



# Exploring The Ambidexterity of Learning in Indonesian Start-Up: Moderated-Mediated

Delly Nofiani<sup>1</sup>, Muhammad Nur Fietroh<sup>2,\*</sup>

<sup>1</sup> Department of Management, Faculty of Economics and Business, East Java "Veteran" National Development University, Indonesia and Ph.D. Student in Department of Business Administration, National Chengchi University, Taiwan

<sup>2</sup> Department of Management, Faculty of Economics and Business, Sumbawa University of Technology

\*Corresponding author. Email: [m.nur.fietroh@uts.ac.id](mailto:m.nur.fietroh@uts.ac.id)

## ABSTRACT

Conditions in the digital economy environment such as volatility, uncertainty, complexity, and ambiguity are particularly unsettling and have the potential to harm firms that are still learning and evolving gradually. The purpose of this research is to examine the balance between exploitative and explorative learning (ambidexterity of learning) inside an Indonesian start-up organization. This study was carried out at 171 startup firms in Indonesia, particularly DI Yogyakarta. Data collecting methods included semi-structured interviews and self-administered surveys. Data analysis was performed using Process-Macro software. The research findings suggest that startup firms can achieve ambidexterity of learning if the owner possesses engaging with others and human center capabilities. The analysis shows that the capability of engaging with others has a mediating effect on the effect of engaging with other on the ambidexterity of learning. On the other hand, the effect of engaging with others on the ambidexterity of learning is reinforced by the navigating problem capability of the owner. This study found a negative relationship from the effects of moderated-mediation analyses. This paper uses Process Macro in testing the moderated-mediation hypothesis. The research findings confirm the theory of knowledge-based views (engaging with others, navigating problems, and human center) and organizational learning theory (ambidexterity of learning), makes the study relevant and valuable to better understand the role and type of ambidexterity learning among Indonesian start-ups firm. By confirming a paradoxical phenomenon involving organizational ambidextrous practices among SMEs, this article establishes new ground.

**Keywords:** *Explorative Learning, Exploitative Learning, Ambidexterity of Learning, Start-Up, Knowledge Base View, Organizational Learning*

## 1. INTRODUCTION

To facilitate economic growth and development, it is crucial to offer assistance and encouragement for the growth of entrepreneurship. Indonesia is one of the nations encompassed within the group of emerging economies, wherein concerted efforts are being made to foster the growth of entrepreneurship, particularly in the realm of digital start-up businesses. But in today's era of rapid digital breakthroughs, both established companies and new startups have the daunting burden of surviving in extremely competitive landscapes (Müller et al., 2019).

Notwithstanding several ways in which digital start-ups try to adapt to new environments, this response pattern does not necessarily lead to prosperity (Heras et al.,

2019). Most studies have concluded that the best way for a business to adapt to a rapidly shifting market is to foster an atmosphere of ambidexterity. For instance, Cao et al., (2009) discovered that managers operating in situations with limited resources could potentially gain advantages by prioritizing the trade-offs between exploration and exploitation demand. Ambidexterity refers to the capacity to effectively navigate both gradual and revolutionary changes in order to strike a suitable balance between exploration and exploitation endeavors (O'Reilly & Tushman, 2008). This ability is essential for a business's continued existence because it enables a business to evolve over time, gather operational flexibility, and reduce unpredictable environmental conditions (Jansen et al., 2006; March, 1991).

Research pertaining to ambidexterity has emerged as a prominent area of interest within the domains of management and entrepreneurship. Several prior studies have examined the impact of ambidexterity on performance (Schamberger et al., 2013; Solís-Molina et al., 2018), innovation (Ju et al., 2022; Wang et al., 2022), and supply network (Gualandris et al., 2018). Recent research suggests that further investigation is warranted to thoroughly examine the idea of ambidexterity and provide more precise definitions for its various varieties. Additionally, it is important to explore how the success of these distinct types of ambidexterity is influenced by contextual circumstances (Nofiani et al., 2021; Schnellbacher et al., 2019). In order to address the research inquiry, this study investigates the phenomenon of learning ambidexterity within the specific context of digital start-ups operating in the creative industry of Indonesia.

March (1991) proposed that the process of learning can be broadly categorized into two distinct types: exploitative learning and exploratory learning. There exists a distinction between these two forms of learning, each serving distinct roles. Zhang et al., (2023) has provided definitions for these two kinds. Exploitative learning refers to a comprehensive examination of prior knowledge with the aim of enhancing overall strategic planning by delineating specific tasks to be carried out by designated departments, hence fostering employees' comprehension of organizational strategies (Zhang et al., 2023). On the opposite side, exploratory learning aims to facilitate the assimilation and adaptation of novel knowledge and concepts, as well as to bolster the responsiveness to market exigencies and the external milieu, hence fostering the execution of innovative strategies (Zhang et al., 2023). But they are both mandatory, namely ambidexterity of learning. To facilitate the attainment of ambidexterity in digital business, it is imperative to ascertain the elements that can foster this kind of ability.

Engagement with others has emerged as a central theme in recent educational research on student learning (Webb et al., 2021). This study will adopt the concept of engaging with others as part of the design thinker (see Chesson, 2017) within the framework of organizational learning. It is also understood that engaging with others in discussions pertaining to organizational learning is associated with the extent to which a business engages in collaborative efforts with other businesses (Lee et al., 2020). In the present study, we posited that a correlation exists between the propensity of digital business entrepreneurs to consistently engage with other parties and the potential benefits derived from cultivating ambidexterity of learning within their respective organizations.

The study was carried out on a sample of 171 entrepreneurs who run digital start-ups in Indonesia, with a particular focus on the province of Yogyakarta. Moreover, the primary objective of this study is to examine the fundamental variables that contribute to the formation of engaging with others and their potential to foster ambidexterity of learning. This study will conclude by examining the mediating and moderating effects of engaging with others, human center capability, navigating problem capability, and ambidexterity of learning. The initial research question posits "Does the human-centered capability mediate the relationship between engaging with others and the ambidexterity of learning, while also exploring whether navigating problem capability moderates this relationship."

## 2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### 2.1. *Organization Learning and Ambidexterity Literature*

The theory of organizational learning has consistently emphasized the examination of learning processes that take place at both the individual and organizational levels. The field of organizational learning has shown significant interest in March's (1991) influential work, which introduced the concepts of exploration and exploitation in the context of organizational learning. Notable is the emphasis on interaction among individuals as sensemaking and sense-giving in a group/team context; they are looking for their individual instinct of a novel chance and combine the insights from this novel chance in such a way that it makes sense to codify it in the business as improved or a new way of working (Brix, 2019)

The concept of ambidextrous organization was initially proposed by Duncan (1976) as a strategic approach to adapt to the transition from a stable to a rapidly changing competitive landscape encountered by firms during the 1970s (Rialti et al., 2018). Researchers on the topic of ambidexterity have disputed not just how businesses may manage the balance between exploitation and exploration, but also how to quantify how ambidextrous organizations are (He & Wong, 2004; Lubatkin et al., 2006). Therefore, an ambidextrous organization can be defined as an organization that possesses the ability to concurrently engage in exploration of its external environment and exploitation of emerging opportunities (Junni et al., 2013). In simpler terms, it is an organization that can effectively pursue its existing processes while consistently adapting to the dynamic and evolving competitive landscape (Rialti et al., 2018).

### ***2.2. The Mediating Effect of Human-Centered Capability on The Relationship Between Engaging with Others and Ambidexterity of Learning***

When the owner shows a tendency to interact with others yet fails to fully maximize their development of ambidexterity learning. This phenomenon may arise due to the owner's limited comprehension of the interconnected nature of the business atmosphere. The owner should possess a human-centric capability, enabling them to readily comprehend the comprehensive circumstances prevailing within the organizational atmosphere (Benson & Dresdow, 2015; Chesson, 2020).

According to Chesson (2020), the owner's ability to be human-centered as a design tinker can be used to break through resistance to change. Brown, (2019) and Liedtka & Ogilvie (2011) argue that a human-centered iterative approach to addressing issues necessitates dynamic thinking, empathy, idea generation, prototyping, ambiguity management, adopting an optimistic perspective, engaging in risk-taking, and learning from failures in order to reach the desired outcome.

Therefore, we posit that the limitations pertaining to the owner's capability to engage with others can be mitigated by the enactment of the owner's human-centered capabilities. These capabilities, in turn, can facilitate the establishment of a connection between engaging with others and the development of ambidexterity in learning. Based on the previously mentioned information, a further hypothesis:

Hypothesis 1: Human-centered capability has a mediating effect on the nexus between engaging with others and ambidexterity of learning.

### ***2.3. The Moderating Effect of Navigating Problem Capability on The Relationship Between Engaging with Others and Ambidexterity of Learning***

Owners have endeavored to substitute bureaucratic entities with alternative organizational structures such as ambidextrous, lattice, holistic, boundary-less, and market-based networks, among others (Ulrich et al., 2017). In the context of an ambidextrous organization, particularly within the framework of a learning organization, it becomes imperative to possess the capacity to effectively manage the inherent tension between explorative learning and exploitative learning.

In order to foster organizational learning within a digital start-up firm, it is imperative for the owners to possess proficient design thinking skills. One aspect of this is the act of engaging with others (Chesson, 2017). The purpose of engaging with others is to generate novel insights and

expand the realm of knowledge (Dunne & Martin, 2006). Essentially, if a business desires to cultivate an atmosphere of ambidextrous learning, the involvement of a digital start-up owner who exhibits a proclivity for engaging with others will serve to support this effort. For instance, an entrepreneur who has a proclivity for engaging others in problem-solving activities and believes that fostering collaboration and evaluating diverse viewpoints is the optimal approach to organizational learning and management (Chesson, 2017).

From an alternative perspective, Brown (2008) posits that the proprietor assumes the role of a design thinker within a digital start-up organization, actively engaging with others to generate creative thoughts, that have a direct impact on the attainment of ambidexterity in learning. (Ragazou et al., 2022). Presently, it is well acknowledged that owners encounter difficulties when confronted with the opposing aspects of the dilemma, including the tension between agency and communion, as well as the obligations of managing both immediate and future needs in order to maintain organizational continuity (Waldman & Bowen, 2016). Hence, it is vital for the owner to possess the capacity to surmount these diverse challenges. Lewis & Smith, (2023) highlighted the significance of possessing the ability to effectively navigate problems as a crucial talent for individuals in ownership positions.

Hence, it is believed that the aforementioned beneficial relationship can be enhanced through the owner's possession of additional skills, such as navigating problem capability. Worley & Beaujolin, (2023) argues that the organizational struggle was how to navigate and execute these shifts against the pressures of "preserving the light on". Navigating the problem necessitates that leadership practices acknowledge and embrace the initial emotional discomfort with paradoxes, as well as find methods to become comfortable with the uneasiness (Lewis & Smith, 2023). Therefore, we believe if owners of digital start-ups have the ability to navigate the problem, they can increase the impact of engaging with others on the ambidexterity of learning as well as confronting business challenges. We formulate the hypothesis:

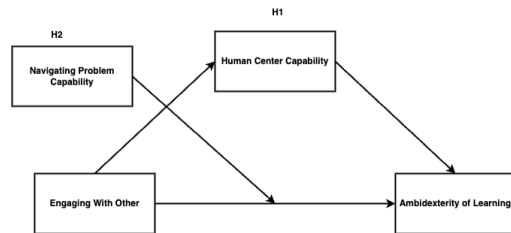
Hypothesis 2: Navigating problem capability has a moderating effect on the nexus between engaging with others and the ambidexterity of learning.

## **3. RESEARCH METHOD**

### ***3.1. Research approach, strategy to select respondent, and data collection method.***

The present study employs a hypothetico-deductive approach in order to address the research inquiries. A

structured questionnaire was employed to conduct a study among respondents in Yogyakarta, Indonesia. The sampling strategy utilized was



**Figure 1** Research Framework

purposive sampling, specifically targeting 171 owners of digital start-ups.

### 3.2. Measurements And Data Analysis Method

Table 1 presents the variables utilized in this research,

**Table 1.** Measurements of variables

Variable		Sources	Loading Factor	Cronbach's alpha	Composite reliability		
Ambidexterity of Learning	AP2	Atuahene-Gima dan Murray (2007)	0.680	0.729	0.831		
	AP3		0.783				
	AP4		0.777				
	AP5		0.728				
	PE1	Chesson (2017)	0.641			0.643	0.778
	PE2		0.640				
	PE3		0.585				
	PE4		0.657				
	PE5		0.684				
	PE6		0.684				
Engaging With Others	EO2	Chesson (2017)	0.586	0.687	0.810		
	EO3		0.797				
	EO4		0.744				
	EO5		0.739				
	EO6		0.739				
Human Centre Capability	HC1	Chesson (2017)	0.781	0.678	0.806		
	HC2		0.712				
	HC3		0.711				
	HC4		0.647				
Navigating Problem Capability	NP1	Chesson (2017)	0.670	0.705	0.798		
	NP2		0.584				
	NP3		0.672				
	NP6		0.612				
	NP7		0.504				
	NP8		0.619				
	NP9		0.539				

Notes: a) five-point Likert scale (1 = strongly disagree; 5 = strongly agree); b) factor loading is significant at < 0.05 and valid at > 0.4 (Hair et al., 2014)

indicators, loading scores, and Cronbach's alpha. The variables were assessed utilizing a scale that was modified from prior research.

The regression using Process Macro (SPSS software) was performed to test the mediating and moderating hypotheses (Hayes, 2018)

### 3.3 Profile and descriptive statistics

The population of this study is presented in Table 2. It was determined that a significant proportion of the participants identified as male (85%) and possessed a higher degree of educational attainment (80%). It may be noticed that digital start-ups are commonly established and managed by individuals who possess a considerable level of academic attainment. However, the company mostly employs a workforce of less than 20 persons.

## 4. RESULT AND DISCUSSION

Table 3 presents the results of the hypotheses testing. The findings of the analysis indicate that the concept of human-centeredness plays a mediating role in the

nexus between engaging with others and the ambidexterity of learning. This research provides evidence in favor of hypothesis H1. These findings conclude that the relationship between engaging with

others and the ambidexterity of learning requires the human center capability possessed by the owner with the mechanism that underlies the two relationships.

This aligns with prior scholarly investigations that underscore the significance of the owner's extensive grasp of the work environment's conditions, causal connections, and the application of dynamic thinking to foster the attainment of ambidexterity in organizational learning (Chesson, 2020; Liedtka & Ogilvie, 2011).

These findings thereafter make a valuable contribution to the existing body of knowledge in the field of organizational learning and ambidexterity. The significance of the owner's interpersonal skills in enhancing business efficiency is underscored, particularly in terms of their ability to engage with others, adopt a human-centered approach, and effectively navigate problems. Previously, prior studies have primarily concentrated on operational endeavors, specifically pertaining to the assessment of innovative

**Table 2.** Demographic Distribution

	Total	%	Mean	Std. Deviation
Gender			0,84	0,36
Male	27	15%		
Female	144	85%		
Level of education			0,80	0,40
Lower	34	20%		
Higher	137	80%		
Position			2,35	0,70
Owner	22	13%		
Owner and CEO	67	39%		
CEO	82	48%		
Employee total			0,05	0,21
<20	163	95%		
>20	8	5%		
Profit total			0,03	0,17
<100 M	166	97%		
>100 M	5	3%		

Moreover, empirical evidence clearly indicates a statistically significant negative nexus between engaging with others and ambidexterity of learning. This concludes that in the digital context of start-up businesses engaging with others significantly reduces the company's ability to build ambidexterity of learning. However, when the owner has a capable navigating problem, the negative effect of engaging with others changes to positive and significant (see Table 3). A comparison can also be made between owners who encounter navigation problems at intermediate and advanced levels. The aforementioned results provide confirmation of the moderating influence of navigating problems, hence supporting the acceptance of hypothesis H2.

This study aligns with the perspectives of other prior studies that underscore the significant hurdles and difficulties encountered by digital business entrepreneurs, and navigating problems is one of the most crucial abilities that leaders must have (Lewis & Smith, 2023).

skills (Cho et al., 2020; Nofiani et al., 2021), suppliers (Gualandris et al., 2018), and business models (Hu & Chen, 2016).

In addition, this research contributes to the knowledge-based perspective. Through their interpersonal skills, executives can use their knowledge to acquire a variety of knowledge at the individual level that can be utilized by the organization.

Moreover, this study has a number of limitations. This is the first study to integrate perspectives from other fields of study that have been adapted for business and management research. Future research can develop more robust measurements and EVA assessments for better results. Second, this study only employs a single research method; for future studies, multiple methods can be employed to provide a broader perspective.

In summary, this study offers guidance to entrepreneurs in the digital start-up sector on the essential competencies they need develop in order to effectively

manage their enterprises. By developing proficiency in

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**Table 3.** Hypothesis Result

Variable	Effect	$\beta$	Hypothesis Result
Mediating Effect			
Engaging With Other --> Human Centred Capability		0,34***	
Human Centred Capability --> Ambidexterity of Learning			
	Indirect Effect	0,25***	
Engaging With Other --> Human Centred Capability--> Ambidexterity of Learning	(0,08)		H1 Accepted (LLCI=0.03/ULCI=0.15)
Moderating Effect			
Engaging With Other--> Ambidexterity of Learning		(-1,7*)	
Engaging With Other*Navigating Problems --> Ambidexterity of Learning	Moderate Effect	0,44**	H2 Accepted (LLCI=0.04/ULCI=0.83)
Medium NP	(0.23)***		
Higher NP	(0.36)***		

Notes: \*p < 0.1; \*\*p < 0.05; \*\*\*p < 0.001

interpersonal communication, prioritizing user needs, and effectively addressing challenges, it is anticipated that digital business start-ups might leverage these abilities to their benefit.

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