Print ISSN: 2288-4637 / Online ISSN 2288-4645
doi:10.13106/jafeb.2021.vol8.no4.0809

Factors Affecting Start-up Behavior and Start-up Performance During the COVID-19 Pandemic in Indonesia

Cristoper Allen PRAMONO[1], Adler Haymans MANURUNG[2], Pantri HERIYATI[3], Wibowo KOSASIH[4]

Received: December 20, 2020 Revised: March 07, 2021 Accepted: March 15, 2021

Abstract

The worldwide spread of the COVID-19 pandemic has had a severe impact on the global economy. The COVID-19 pandemic has spread with alarming speed and. The economic damage is already evident and represents the largest economic shock the world has experienced in decades. This study analyzes the factors that influence behavior and its impact on start-up performance, through technology capabilities, technology development, organizational structure characteristics, and leadership technology. The mixed-method was used in this research to be applied to start-up companies in Jabodetabek with a population of 522 start-ups. Then the sample was selected through purposive sampling technique to obtain a sample of 187 start-ups. Primary data was collected through a questionnaire, then statistical analysis was carried out using Partial Least Square. There are ten variables used in the model as measured by the questionnaire. The results showed that the four factors (agility, entrepreneurship capability, business transformation, and opportunity) significantly influence start-up behavior. The results showed that the start-up behavior significantly influenced technology capabilities, technology development, organizational structure characteristics, and leadership technology. This study also found that start-up behavior had the greatest influence on organizational structure characteristics, partially affect start-up performance, but leadership technology does not have a significant effect on start-up performance.

Keyword: Start-up Behavior, Agility, Entrepreneurship Capability, Business Transformation

JEL Classification Code: A10, A12, O32

1. Introduction

The spread of the coronavirus (Covid-19) is still a hot issue in the international world, including Indonesia. In less than three months, there have been 118 thousand cases in 114 countries, including Indonesia. In Indonesia, the number of citizens who have tested positive for the coronavirus continues to increase. This has an impact on mobilization and productivity, both for professionals and the general public. The worldwide spread of the COVID-19 pandemic has had a severe impact on the global economy. The COVID-19 pandemic has spread with alarming speed and the economic damage is already evident and represents the largest economic shock the world has experienced in decades.

Start-ups are institutions established to create new, innovative products or services under conditions of high uncertainty. Everyone who creates a new product or service in conditions of high uncertainty is an entrepreneur, either working alone, working for a profit company, or a non-profit organization (Audretsch & Keilbach, 2007). It was recorded that in 2018 there were 992 start-up companies in Indonesia spread across various regions.

Each business group has different problems; the biggest challenge for the micro, small and medium scale start-up industry is the aspects of capital and Human Resources (HR), and in large-scale industries, it relates to facilities, regulations, and human resources. The second problem faced by start-ups is the human resource (HR) factor (Mukherjee, 2018; Hongdiyanto et al., 2020). These factors can include aspects of the agility and capability of an entrepreneur in developing a start-up. Business agility refers to the rapid, continuous, and systematic evolutionary adaptation and entrepreneurial

[1]First Author and Corresponding Author. Binus University, Indonesia [Postal Address: Jl. K. H. Syahdan No. 9, Kemanggisan, Palmerah, Jakarta 11480, Indonesia] Email: chistoperallenbinus@gmail.com
[2]Binus University, Jakarta, Indonesia.
[3]Binus University, Jakarta, Indonesia.
[4]Binus University, Jakarta, Indonesia.

innovation directed at gaining and maintaining competitive advantage. Business agility applies the principles of agile development to the entire organization. This allows companies to be more responsive to change, hasten the time to market, and reduce costs without sacrificing quality. Business agility is a way for organizations to remain agile during market fluctuations, regardless of the business model. (Denning, 2018; Cheng et al., 2020). Entrepreneurial ability is the ability of an entrepreneur to start a new organization or revitalize a mature organization, especially a new business in general, to answer the opportunities that have been identified (Hoskisson et al., 2011). Furthermore, Sherehiy et al. (2007) stated that most of the workforce agility studies emphasize aspects of agility behavior such as flexibility and adaptability.

Business change is the ability to compete and thrive in the digital age by quickly responding to market changes and emerging opportunities with innovative, digitally-enabled business solutions. Any successful business transformation will have to address all eight components of the business transformation model. These are value streams, strategy, organization, people, processes, systems and resources, leadership, and performance measurement. For a transformation attempt to succeed, all eight components must be addressed. Most failed transformation attempts have failed to address one or more of these components (Lin & Lee, 2005).

Digital transformation has become a major topic for companies around the world (Bounfour, 2016). Digital entrepreneurship grows as Internet access increases. Entrepreneurship is associated much more with identifying problems and opportunities to implement an idea that causes positive impacts than being innovative and creating something never seen before (Karahoca et al., 2018). Osiyevskyy and Dewald (2015) found a positive association of perceived opportunities with intention or theoretical adoption of new business models. Entrepreneurial decision-making sees opportunities as a motive for making strategic decisions (Shepherd et al., 2015).

Ho et al. (2011) employed the capability-based view to investigate the direct effect of an organization's development of technological and design capabilities on technology commercialization. They used two indicators to test the claim of ambidexterity, i.e., that synchronizing the development of technological capabilities and design capabilities can enhance the performance of technology commercialization. The findings indicated that both technological and design capabilities have a positive effect on technology commercialization results, and the contribution of design capabilities is greater than that of technological capabilities. The interaction of technological capabilities and design capabilities has a positive influence on the results of technology commercialization. A relative imbalance between technological and design capabilities has a negative effect on technology commercialization. Adequate technology capability is a basic requirement in developing digital-based business technology. Technology-oriented leadership is also a necessity in developing start-ups.

This study aims to examine the influence of agility factors, entrepreneurial capabilities, business transformation, and opportunities on start-up behavior and their impact on strategic development (technological capabilities, technological developments, organizational structure characteristics, and leadership technology) and performance.

2. Literature Review and Hypotheses

2.1. Determinant Start-up Behavior

In business, agility is a major factor in determining the success of a business. Singh et al (2018) developed an extended Theory of Planned Behavior model (ETPB) to explore small firm's readiness towards a circular economy. Environmental commitment and green economic incentives were considered as additional components of the ETPB model. The empirical results of the ETPB model are based on structural equation modeling (SEM), indicated that environmental commitment and green economic incentives with standard components better explained the CE readiness in comparison to the original TPB model. The extended TPB-1 model established the interrelationship between attitude, social norm, perceived behavioral control, additional components and improved the explanatory power of the ETPB model. For successful entrepreneurial ventures, agility and entrepreneurship become interdependent when challenged with unprecedented situations. Agility and entrepreneurship are interdependent, as entrepreneurs aim to define, stimulate and advance their purpose, progress, and profitability, respectively (Sundqvist et al., 2012; Ahmad et al., 2020).

Business transformation is a change management strategy that can be defined as any shift, realignment, or fundamental change in business operations. The aim is to make changes to processes, people, or systems (technology) to better align the company with its business strategy and vision. Den Hartog et al. (1999) focused on culturally endorsed implicit theories of leadership (CLTs). Universally endorsed leader attributes, as well as attributes that are universally seen as impediments to outstanding leadership and culturally contingent attributes, are presented here. The results showed that specific aspects of charismatic/transformational leadership are strongly and universally endorsed across cultures. Digital start-ups must overcome environmental dynamics that compel them to adapt their business models to the volatile environment in which they operate, or offer them the opportunity to innovate their business models and thereby trigger more dynamic phenomena. Digital start-ups in the early stages

of their development frequently undergo innovation to their value architecture and Business Model (Ghezzi & Cavallo, 2018). Yasir et al. (2017) revealed that environmental turbulence positively affects the alertness to business ideas and entrepreneurial opportunities which, in turn, affect intention toward entrepreneurship. They also suggested that entrepreneurial knowledge significantly moderates the relationship between intention toward entrepreneurship and start-up behavior.

Alvarez et al. (2013) argued that opportunity discovery is not an act of individual surrender, but is a social and relational process. Korsgaard (2011) found that the opportunity takes many different forms in the process. These different forms are the result of a continuous mobilization of actors. Sanz-Velasco (2006) illustrated how entrepreneurial learning can be understood from the perspective of opportunity development. This conceptualization of opportunity incorporates market interaction and real-life processes influenced by prior knowledge, resources, and the industrial context. It is especially appropriate in situations characterized by uncertainty. The alternative conceptualization of opportunity (in terms of opportunity discovery) is more suitable in situations of low risk when initial opportunity perceptions are comprehensive, allowing entrepreneurs to focus on their products and services, rather than on potential customers and/or appropriation in the market. Busenitz and Barney (1997) explored differences between entrepreneurs and managers in large organizations. However, rather than focusing on previously examined individual differences, this study examined differences in the decision-making processes used by entrepreneurs and managers in large organizations. Building on non-rational decision-making models from behavioral decision theory, we asserted that entrepreneurs are more susceptible to the use of decision-making biases and heuristics than are managers in large organizations. Osiyevskyy and Dewald (2015) integrated existing theories (entrepreneurial opportunity exploitation, cognitive resilience, prospect theory, behavioral theory of the firm, threat-rigidity) into a framework explaining strategic intentions, based on managers' perception of business opportunity interacting with the assessment of the external environment, current performance, and prior experience. Yasir et al. (2017) found that entrepreneurial opportunities had a significant impact on intention towards entrepreneurship, which in turn increased start-up behavior.

H1: *Agility has a significant effect on start-up behavior.*

H2: *Entrepreneurship capability has a significant effect on start-up behavior.*

H3: *Business transformation has a significant effect on start-up behavior.*

H4: *Opportunity has a significant effect on start-up behavior.*

2.2. Start-Up Behavior and Technology Capabilities

In the start-up industry, technology is a major factor that must be considered because start-ups are developed by using information and communication technology in the digital aspect. The technological capability of a company determines the performance of an organization (Wang et al., 2006). Garcia et al. (2012) empirically analyzed whether a firm's technological capabilities affect its ability to learn from the interaction with foreign agents. They found that firm productivity increases after exporting for all firms. However, ex-post productivity improvements are larger for the more technologically advanced firms than they are for their less technologically advanced counterparts. Technology implementation requires technological change or innovation and requires adequate adaptation mechanisms to allow tracking of new technologies in the company, including technology development needs, changes in organizational culture, and new personnel assignments (Gillani et al., 2020).

H5: *The start-up behavior has a significant effect on technology capabilities.*

2.3. Start-Up Behavior and Technology Development

The start-up industry must continue to develop technology to provide better service. The entrepreneurial process, however, involves more than just problem-solving. All entrepreneurs—private, corporate, and social—must find, evaluate, and develop an opportunity by overcoming the forces that resist the creation of something new. Entrepreneurial strategy is the means through which an organization establishes and re-establishes its fundamental set of relationships with its environment. It is a strategy characterized by a widespread and more-or-less simultaneous change in the pattern of decisions taken by an organization. (Garud et al., 2007). Most businesses start with the initial idea that generally originates from both, a need to fulfill entrepreneurial aspiration, and an opportunity to provide a certain service or product. The greater amount of time an entrepreneur spends on the conceptual component of the business, the easier it will be to implement. A business concept is what ties a business idea to a greater core. It draws the relational inference between potential business, the industry, and targeted market and customers (Bhave, 1994). According to Drejer and Vinding (2005), even in a small country with limited geographical distances firms located in peripheral areas are less likely to be broad users of collaboration with knowledge-intensive service providers in the process of product innovation than firms located in major urban areas. However, it is only amongst firms located in

the periphery that collaboration strategy seems to matter in the sense that differences in development in employment can be detected between broad and rare users of collaboration. Business people who use technology are required to innovate in technology development so that products provide great benefits to customers.

H6: *Start-up behavior has a significant effect on technology development.*

2.4. Start-Up Behavior and Characteristic of Organizational Structure

In the next stage of start-up development, the level of organizational and inter-organizational group learning grows more important (Garud et al., 2007). According to Tam and Gray (2016), in the start-up development stage, company managers must lead group learning activities and create a shared learning culture in the workplace. Sine et al. (2006) argued that in dynamic economic sectors, firms with organic structures are more effective than those with more mechanistic structures. They suggested this proposition does not hold for new ventures in turbulent, emergent economic sectors. They stated that new ventures with higher founding team formalization, specialization, and administrative intensity outperform those with more organic organizational structures (Blank & Dorf, 2012; Ghezzi & Cavallo, 2018).

H7: *Start-up behavior has a significant effect on organizational structure characteristics.*

2.5. Start-Up Behavior and Leadership Technology

Developing and maintaining a business plan is one of the key responsibilities of an early-stage start-up. You may hire someone as you grow to take care of the business plans but still, the founder needs to closely supervise and work closely with the person responsible for creating and maintaining the business plans. The development of a scholarly model of technology leadership necessitates a global component for the modern technology and technology education organization. Bowen et al. (2013) conducted qualitative research of four key concepts around globalization and innovation in technology higher education, as well as issues in organizational change implementation and the evolution of global technology leadership as a new scholarly discipline. Results revealed bifurcation in programmatic approaches and conceptualizations on these topics between established and relatively younger higher educational programs, as well as critical considerations in industry-academic partnerships and the role of leadership and management scientific training in higher education. Presently, available technology can automate much of what we call management, giving leaders more time to lead. As digitization disrupts at an ever-increasing rate, leaders are challenged to accurately anticipate shifts in the business environment and to make their organizations markedly more agile. Leaders need to be liberated from routine work to focus more on strategic transformation. Leadership technology is equipped in a specific context for making thoughtful and value-laden decisions and participating in guiding technological developments. Strategic entrepreneurship involves simultaneous opportunity-seeking and advantage-seeking behaviors and results in superior firm performance. On a relative basis, small, entrepreneurial ventures are effective in identifying opportunities but are less successful in developing competitive advantages needed to appropriate value from those opportunities. In contrast, large, established firms often are relatively more effective in establishing competitive advantages but are less able to identify new opportunities (Ireland et al., 2003).

H8: *Start-up behavior has a significant effect on leadership technology.*

2.6. Technological Capabilities and Start-Up Performance

The technological capability has been described as the firm's ability to design and develop a new process, product and upgrade knowledge and skills about the physical environment in a unique way, and transforming the knowledge into instructions and designs for efficient creation of desired performance (Wang et al., 2012). Start-ups are one of the businesses that are oriented towards utilizing and developing technology so that capabilities in terms of technology are very important in supporting start-up performance. Coombs and Bierly (2006) explained the relation between technological capability and firm performance is more complex than what is generally assumed. Although a number of studies have emphasized the importance of technological capabilities for a competitive advantage, the empirical examination of this area has thus far been somewhat scarce, particularly at the firm level. Tsai (2004) examined the impact of technological capability on firm performance reveal that firm technological capability has a significant effect on productivity growth and that the impact of technological capability seems to be greater than that of other conventional factors. These findings demonstrated that technological capability is an important determinant in the promotion of competitive advantage.

H9: *Technological capabilities have a significant effect on start-up performance.*

2.7. Technology Development and Start-Up Performance

Many companies, especially SMEs have emerged through continuous technological development and start-up successes despite insufficient scales and resources compared to medium companies or conglomerates in fierce market competition. Technological development capability, which is required to acquire, select, or utilize source technology for company competitiveness, becomes the competitive edge and key capability to gain distinctiveness. Hughes and Morgan (2007) found that technology orientation in business will influence corporate innovation, which in turn improves business performance. According to Zhang et al. (2019), technology innovation can improve company performance. According to Ombi et al. (2018), business development services have a significant effect on the performance of SMEs. This shows that the technological developments carried out are able to improve start-up performance.

H10: *Technology Development has a significant effect on start-up performance.*

2.8. Organizational Structure Characteristic and Start-Up Performance

The organizational structure leads to job competence, employee enthusiasm, and coordination between top and bottom management so that the flow of plans and goals in the organization leads to a sketch of future plans. The formal organizational structure is an officially codified hierarchical arrangement of relationships between different jobs within the organizational units and relationships between departments within the organization. It defines hierarchical relationships and assigns competencies, mutual ties, and liability. A formal organizational structure is necessary for the management of a bigger number of people because it unites different business activities, processes, and people and formalizes their relationships to achieve the common objectives of the organization. Koberg and Ungson (1987) investigated the joint effects of perceived environmental uncertainty and dependence on resources on organizational structure and performance. Findings from two diverse settings that are considered in light of historical developments indicated that organic structures are associated with low resource dependence and that performance is not explained by the fit between environment and organization structure but is significantly related to the organic structure.

H11: *Organizational Structure Characteristic has a significant effect on start-up performance.*

2.9. Leadership Technology and Start-Up Performance

Leadership technology is very important given the complex needs of the global community in Indonesia. Leadership technology in a special context in terms of making thoughtful and value-laden decisions and participating in guiding technological developments. García-Morales et al. (2006) analyzed a series of strategic capabilities/factors that affect organizational innovation (OI) and organizational learning (OL) (personal mastery, transformational leadership, shared vision, proactivity, and environment) and demonstrated that OL and innovation are positively related to organizational performance. They considered OI and OL jointly to promote organizational entrepreneurship and to increase competitive advantages. They reflected the need to strengthen different strategic capabilities to achieve an adequate level of both organizational issues and thus improve performance and encourage entrepreneurship. Ding et al. (2019) illustrated that wise leadership has positive effects on organizational innovation performance. Moreover, Knowledge management (KM) capability has been evidenced in having part mediating effect between wise leadership and innovation performance

H12: *Leadership Technology has a significant effect on start-up performance.*

3. Methodology

The mixed-method was used in this research to be applied to start-up companies in Jabodetabek with a population of 522 start-ups, then the sample was selected through purposive sampling technique so that a sample of 187 start-ups was obtained. Primary data was collected through a questionnaire, then statistical analysis was carried out using Partial Least Square. There are ten variables used in the model as measured by the questionnaire. Agility variables are measured through 9 indicators developed from the dimensions of knowledge, skills, and abilities (Sherehiy et al., 2007). The entrepreneurship capability variable is measured by 12 indicators developed from the dimensions of sensing, selecting, shaping, and synchronizing (Garud et al., 2007). Business transformation variables are measured through 12 indicators developed from the dimensions of re-engineering, restructuring, renewing, and regeneration (Bounfour, 2016).

4. Results and Discussion

4.1. Results

Jabodetabek is the region with the highest number of start-ups, reaching 52.62%. Start-ups used in this study are

limited to start-ups in the micro and small business category with an initial capital of under IDR 500 million. The research subjects were determined by purposive sampling technique to obtain a sample of 187 start-ups.

4.2. Hypothesis Test

Interpretation of the results of the partial least square analysis state that if *t*-value > 1.96, then Ha is supported and H0 is rejected, which means that there is a significant effect of the independent variable on the dependent variable. The results of the study are in accordance with the following part coefficient tables (see Tables 1 and 2).

The coefficient value explains the magnitude and direction of the influence of the exogenous construct on its endogenous construct, while the error value (e) = $1 - R^2$ shows the magnitude of the contribution of other variables outside the model (see Figure 1).

Table 1: Value of *R* Square (R^2)

	***R* Square**	***R* Square Adjusted**
Development Technology	0.850	0.848
Leadership Technology	0.832	0.830
Organizational Structure Characteristic	0.894	0.893
Start-up Behavior	0.940	0.937
Start-up Performance	0.923	0.920
Technology Capability	0.838	0.836

4.3. Discussion

Agility has a significant effect on start-up behavior (*t* statistic 4.037 > 1.96 and *p*-value 0.000). The agility variable can significantly increase the start-up behavior; every one-point increase in the agility variable increases the start-up behavior by a coefficient value of 0.228 points.

Entrepreneurship capability has a significant effect on start-up behavior (*t* statistic 2.265 > 1.96 and *p*-value 0.026). The entrepreneurship capability variable can significantly increase the start-up behavior; every one-point increase in the entrepreneurship capability variable increases the start-up behavior by a coefficient value of 0.246 points.

Business transformation has a significant effect on start-up behavior (*t* statistic 2.117 > 1.96 and *p*-value 0.037). The business transformation variable can significantly increase the start-up behavior; every one-point increase in the business transformation variable increases the start-up behavior by a coefficient value of 0.211 points.

Opportunity has a significant effect on start-up behavior (*t* statistic 2.777 > 1.96 and *p*-value 0.007). The opportunity variable can increase start-up behavior significantly; every one-point increase in the opportunity variable increases the start-up behavior by a coefficient value of 0.326 points.

Start-up behavior has a significant effect on technology capability (*t* statistic 53.300 > 1.96 and *p*-value 0.000). The start-up behavior variable can significantly improve

Table 2: Path Coefficient

	Original Sample	***T* Statistics**	***P*-Value**	**Description**
H1: Agility → Start-up Behavior	0.228	4.037	0.000	Supported
H2: Entrepreneurship Capability → Start-up Behavior	0.246	2.265	0.026	Supported
H3: Business Transformation → Start-up Behavior	0.211	2.117	0.037	Supported
H4: Opportunity → Start-up Behavior	0.326	2.777	0.007	Supported
H5: Start-up Behavior → Technology Capabilities	0.915	53.300	0.000	Supported
H6: Start-up Behavior → Development Technology	0.922	63.420	0.000	Supported
H7: Start-up Behavior → Organizational Structure Characteristic	0.946	54.504	0.000	Supported
H8: Start-up Behavior → Leadership Technology	0.912	37.149	0.000	Supported
H9: Technology Capability → Start-up Performance	0.348	2.469	0.015	Supported
H10: Development Technology → Start-up Performance	0.378	4.218	0.000	Supported
H11: Organizational Structure Characteristic → Start-up Performance	0.232	2.204	0.030	Supported
H12: Leadership Technology → Start-up Performance	0.039	0.253	0.801	Rejected

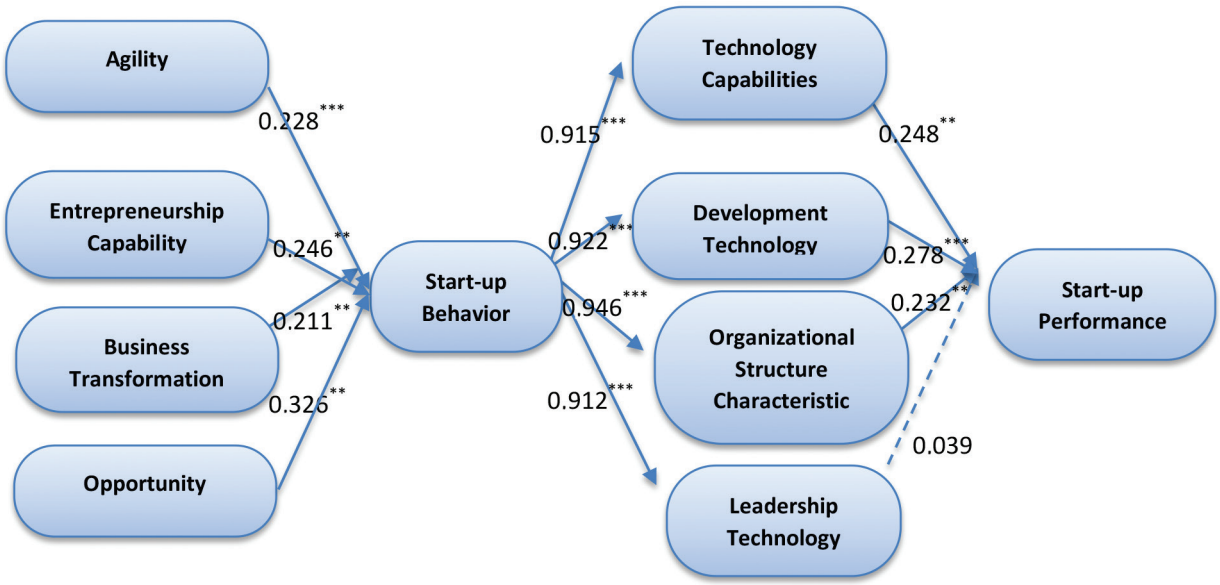

Figure 1: Path Analysis
***, $p < 0.001$; **, $p < 0.05$

technology capability; every one-point increase in the start-up behavior variable increases technology capability by a coefficient value of 0.915 points.

Start-up behavior has a significant effect on technology development (t statistic 63.420 > 1.96 and p-value 0.000). The start-up behavior variable can significantly improve technology development; every one-point increase in the start-up behavior variable increases technology development by a coefficient value of 0.922 points.

Start-up behavior has a significant effect on organizational structure characteristic (t statistic 54.504 > 1.96 and p-value 0.000). The start-up behavior variable can significantly increase the organizational structure characteristic; every one-point increase in the start-up behavior variable increases the organizational structure characteristic by a coefficient value of 0.946 points.

Start-up behavior has a significant effect on leadership technology (t statistic 37.149 > 1.96 and p-value 0.000). The start-up behavior variable can significantly improve leadership technology; every one-point increase in the start-up behavior variable increases leadership technology by a coefficient value of 0.912 points.

Technology capabilities has a significant effect on start-up performance (t statistic 2.469 > 1.96 and p-value 0.015). The technology capabilities variable can significantly improve the start-up performance; every one-point increase in the start-up behavior variable increases the start-up performance by a coefficient value of 0.348 points.

Technology development has a significant effect on start-up performance (t statistic 4.218 >1.96 and p-value 0.000). The technology development variable can significantly improve the start-up performance; every one-point increase in the technology development variable increases the start-up performance by a coefficient value of 0.378 points.

The characteristics organization structure has a significant effect on the start-up performance (t statistic 2.204 > 1.96 and p-value 0.030). Leadership technology has no significant effect on start-up performance (t statistic 0.253 < 1.96 and p-value 0.801). The leadership technology variable has not been able to significantly increase start-up performance; an increase in the leadership technology variable does not bring any significant changes to the start-up performance variable (coefficient value of 0.039).

5. Conclusion

Factors that significantly influence start-up behavior include agility, entrepreneurship capability, business transformation, and opportunity factors. The results showed that the four factors (agility, entrepreneurship capability, business transformation, and opportunity) significantly influence start-up behavior. The results showed that the start-up behavior significantly influenced technology capabilities, technology development, organizational structure characteristics, and leadership technology. This study also found that start-up behavior had the greatest influence on organizational structure characteristics, partially affect start-up performance, but leadership technology does not have a significant effect on start-up performance.

This study conducted a full model study on the same respondents, which are start-ups at the micro and small in scale. For future research, they can break this research model into two, first, the determinants of start-up behavior to be applied to entrepreneurs who have a strong interest in establishing new start-ups, and second, the determinants of start-up performance to be applied to start-up founders who last at least for 3 years.

References

Alvarez, S. A., Barney, J. B., & Anderson, P. (2013). Forming and exploiting opportunities: The implications of discovery and creation processes for entrepreneurial and organizational research. *Organization Science, 24*(1), 301–317. https://doi.org/10.1287/orsc.1110.0727

Ahmad, J., Ekayanti, A., Nonci, N., & Ramadhan, M. R. (2020). Government agility and management information systems: Study of regional government financial reports. *The Journal of Asian Finance, Economics, and Business, 7*(10), 315–322. https://doi.org/10.13106/JAFEB.2020.VOL7.N10.315

Audretsch, D. B., & Keilbach, M. (2007). The theory of knowledge spillover entrepreneurship. *Journal of Management Studies, 44*(7), 1242–1254. https://doi.org/10.1111/j.1467-6486.2007.00722.x

Bhave, M. P. (1994). A process model of entrepreneurial venture creation. *Journal of Business Venturing, 9*(3), 223–242. https://doi.org/10.1016/0883-9026(94)90031-0

Blank, S., & Dorf, B. (2012). *The start-up owner's manual: The step-by-step guide for building a great company*. Philadelphia: BookBaby.

Bounfour, A. (2016). *Digital futures, digital transformation*. Cham: Springer International Publishing, https://doi.org/10.1007/978-3-319-23279-9

Bowen, E. E., Bertoline, G. R., Athinarayanan, R., Cox, R. F., Burbank, K. A., Buskirk, D. R., & Küçükönal, H. (2013). Global technology leadership: A case for innovative education praxis. *Procedia-Social and Behavioral Sciences, 75*, 163–171. https://doi.org/10.1016/j.sbspro.2013.04.019

Busenitz, L. W., & Barney, J. B. (1997). Differences between entrepreneurs and managers in large organizations: Biases and heuristics in strategic decision-making. *Journal of Business Venturing, 12*(1), 9–30. https://doi.org/10.1016/S0883-9026(96)00003-1

Cheng, T. Y., Li, Y. Q., Lin, Y. E., & Chih, H. H. (2020). Does the fit of managerial ability with firm strategy matter on firm performance? *The Journal of Asian Finance, Economics, and Business, 7*(4), 9–19. https://doi.org/10.13106/JAFEB.2020.VOL7.NO4.9

Coombs, J. E., & Bierly III, P. E. (2006). Measuring technological capability and performance. *R&D Management, 36*(4), 421–438. https://doi.org/10.1111/j.1467-9310.2006.00444.x

Den Hartog, D. N., House, R. J., Hanges, P. J., Ruiz-Quintanilla, S. A., Dorfman, P. W., Abdalla, I. A., & Zhou, J. (1999). Culture-specific and cross-culturally generalizable implicit leadership theories: Are attributes of charismatic/transformational leadership universally endorsed? *The Leadership Quarterly, 10*(2), 219–256. https://doi.org/10.1016/S1048-9843(99)00018-1

Denning, S. (2018). *The age of agile: How smart companies are transforming the way work gets done*. New York: AMACOM

Ding, W., Choi, E., & Aoyama, A. (2019). Relational study of wise (phronetic) leadership, knowledge management capability, and innovation performance. *Asia Pacific Management Review, 24*(4), 310–317. https://doi.org/10.1016/j.apmrv.2018.10.005

Drejer, I., & Vinding, A. L. (2005). Location and collaboration: Manufacturing firms' use of knowledge-intensive services in product innovation. *European Planning Studies, 13*(6), 879–898. https://doi.org/10.1080/09654310500188407

Garcia, F., Avella, L., & Fernández, E. (2012). Learning from exporting: The moderating effect of technological capabilities. *International Business Review, 21*(6), 1099–1111. https://doi.org/10.1016/j.ibusrev.2011.12.001

García-Morales, V. J., Llorens-Montes, F. J., & Verdú-Jover, A. J. (2006). Antecedents and consequences of organizational innovation and organizational learning in entrepreneurship. *Industrial Management & Data Systems, 106*(1), 21–42. https://doi.org/10.1108/02635570610642940

Garud, R., Hardy, C., & Maguire, S. (2007). Institutional entrepreneurship as embedded agency: An introduction to the special issue. *Organization Studies, 8*(7), 957–969. https://doi.org/10.1177/0170840607078958

Ghezzi, A., & Cavallo, A. (2018). Agile business model innovation in digital entrepreneurship: Lean start-up approaches. *Journal of Business Research, 110*, 1–35 https://doi.org/10.1016/j.jbusres.2018.06.013

Gillani, F., Chatha, K. A., Jajja, M. S. S., & Farooq, S. (2020). Implementation of digital manufacturing technologies: Antecedents and consequences. *International Journal of Production Economics, 229*, 107748. https://doi.org/10.1016/j.ijpe.2020.107748

Ho, Y. C., Fang, H. C., & Lin, J. F. (2011). Technological and design capabilities is ambidexterity possible? *Management Decision, 82*, 11–20. https://doi.org/10.1108/00251741111109124

Hongdiyanto, C., Teofilus, T., Sutrisno, T. F. C. W., & Dewanti, P. S. P. (2020). The effect of entrepreneurial learning on the entrepreneurial intention of Indonesian women. *The Journal of Asian Finance, Economics, and Business, 7*(9), 573–582. https://doi.org/10.13106/JAFEB.2020.VOL7.NO9.573

Hoskisson, R. E., Covin, J., Volberda, H. W., & Johnson, R. A. (2011). Revitalizing entrepreneurship: The search for new research opportunities. *Journal of Management Studies, 48*(6), 1141–1168. https://doi.org/10.1111/j.1467-6486.2010.00997.x

Hughes, M., & Morgan, R. E. (2007). Deconstructing the relationship between entrepreneurial orientation and business performance at the embryonic stage of firm growth. *Industrial Marketing Management, 36*(5), 651–661. https://doi.org/10.1016/j.indmarman.2006.04.003

Ireland, R. D., Hitt, M. A., & Sirmon, D. G. (2003). A model of strategic entrepreneurship: The construct and its dimensions. *Journal of Management, 29*(6), 963–989. https://doi.org/10.1016/S0149-2063(03)00086-2

Karahoca, A., Karahoca, D., & Aksöz, M. (2018). *Examining intention to adapt to the Internet of things in healthcare technology products*. Bingley, UK: Kybernetes. https://doi.org/10.1108/K-02-2017-0045

Koberg, C. S., & Ungson, G. R. (1987). The effects of environmental uncertainty and dependence on organizational structure and performance: A comparative study. *Journal of Management, 13*(4), 725–737. https://doi.org/10.1177/014920638701300412

Korsgaard, S. (2011). Opportunity formation in social entrepreneurship. *Journal of Enterprising Communities: People and Places in the Global Economy*, *5*, 265–285. https://doi.org/10.1108/17506201111177316

Lin, H. F., & Lee, G. G. (2005). Impact of organizational learning and knowledge management factors on e-business adoption. *Management Decision, 43*(2), 171–188. https://doi.org/10.1108/00251740510581902

Mukherjee, S. (2018). Challenges to Indian micro small scale and medium enterprises in the era of globalization. *Journal of Global Entrepreneurship Research, 8*(1), 1–19. https://doi.org/10.1186/s40497-018-0115-5

Ombi, N., Ambad, S. N. A., & Bujang, I. (2018). The effect of business development services on small-medium enterprises (SMEs) performance. *International Journal of Academic Research in Business and Social Sciences, 8*(3), 117–130. http://dx.doi.org/10.6007/IJARBSS/v8-i3/3910

Osiyevskyy, O., & Dewald, J. (2015). Inducements, impediments, and immediacy: Exploring the cognitive drivers of small business managers' intentions to adopt business model change. *Journal of Small Business Management, 53*(4), 1011–1032. https://doi.org/10.1111/jsbm.12113

Sanz-Velasco, S. A. (2006). Opportunity development as a learning process for entrepreneurs. International *Journal of Entrepreneurial Behavior & Research*, *11*(2), 438–471. https://doi.org/10.1108/13552550610687637

Shepherd, D. A., Williams, T. A., & Patzelt, H. (2015). Thinking about entrepreneurial decision making: Review and research agenda. *Journal of Management, 41*(1), 11–46. https://doi.org/10.1177/0149206314541153

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. https://doi.org/10.1016/j.ergon.2007.01.007

Shogi, B., & Safieepoor, A. (2013). The effects of organizational structure on the entrepreneurial orientation of the employees. *Journal of International Studies, 6*(2), 54–64. https://doi.org/10.14254/2071-8330.2013/6-2/5

Sine, W. D., Mitsuhashi, H., & Kirsch, D. A. (2006). Revisiting Burns and Stalker: Formal structure and new venture performance in emerging economic sectors. *Academy of Management Journal, 49*(1), 121–132. https://doi.org/10.5465/amj.2006.20785590

Singh, M. P., Chakraborty, A., & Roy, M. (2018). Developing an extended theory of planned behavior model to explore circular economy readiness in manufacturing MSMEs, India. *Resources, Conservation and Recycling, 135*, 313–322. https://doi.org/10.1016/j.resconrec.2017.07.015

Steyaert, C., & Hjorth, D. (2003). *New movements in entrepreneurship*. Cheltenham, UK: Edward Elgar Publishing.

Sundqvist, S., Kyläheiko, K., Kuivalainen, O., & Cadogan, J. W. (2012). Kirznerian and Schumpeterian entrepreneurial-oriented behavior in turbulent export markets. *International Marketing Review, 29*(2), 203–219. https://doi.org/10.1108/02651331211216989

Tam, S., & Gray, D. E. (2016). Organizational learning and the organizational life cycle: The differential aspects of an integrated relationship in SMEs. *European Journal of Training and Development, 40*(1), 2–20. https://doi.org/10.1108/EJTD-07-2015-0052

Tsai, K. H. (2004). The impact of technological capability on firm performance in Taiwan's electronics industry. *The Journal of High Technology Management Research, 15*(2), 183–195. https://doi.org/10.1016/j.hitech.2004.03.002

Wang, Y., Lo, H. P., Zhang, Q., & Xue, Y. (2006). How technological capability influences business performance: An integrated framework based on the contingency approach. *Journal of Technology Management in China,1*(1), 27–52. https://doi.org/10.1108/17468770610642740

Yasir, M., Majid, A., & Yasir, M. (2017). Entrepreneurial knowledge and start-up behavior in a turbulent environment", *Journal of Management Development, 36*(9), 1149–1159. https://doi.org/10.1108/JMD-10-2016-0193

Zhang, Y., Khan, U., Lee, S., & Salik, M. (2019). The influence of management innovation and technological innovation on organization performance: a mediating role of sustainability. *E-Journal Sustainability, 11*, 24–49. https://doi.org/10.3390/su11020495