mediates the relationship between ambidextrous leadership and firm performance

D. Alliance Management Capability

A systematic literature review of 94 articles from top-tier journals (Kohtamäki et al., 2018) revealed that one of alliance capabilities is alliance management capability, which deals with the ability to set alliance objectives or targets, carry out task implementation, and evaluate alliance progress. The theoretical foundation for alliance management capability is provided by a resource-based theory (RBT). According to RBT (Barney, 1991; Kauppila, 2015; Wernerfelt, 1984), alliances can be viewed as heterogeneous and immobile resources controlled by a firm, and thus they can serve as the foundation for superior performance. Similar to ambidexterity, previous study introduced co-creation strategies (Mihardjo et al., 2019) and (Kauppila, 2015) introduced co-exploration and co-exploitation; whereas co-exploration drives firm growth in the long run, co-exploitation has a positive effect

on firms' short-term financial performance. In addition,

In relation to the previous research, this study proposes the following hypothesis:

- H3:** Alliance management capability mediates the relationship between ambidextrous leadership and firm performance

III. Methods

By comparing financial data from 30 June 2019 to 30 June 2020, we did descriptive and inferential analysis to test all hypotheses using Indonesian listed firms. As of 31 December 2018, the Indonesia Stock Exchange (IDX) listed 619 companies from nine distinct industries with varying market capitalizations. As of 30 June 2019, the top 50 companies, or less than 10% of the companies on IDX, account for around 73.7 percent of total market value

From the 55 listed companies that were asked to participate voluntarily in this anonymous survey, 103 respondents completed the survey, averaging 1.9 respondents per listed company questionnaire. The data processing activities can be conducted with only 103 respondents because the minimum dataset for using the structural equation model is 100 samples

(Hair et al., 2012). The minimum number of samples required to use the SmartPLS program is even lower, at 30. (Kock, 2015).

These 55 companies represent a diverse range of industries, ensuring that all nine sectors are represented in this survey. 25 out of 55 companies are ranked among the top 50 listed companies in terms of market capitalization, accounting for 48.2 percent of the Indonesian market. The remaining 30 firms account for 3.2 percent of total market capitalization. Thus, 51.4 percent of IDX's total market capitalization is represented by 55 companies, which we believe is quite representative in this study. The respondent profile is shown in Table 1. Overall, respondents are overwhelmingly male (76%) and younger than 51 years old (79%). The majority of respondents hold bachelor's and master's degrees (93 percent).

The proposed research model was developed using four variables: (1) firm performance (FPER); (2) organizational agility (OAGI); (3) alliance management capability (ALMC); and (4) Ambidextrous Leadership (AMBL). Three variables were structured as first-order constructs: FPER, OAGI, and ALMC. Meanwhile, AMBL is structured as a second-order construct with two dimensions: exploration (EXPLR) and exploitation (EXPLT). The research framework is shown in Figure 1.

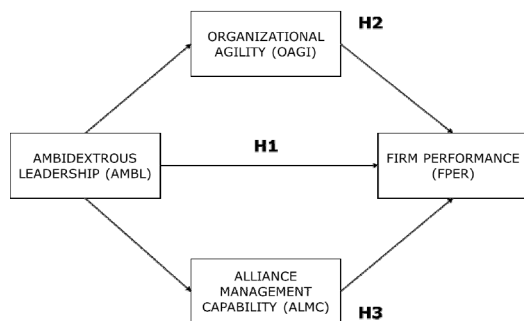
FPER is measured using six indicators proposed by Brik et al. (2011) and Maletik et al. (2015), whereas OAGI is measured using six indicators proposed by

Table 1. The Respondent Profile

Descriptions				
Gender	Men	78	76%	76%
	Women	25	24%	100%
Age	Below 35 years old	17	17%	17%
	35 - 39 years old	13	13%	29%
	40 - 44 years old	19	18%	48%
	45 - 49 years old	32	31%	79%
	50 years old and more	22	21%	100%
Education	Holding bachelor's degree	61	59%	59%
	Holding master's degree	35	34%	93%
	Holding doctoral degree	6	6%	99%
	Other	1	1%	100%

Table 1. Continued

Descriptions				
Industry	Chemicals and Basic Industry	7	7%	7%
	Consumer Products	4	4%	11%
	Finance & Investment Services	17	17%	28%
	Infrastructures, Transportation, and Utilities	9	9%	37%
	Exploration and Mining	6	6%	42%
	Real Estate, Construction, and Property	37	36%	78%
	Services and Trade	21	20%	100%
Position	Director or Chief	34	33%	33%
	Director or Chief at Subsidiary	5	5%	38%
	Vice President or Others	26	25%	63%
	Division Head or Equivalent	38	37%	100%
Years of service - how long do you work with the company?	Until 5 years	27	26%	26%
	6 - 10 years	41	40%	66%
	11 - 15 years	14	14%	80%
	More than 15 years	21	20%	100%
The age of your CEO?	36 - 40 years old	10	10%	10%
	46 - 50 years old	15	15%	24%
	More than 50 years old	78	76%	100%
How long has your Current CEO occupied his/her position?	Until 5 years	31	30%	30%
	6 - 10 years	29	28%	58%
	11 - 15 years	15	15%	73%
	More than 15 years	28	27%	100%

**Figure 1.** Research Framework

Lu and Ramamurthy, 2011. Based on previous studies (Kohtamäki et al., 2018), the ALMC was translated into eight indices. AMBL was quantified using instruments created in a previous study (Zacher & Rosing, 2015), which were broken down into seven EXPLR indicators and seven EXPLT indicators.

The research framework was used to conduct the reliability and validity examinations. The findings of the analysis are shown in Tables 2 and 3. Throughout the validity investigation, outer loading scores (OL) were utilized to confirm the validity of indicators. An indicator with a lower than 0.60 outer loading score is removed from the research model, because it denotes an indicator that isn't valid. The research model eliminated two FPER variables (FP01 and FP02). All of the indicators in Table 2 are valid if the OL score is 0.6 or higher.

The research framework was used to conduct the reliability and validity examinations. The findings of the analysis are shown in Tables 2 and 3. Throughout the validity investigation, outer loading scores (OL) were utilized to confirm the validity of indicators. An indicator with a lower than 0.60 outer loading score is removed from the research model because

it denotes an indicator that isn't valid. The research model eliminated two FPER variables (FP01 and

FP02). All of the indicators in Table 2 are valid if the OL score is 0.6 or higher. The AVE, or average

Table 2. Validity and Reliability Analysis

VARIABLES, DIMENSIONS, AND INDICATORS			OL	CA	CR	AVE
Ambidextrous Leadership (AMBL)				0.53	0.90	0.92
Exploration (EXPLR)	Our CEO lets diverse ways for accomplishing tasks	AL01	0.80	0.57	0.87	0.90
	Our CEO boosts experimentation with diverse ideas	AL02	0.61			
	Our CEO has motives to take risk	AL03	0.75			
	Our CEO lets us for self-regulated thinking and action	AL04	0.90			
	Our CEO provides room for our own ideas	AL05	0.85			
	Our CEO tolerates mistakes	AL06	0.61			
	Our CEO encourages error learning	AL07	0.70			
Exploitation (EXPLT)	Our CEO monitors goal attainment	AL08	0.81	0.51	0.82	0.87
	Our CEO establish routines	AL09	0.75			
	Our CEO do corrective actions	AL10	0.85			
	Our CEO controls obedience to rules	AL11	0.84			
	Our CEO pays attention on accomplishing tasks unvaryingly	AL12	0.84			
	Our CEO apply sanctions for mistakes	AL13	0.65			
	Our CEO focused on the plans	AL14	0.61			
Organizational Agility (OAGI)	Our company is more responsive to make appropriate decisions in the face of market changes	MA01	0.81	0.57	0.85	0.89
	We persistently search for ways to reinvent our company for serving marketplace better	MA02	0.72			
	We respond market related changes as opportunities to capitalize faster	MA03	0.76			
	During COVID-19 times we fulfil special requests or demands faster for whenever such demands arise	OA01	0.76			
	We are more responsive to scale up or down our production levels to support fluctuation in the market	OA02	0.69			
	Whenever disruption happened in our supply-chains, we can make necessary alternative arrangements quickly	OA03	0.79			
Alliance Management Capability (ALMC)	Our company sets specific target regarding collaboration with business partners	AC01	0.81	0.51	0.85	0.89
	Our company develops difference business arrangement with partners	AC02	0.70			
	Our company consistently executes all collaboration commitments	AC03	0.61			
	Our company has freedom to collaborate with any business partners	AC04	0.61			
	Our company has a specific guidance for developing collaborations with business partners	AC05	0.67			
	Our company has a scorecard that evaluate the collaboration with all business partners	AC06	0.74			
	Our company measures the progress of collaboration with all business partners	AC07	0.80			
	Our company follows up the results of collaboration with all business partners	AC08	0.77			
Firm Performance (FPER)	How do you estimate your company net income for six months compared to similar period last year?	FP03	0.61	0.69	0.83	0.89
	Your company market share is better than competitors:	FP04	0.90			
	Your company growth in return on investment (ROI) is better than competitors	FP05	0.95			
	Your company operating income is better than competitors:	FP06	0.92			

variance extracted score, is used to determine the validity of a dimension or variable. An AVE score greater than 0.5 indicates a viable dimension or variable. As shown in Table 2, all dimensions (XPLR and XPLT) and all variables (FPER, OAGI, ALMC, and AMBL) had AVE scores greater than 0.5, as shown in Table 2. It signifies that all variables are valid in all dimensions. Table 3, which explains discriminant validity, backs up these claims. When the root square of AVE (diagonal bold scores) exceeds 0.7, the greatest score in each column is achieved. All variables are discriminately valid, in other words. Cronbach's Alpha (CA) or Composite Reliability (CR) are employed as parameters in reliability analysis. When the CR or CA score of a variable or dimension is greater than 0.70, it is considered dependable. Because CA or CR scores are more than 0.70, Table 2 reveals that all variables within its dimensions are dependable. Based on the validity and reliability analysis, all variables, dimensions, and indicators in the research framework are valid and reliable.

IV. Results and Discussions

Table 4, Figure 2, and Figure 3 show the results of the PLS Algorithm and bootstrapping analysis. Table 4 summarizes the research model analysis findings. Ambidextrous leadership (AMBL) as a second order construct is significantly reflected in exploration (XPLR) and exploitation (XPLR), according to the measurement model (XPLT). As illustrated in Figure 3, ambidextrous leadership is nearly equally represented by exploration ($r^2 = 0.789$) and exploitation ($r^2 = 0.765$).

The results of the structural model analysis could be used to test the hypotheses. Table 4 shows the results of a bootstrapping analysis using 500 subsamples. H1 is rejected because the path has t-Statistics of 1.08 (less than 1.96) and p-Values of 0.278 (greater than 0.05).

On the other hand, H2a and H2b have path coefficients of 4.72 and 2.43 (more than 1.98 is acceptable), respectively, or p-Values of 0.00 and

Table 3. Discriminant Validity

		[1]	[2]	[3]	[4]	[5]	[6]
[1]	Alliance Management Capability	0.71					
[2]	Ambidextrous Leadership	0.45	0.73				
[3]	Firm Performance	0.47	0.34	0.83			
[4]	Organizational Agility	0.51	0.40	0.43	0.76		
[5]	Exploration	0.41	0.69	0.33	0.31	0.76	
[6]	Exploitation	0.37	0.68	0.25	0.42	0.57	0.71

Table 4. Hypothesizes Testing

	HYPOTHESES	Path Coeff.	t-Statistics	p-Values	Conclusion
Direct Impact of Leadership on Firm Performance					
H1:	Ambidextrous Leadership ==> Firm Performance	0.11	1.08	0.278	<i>Rejected</i>
Mediating Role of Organizational Agility					
H2a:	Ambidextrous Leadership ==> Organizational Agility	0.4	4.72	0	Accepted
H2b:	Organizational Agility ==> Firm Performance	0.24	2.43	0.02	Accepted
Mediating Role of Alliance Management Capability					
H3a:	Ambidextrous Leadership ==> Alliance Management Capability	0.45	4.29	0	Accepted
H3b:	Alliance Management Capability ==> Firm Performance	0.3	2.63	0.01	Accepted

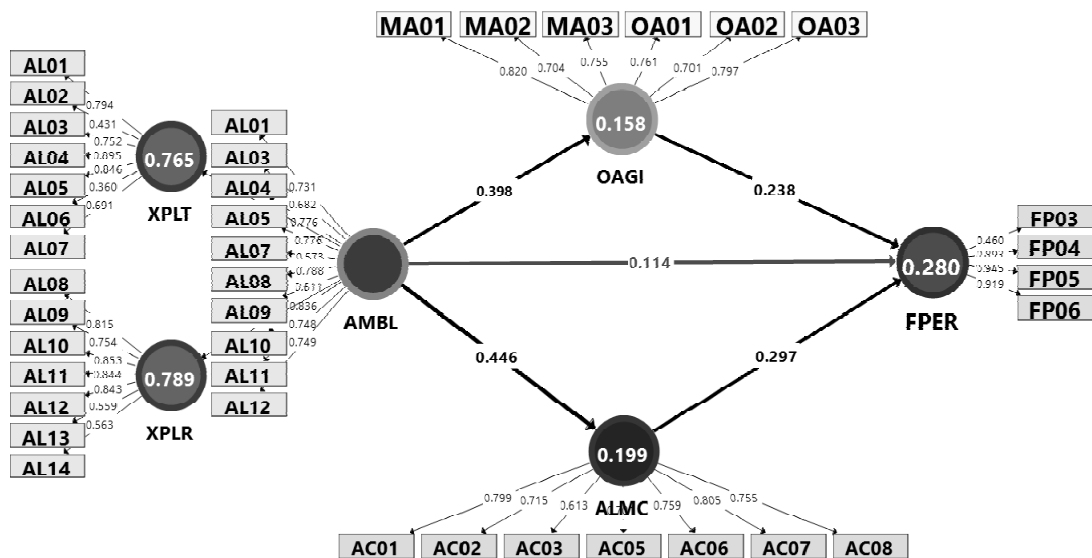


Figure 2. PLS Algorithm Calculation

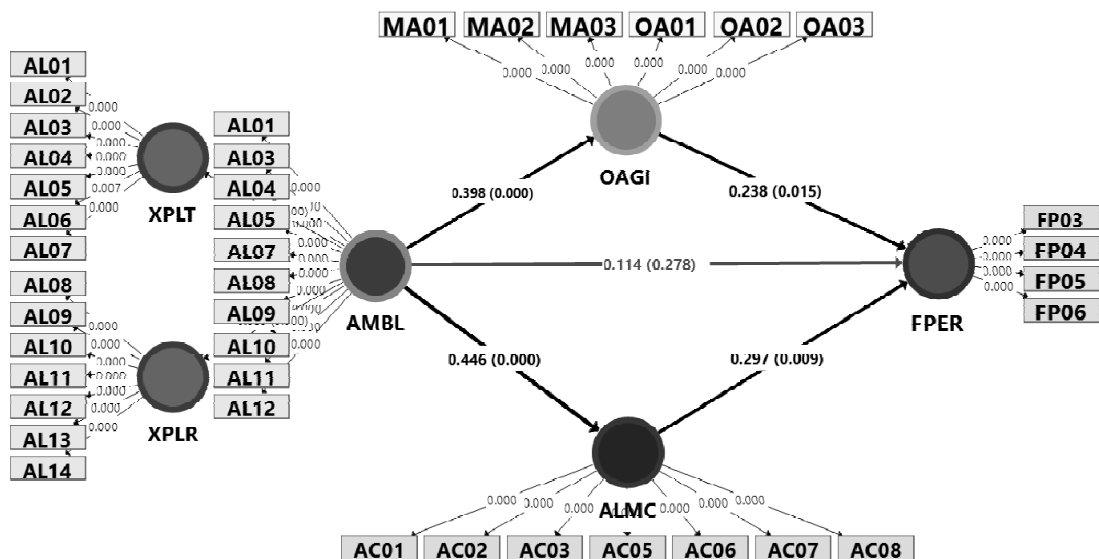


Figure 3 Bootstrapping Calculation

0.02. (less than 0.05). This indicates that H2 is acceptable. Therefore, organizational agility mediates the relationship between ambidextrous leadership and firm performance. Meanwhile, H3a and H3b had path coefficients of 4.29 and 2.63 (more than 1.98) or p-values of 0.00 and 0.01 (less than 0.05). This implies that H3 is accepted. Therefore, alliance management capability

mediates the relationship between ambidextrous leadership and firm performance.

The effect of OAGI, ALMC, and AMBL on FPER is depicted in Figure 2, which is approximately 28%. This indicates that additional variables not discussed in this study have a 71% impact. OAGI and ALMC and AMBL have a combined effect of 29.6 percent.

ALMC is influenced by AMBL by 20.2 percent. AMBL has a greater influence on ALMC (19.9%) than it does on OAGI (15.8%).

A. Theoretical Implications

Although the study of the role of leadership, organizational agility, and inter-organizational collaboration in firm strategy has a long history in the literature, researchers have only recently focused on distinguishing the effects of COVID-19 (Breier et al., 2021; Golan et al., 2020; Ivanov & Dolgui, 2020; Nagel, 2020). This study constructs a conceptual model that emphasizes organizational agility and alliance management capability as important mediating mechanisms between managers' concerns about their organization's leadership and firm performance by integrating insights from DCV and KBV theory. The findings raise several critical issues for management theory and practice.

The managerial literature has been expanded in a variety of directions because of the research findings.

First, our study adds a new model of ambidextrous leadership and firm performance to the leadership literature through the mediation mechanism of organizational agility and alliance management capability. This study differs from previous leadership models in that it investigates how the two change forces in ambidextrous leadership contribute to organizational agility and alliance management capability. The synergy of the two change forces - incremental (exploitative) force under closing leadership behaviours and revolutionary (exploratory) force under opening leadership behaviours (Rosing et al., 2011) - nurtures all agility and alliance management components because incremental change force alone may yield some degree of innovativeness but may be insufficient to engender proactiveness or risk taking. This synergy not only stimulates exploratory actions among change agents, but it also reduces resistance from employees who can only adapt to the innovations incrementally. Through their closing leadership behaviours, ambidextrous leaders provide employees with low adaptability with enough time to adapt to changes during the pandemic. Leadership

can have an impact on innovation, either positively or negatively; (J.-X. Chen et al., 2019). Other study (Wang & Rajagopalan, 2015) discovered that leadership has a direct impact on firm performance, whereas other study (Peterson et al., 2012) discovered that leadership serves as a mediator to achieve firm goals. Our findings confirm that ambidextrous leadership has no direct impact on firm performance during COVID 19 disruptions, but it does build a stronger organization in terms of agility and alliance management capability.

Second, the research here provides insights into firms' decisions to expand their agile development process beyond their organizational comfort zone. Firms must be able to detect environmental changes and respond to them efficiently and effectively during and especially prior to a crisis (Felipe et al., 2016). Low-frequency, high-impact (LFHI) events pose a significant risk to an organization (Ivanov & Dolgui, 2020). We classify epidemic outbreaks as a subtype of LFHI (Ivanov and Das, 2020). For this organization agility study, we use the dynamic capabilities view (DCV) as a theoretical anchor (Teece, 2007; Teece et al., 1997). Our findings contribute to the DCV theory, which states that firms must have dynamic capabilities in order to survive and maintain a competitive advantage in constantly changing market conditions (Teece et al., 1997).

The current COVID 19, on which our research will be focused, is a significant changing market condition. The current study explains the effect of agility on performance using the organization's RBV augmented with dynamic capabilities theory (Teece, 2007). As a result, our findings contribute to the DCV that organizational agility fully mediates the effect of ambidextrous leadership on firm performance. Similar studies that have used DCV in the study of agility back up our findings (Blome et al., 2013). Furthermore, we propose that, while a leader with exploiting and exploring capabilities should develop firm agility prior to achieving firm performance, this should be done prior to a crisis. Furthermore, in accordance with the DCV, we propose that the ambidexterity - agility - firm performance relationship is influenced by environmental uncertainty (such as

COVID 19), and that agility serves as a moderator in this relationship.

Third, the study constructs a conceptual model that emphasizes alliance management capability (AMC) as an important intervening mechanism between leadership during disruptions and firm performance by integrating insights from DCV and KBV theory. The findings indicate that managers can make strategic decisions about developing AMC during normal times because it will be beneficial during disruptions, as we discovered that AMC fully mediates the effect of ambidextrous leadership on firm performance. The findings here show, in particular, that AMC fully mediates the link between ambidextrous leadership and firm performance, implying that leaders face significant challenges in achieving firm performance when the business environment is turbulent. They must turn to inter-organizational collaboration to overcome mobility barriers that exist between strategic groups and to establish cognitive legitimacy of their offerings in a dynamic environment. This is to demonstrate that KBV theory can be applied to disruptive changes. Inter-organizational collaboration that occurs prior to the pandemic is critical during the pandemic because good collaboration and alliance learning capability related to knowledge-based view occurs in a short period of time.

Fourth, our findings not only broaden the application spectrum of RBV and dynamic capabilities theory, but also suggest that future research should consider organizational agility and alliance management as mediating variables to other firm performance variables such as firm innovativeness and resilience.

B. Managerial implications

This study has important practical implications. First, with 76 percent of the respondents being over 50 years old and all being top management from the Indonesia stock exchange, we can assume they have been practicing both exploiting and exploring leadership. However, during the pandemic, their leadership abilities will not be able to directly affect

firm performance. This is because high uncertainties and rapid changes necessitate both innovation and resource efficiency. In normal circumstances, a leader may have enough time to respond to changes. Thus, leaders must be aware that leading during turbulent time is different from normal time.

Second, leaders must create an agile organization and/or inter-organizational collaboration to survive a pandemic. An agile organization is more responsive and adaptable. Leaders foster collaboration, which reduces risk and improves communication. As a result, leadership competencies must be continuously developed to be sustained in the face of disruptions. Furthermore, the pandemic experience should be incorporated into the company's organizational learning.

Third, the findings of this study may have significant consequences for the selection, training, and development of leaders in the context of public companies. Educators in this field can use our findings to change how they train public company leaders to understand the importance of ambidextrous leadership during turbulent times. This will help them come up with well-rounded leadership skills that will help them better support employee innovation.

Fourth, executives must monitor the turbulent environment and establish strategic relationships within the firm and with other organizations in order to secure resources in turbulent times (Antonakis and House, 2014; Janssen, 2000; Ansell et al., 2021; Pellegrini et al., 2020). These strategic leadership traits are crucial for creating an environment where employees can be innovative in terms of both creativity and execution (Janssen, 2000; Mumford, 2000; Mumford et al., 2002; Luciano et al., 2020). By applying these important factors, leaders will be able to help their staff reach high levels of innovation performance, even when things are going wrong, like during the COVID-19 pandemic.

V. Conclusions and Limitations

There are three limitations to this study that should be considered when drawing conclusions from the analyses. First, the data were collected during the early stages of the COVID-19 pandemic, and we only received a limited number of responses. The pandemic was at various stages of spread in the countries where surveys were collected. Furthermore, the measures taken by the governments of these countries differed significantly. Given that 66 percent of the data set reported being between the ages of 18 and 34, the respondents were relatively young, which may have influenced their acceptance of digital work forms and willingness to implement them in their lives.

Second, because our sample was limited to publicly traded companies, multinational and state-owned enterprises must be investigated further to ensure generalizability. Future research should investigate whether our findings can be replicated in larger companies. Finally, we need to broaden our research to better understand the effects of interdependence and temporal orientation on the differential effects of organizational agility and inter-organization collaboration on firm performance.

Future studies could further this research's theoretical line while also addressing some of the limitations inherent in the method used in this study. It can concentrate on further delineating the underlying forces that shape these leadership tensions, which can improve our understanding of agile organizations, inter-organizational collaboration, and firm performance. Future studies that seek to investigate the application of the proposed theoretical model in industries that differ from the pandemic and non-listed companies in order to promote comparisons and validation are encouraged. Furthermore, to gain insight, a qualitative approach quantitative method and confirmation with qualitative study with FGD with top management were used.

Finally, we believe that ambidexterity in leadership holds great promise for understanding the complexities

and tensions that managers must resolve when deciding when to use organizational agility and interorganizational collaboration as firm strategies. Consideration of their perceptions of exploiting and exploring practices at the same time may provide important insights in this regard.

References

- Al-Awadhi, A. M., Alsaifi, K., Al-Awadhi, A., & Alhammadi, S. (2020, September). Death and contagious infectious diseases: Impact of the COVID-19 virus on stock market returns. *Journal of Behavioral and Experimental Finance*, 27, 100326.
- Alas, R., Gao, J., & Vanhala, S. (2010). The crisis management in Chinese and Estonian organizations. *Chinese Management Studies*, 4(1), 18-36. doi:10.1108/17506141011032981
- Alexiev, A. S., Volberda, H. W., & Van den Bosch, F. A. J. (2016). Interorganizational collaboration and firm innovativeness: Unpacking the role of the organizational environment. *Journal of Business Research*, 69(2), 974-984.
- Ansell, C., Sørensen, E., & Torfing, J. (2021). The COVID-19 pandemic as a game changer for public administration and leadership? The need for robust governance responses to turbulent problems. *Public Management Review*, 23(7), 949-960.
- Antonakis, J. and House, R.J. (2014). Instrumental leadership. Measurement and extension of transformational-transactional leadership theory. *The Leadership Quarterly*, 25(4), 746-771.
- Baik, Y., & Kang, J. (2020). Small knowledge-intensive firms' innovation and performance: The moderating effects of organizational change. *Global Business & Finance Review (GBFR)*, 25(2), 51-63.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.
- Bartsch, S., Weber, E., Büttgen, M., & Huber, A. (2020). Leadership matters in crisis-induced digital transformation: How to lead service employees effectively during the COVID-19 pandemic. *Journal of Service Management*, 32(1), 71-85. doi:10.1108/JOSM-05-2020-0160
- Berraies, S., & Bchini, B. (2019). Effect of leadership styles on financial performance: mediating roles of exploitative and exploratory innovations case of knowledge-intensive firms. *International Journal of Innovation Management*, 23(3), 1950020.
- Blome, C., Schoenherr, T., & Rexhausen, D. (2013). Antecedents and enablers of supply chain agility and its effect on performance: A dynamic capabilities perspective. *International Journal of Production Research*, 51(4), 1295-1318.

- Bowers, M. R., Hall, J. R., & Srinivasan, M. M. (2017). Organizational culture and leadership style: The missing combination for selecting the right leader for effective crisis management. *Business Horizons*, 60(4), 551-563.
- Breier, M., Kallmuenzer, A., Clauss, T., Gast, J., Kraus, S., & Tiberius, V. (2021). The role of business model innovation in the hospitality industry during the COVID-19 crisis. *International Journal of Hospitality Management*, 92, 102723.
- Brik, A. B., Rettab, B., & Mellahi, K. (2011). Market orientation, corporate social responsibility, and business performance. *J. Bus. Ethics*, 99(3), 307-324.
- Chalabi, M. (2020). Coronavirus is revealing how broken America's economy really is. The Guardian, Retrieved from <https://www.theguardian.com/news/datablog/2020/apr/06/coronavirus-american-reaction-economy-covid-19>
- Chen, H. J., Yan Huang, S., Chiu, A. A., & Pai, F. C. (2016). Knowledge management for logistics service provider: The role of learning culture. *Industrial Management & Data Systems*, 116(3). doi:10.1108/IMDS-06-2015-0262
- Chen, J. X., Shama, P., Zhan, W., & Liu, L. (2019). Demystifying the impact of CEO transformational leadership on firm performance: Interactive roles of exploratory innovation and environmental uncertainty. *Journal of Business Research*, 96, 85-96.
- Chen, M. H., Jang, S. S., & Kim, W. G. (2007). The impact of the SARS outbreak on Taiwanese hotel stock performance: An event-study approach. *International Journal of Hospitality Management*, 26(1), 200-212.
- Craven, M., Liu, L., Mysore, M., & Wilson, M. (2020). *COVID-19: Implications for business* (p. 8). McKinsey & Company.
- Cummings, J. L., & Holmberg, S. R. (2012). Best-fit alliance partners: the use of critical success factors in a comprehensive partner selection process. *Long Range Planning*, 45(2-3), 136-159.
- Dirani, K. M., Abadi, M., Alizadeh, A., Barhate, B., Garza, R. C., Gunasekara, N. ... Majzun, Z. (2020). Leadership competencies and the essential role of human resource development in times of crisis: a response to Covid-19 pandemic. *Human Resource Development International*, 23(4), 380-394.
- Draulans, J., DeMAN, A.-P., & Volberda, H. W. (2003). Building alliance capability: Management techniques for superior alliance performance. *Long Range Planning*, 36(2), 151-166.
- Felipe, C. M., Roldán, J. L., & Leal-Rodríguez, A. L. (2016). An explanatory and predictive model for organizational agility. *Journal of Business Research*, 69(10), 4624-4631.
- Gerlach, F., Hundeling, M., & Rosing, K. (2020). Ambidextrous leadership and innovation performance: a longitudinal study. *Leadership & Organization Development Journal*, 41(3), 383-398. doi:10.1108/LODJ-07-2019-0321
- Golan, M. S., Jeremegan, L. H., & Linkov, I. (2020). Trends and applications of resilience analytics in supply chain modeling: Systematic literature review in the context of the COVID-19 pandemic. *Environment Systems and Decisions*, 40(2), 222-243.
- Gupta, A. K., Smith, K. G., & Shalley, C. E. (2006). The interplay between exploration and exploitation. *Academy of Management Journal*, 49(4), 693-706.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2012). Partial least squares: the better approach to structural equation modeling? *Long Range Planning*, 45(5-6), 312-319. doi: 10.1016/j.lrp.2012.09.011
- Hamsal, M., Abidinagoro, S. B., Zulkarnain, A., Leonandri, D. G., & Ichsan, M. (2022). The Impact of Organizational Resilience on Hotel Performance during Pandemic COVID-19. *Global Business & Finance Review*, 27(1), 1-15. doi:10.17549/gbfr.2022.27.1.1
- Harris, A., & Jones, M. (2020). COVID 19-school leadership in disruptive times. In *School Leadership & Management* (Vol. 40, Issue 4, pp. 243-247). Taylor & Francis.
- Heimeriks, K. H., Klijn, E., & Reuer, J. J. (2009). Building capabilities for alliance portfolios. *Long Range Planning*, 42(1), 96-114.
- Herwany, A., Febrian, E., Anwar, M., & Gunardi, A. (2021). The Influence of the COVID-19 Pandemic on Stock Market Returns in Indonesia Stock Exchange. *Journal of Asian Finance, Economics and Business*, 8(3), 39-47. doi:10.13106/jafeb.2021.vol8.no3.0039
- Hoffmann, W. H. (2007). Strategies for managing a portfolio of alliances. *Strategic Management Journal*, 28(8), 827-856. doi:10.1002/smj.607
- Huang, A., & Farboudi J. M. (2021). Resilience building in service firms during and post COVID-19. *The Service Industries Journal*, 41(1-2), 138-167.
- Ichev, R., & Marinč, M. (2018). Stock prices and geographic proximity of information: Evidence from the Ebola outbreak. *International Review of Financial Analysis*, 56, 153-166.
- Inman, R. A., Sale, R. S., Green Jr, K. W., & Whitten, D. (2011). Agile manufacturing: relation to JIT, operational performance and firm performance. *Journal of Operations Management*, 29(4), 343-355.
- Ireland, R. D., Hitt, M. A., & Vaidyanath, D. (2002). Alliance management as a source of competitive advantage. *Journal of Management*, 28(3), 413-446.
- Ivanov, D., & Dolgui, A. (2020). Viability of intertwined supply networks: extending the supply chain resilience angles towards survivability. A position paper motivated by COVID-19 outbreak. *International Journal of Production Research*, 58(10), 2904-2915.
- Janssen, O. (2000). Job demands, perceptions of effort-reward fairness and innovative work behavior. *Journal of Occupational and Organizational Psychology*, 73(3), 287-302.
- Joshi, A. W., & Campbell, A. J. (2003). Effect of environmental dynamism on relational governance in manufacturer-supplier relationships: a contingency framework and an empirical test. *Journal of the Academy of Marketing Science*, 31(2), 176-188.
- Kale, E., Aknar, A., & Başar, Ö. (2019). Absorptive capacity

- and firm performance: The mediating role of strategic agility. *International Journal of Hospitality Management*, 78, 276-283.
- Kale, P., & Singh, H. (2007). Building firm capabilities through learning: the role of the alliance learning process in alliance capability and firm-level alliance success. *Strategic Management Journal*, 28(10), 981-1000.
- Kale, P., Singh, H., & Bell, J. (2009). The Network Challenge: Strategy, Profit, and Risk in an Interlinked World. In *Relating well: Building capabilities for sustaining alliance networks* (pp. 343-356), Prentice Hall Publishing.
- Kauppila, O.-P. (2015). Alliance management capability and firm performance: Using resource-based theory to look inside the process black box. *Long Range Planning*, 48(3), 151-167.
- Kock, N. (2015). *WarpPLS 5.0 user manual*. Laredo, TX: ScriptWarp Systems.
- Kohtamäki, M., Rabetino, R., & Möller, K. (2018). Alliance capabilities: A systematic review and future research directions. *Industrial Marketing Management*, 68, 188-201. doi:10.1016/j.indmarman.2017.10.014
- Kurniawan, R., Budiastuti, D., Hamsal, M., & Kosasih, W. (2020). Networking capability and firm performance: the mediating role of market orientation and business process agility. *Journal of Business & Industrial Marketing*, 36(9), 1646-1664. doi:10.1108/JBIM-01-2020-0023
- Lambe, C. J., Spekman, R. E., & Hunt, S. D. (2002). Alliance competence, resources, and alliance success: conceptualization, measurement, and initial test. *Journal of the Academy of Marketing Science*, 30(2), 141-158.
- Lavie, D., Stettner, U., & Tushman, M. L. (2010). Exploration and exploitation within and across organizations. *Academy of Management Annals*, 4(1), 109-155.
- Li, L., Lin, J., Turel, O., Liu, P., & Luo, X. R. (2020). The impact of e-commerce capabilities on agricultural firms' performance gains: the mediating role of organizational agility. *Industrial Management & Data Systems*, 120(7), 1265-1286. doi:10.1108/IMDS-08-2019-0421
- Liu, Y., Collinson, S., Cooper, C., & Baglieri, D. (2022). International business, innovation and ambidexterity: A micro-foundational perspective. *International Business Review*, 31(3), 101852.
- Lu, Y., & Ramanurthy, K. R. (2011, December). Understanding the link between information technology capability and organizational agility: An empirical examination. *MIS Quarterly*, 35(4), 931-954.
- Luciano, M. M., Nahrgang, J. D., & Shropshire, C. (2020). Strategic leadership systems: Viewing top management teams and boards of directors from a multiteam systems perspective. *Academy of Management Review*, 45(3), 675-701.
- Luvison, D., & de Man, A.-P. (2015). Firm performance and alliance capability: the mediating role of culture. *Management Decision*, 53(7), 1581-1600. doi:10.1108/M D-09-2014-0580
- Maletic, M., Maletic, D., Dahlgaard, J. J., Dahlgaard-Park, S. M., Gomíšček, B. (2016). Effect of sustainability-oriented innovation practices on the overall organisational performance: An empirical examination. *Total Quality Management & Business Excellence*, 27(9-10), 1171-1190.
- Mao, H., Liu, S., & Zhang, J. (2014). How the effects of IT and knowledge capability on organizational agility are contingent on environmental uncertainty and information intensity. *Information Development*, 31(4), 1-25. doi:10.1177/0266666913518059
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2(1), 71-87.
- McCann, J., & Selsky, J. W. (2012). *Mastering turbulence: The essential capabilities of agile and resilient individuals, teams and organizations*. John Wiley & Sons.
- Mihardjo, L. W. W., Sasmoko, Alamsjah, F., & Elidjen. (2019). Mediating role of co-creation strategy on the relationship between business model innovation and corporate reputation: A case study on Indonesian telecommunication firms. *Journal of Technical Education and Training*, 11(4), 67-76. doi:10.30880/jtet.2019.11.04.008
- Mofijur, M., Fattah, I. M. R., Alam, M. A., Islam, A. B. M. S., Ong, H. C. ... Mahlia, T. M. I. (2021). Impact of COVID-19 on the social, economic, environmental and energy domains: Lessons learnt from a global pandemic. *Sustainable Production and Consumption*, 26, 343-359.
- Mumford, M.D., Scott, G.M., Gaddis, B., & Strange, J.M. (2002). Leading creative people: orchestrating expertise and relationships. *The Leadership Quarterly*, 13(6), 705-750.
- Nagel, L. (2020). The influence of the COVID-19 pandemic on the digital transformation of work. *International Journal of Sociology and Social Policy*, 40(9/10), 861-875. doi: 10.1108/IJSSP-07-2020-0323
- Madi Odeh, R.B.S., Obeidat, B.Y., Jaradat, M.O., Masa'deh, R., & Alshurideh, M.T. (2021). The transformational leadership role in achieving organizational resilience through adaptive cultures: the case of Dubai service sector. *International Journal of Productivity and Performance Management*. doi:10.1108/IJPPM-02-2021-0093
- Overby, E., Bharadwaj, A., & Sambamurthy, V. (2006). Enterprise agility and the enabling role of information technology. *European Journal of Information Systems*, 15(January), 120-131. doi:10.1057/palgrave.ejis.3000600
- Parnigiani, A., & Rivera-Santos, M. (2011). Clearing a path through the forest: A meta-review of interorganizational relationships. *Journal of Management*, 37(4), 1108-1136.
- Pellegrini, M.M., Ciampi, F., Marzi, G., & Orlando, B. (2020). The relationship between knowledge management and leadership: mapping the field and providing future research avenues. *Journal of Knowledge Management*, 24(6), 1445-1492. doi:10.1108/JKM-01-2020-0034
- Peterson, S. J., Galvin, B. M., & Lange, D. (2012). CEO servant leadership: Exploring executive characteristics and firm performance. *Personnel Psychology*, 65(3), 565-596.
- Raisch, S., Birkinshaw, J., Probst, G., & Tushman, M. L. (2009). Organizational ambidexterity: Balancing exploitation and

- exploration for sustained performance. *Organization Science*, 20(4), 685-695.
- Rosing, K., Frese, M., & Bausch, A. (2011). Explaining the heterogeneity of the leadership-innovation relationship: Ambidextrous leadership. *The Leadership Quarterly*, 22(5), 956-974.
- Rosing, K., & Zacher, H. (2017). Individual ambidexterity: the duality of exploration and exploitation and its relationship with innovative performance. *European Journal of Work and Organizational Psychology*, 26(5), 694-709.
- Rothaermel, F. T., & Deeds, D. L. (2004). Exploration and exploitation alliances in biotechnology: A system of new product development. *Strategic Management Journal*, 25(3), 201-221.
- Sambamurthy, V., Bharadwaj, A., & Grover, V. (2003, June). Shaping agility through digital options: Reconceptualizing the role of information technology in contemporary firms. *MIS Quarterly*, 27(2), 237-263.
- Schilke, O., & Goerzen, A. (2010). Alliance management capability: An investigation of the construct and its measurement. *Journal of Management*, 36(5), 1192-1219.
- Schreiner, M., Kale, P., & Corsten, D. (2009). What really is alliance management capability and how does it impact alliance outcomes and success? *Strategic Management Journal*, 30(13), 1395-1419.
- Sherehiy, B., Karwowski, W., & Layer, J. K. (2007). A review of enterprise agility: Concepts, frameworks, and attributes. *International Journal of Industrial Ergonomics*, 37(5), 445-460. doi:10.1016/j.ergon.2007.01.007
- Shin, H., Lee, J. N., Kim, D., & Rhim, H. (2015). Strategic agility of Korean small and medium enterprises and its influence on operational and firm performance. *International Journal of Production Economics*, 168, 181-196. doi: 10.1016/j.ijpe.2015.06.015
- Sosna, M., Treviño-Rodríguez, R. N., & Velamuri, S. R. (2010). Business model innovation through trial-and-error learning: The Naturhouse case. *Long Range Planning*, 43(2-3), 383-407.
- Srinivasan, M., Srivastava, P., & Iyer, K. N. S. (2020). Response strategy to environment context factors using a lean and agile approach: Implications for firm performance. *European Management Journal*, 38(6), 900-913.
- Stoker, J. I., Garretsen, H., & Soudis, D. (2019). Tightening the leash after a threat: A multi-level event study on leadership behavior following the financial crisis. *The Leadership Quarterly*, 30(2), 199-214.
- Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319-1350.
- Teece, D. J., Peteraf, M. A., & Leih, S. (2016). Dynamics Capabilities and Organizational Agility. *California Management Review*, 58(4), 38. doi:10.1016/0737-6782(88)90039-2
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic Capabilities and Strategic Management. *Strategic Management Journal*, 18(7), 509-533. doi:10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z
- Wang, Y., & Rajagopalan, N. (2015). Alliance capabilities: Review and research agenda. *Journal of Management*, 41(1), 236-260.
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, 5(2), 171-180.
- Wilson, S. (2020). Pandemic leadership: Lessons from New Zealand's approach to COVID-19. *Leadership*, 16(3), 279-293.
- Yang, C., & Liu, H. (2012). Boosting firm performance via enterprise agility and network structure. *Management Decision*, 50(6), 1022-1044. doi:10.1108/00251741211238319
- Yıldız, S., Bastürk, F., & Boz, İ. T. (2014). The effect of leadership and innovativeness on business performance. *Procedia-Social and Behavioral Sciences*, 150, 785-793.
- Zacher, H., & Rosing, K. (2015). Ambidextrous leadership and team innovation. *Leadership & Organization Development Journal*, 36(1), 54-68. doi:10.1108/LODJ-11-2012-0141
- Zhang, Z., Jia, M., & Gu, L. (2012). Transformational leadership in crisis situations: evidence from the People's Republic of China. *The International Journal of Human Resource Management*, 23(19), 4085-4109.
- Zimmermann, R., Ferreira, L. M. D. F., & Moreira, A. C. (2020). An empirical analysis of the relationship between supply chain strategies, product characteristics, environmental uncertainty and performance. *Supply Chain Management: An International Journal*, 25(3), 375-391. doi:10.1108/SCM-02-2019-0049