ISSN:1582-2559

The Role of Information Technology in Business Agility: Systematic Literature Review

Rini SETIAWATI[1], Jenniver EVE[2], Aisyah SYAVIRA[3], Prasadja RICARDIANTO[4], Nofrisel[5], Endri ENDRI[6]*

[1,2,3]Bina Nusantara University, Jakarta Indonesia,
[4,5]Institute of Transportation and Logistics Trisakti, Jakarta Indonesia,
[6]*Faculty of Economics and Business, Universitas Mercu Buana, Jakarta Indonesia,
E-mail: rini.setiawati001@binus.ac.id[1], jennifer.eve@binus.ac.id[2], aisyah.savira@binus.ac.id[3], ricardianto@gmail.com[4], nofrisel@gmail.com[5], endri@mercubuana.ac.id[6]
* Corresponding Author

Received: 10.01.2022 **Accepted: 16.03.2022** **Published: 01.08.2022** **DOI: 10.47750/QAS/23.189.16**

Abstract

This study aims to determine the effect of information technology on business agility, in addition to what factors influence it, what parties are involved, and why information technology is needed in a company. Business agility is an ability that companies can use to see and analyze changes to make decisions in an uncertain environment, especially during the COVID-19 pandemic and in facing the challenges of industrial revolution 4.0. The research question is how can information technology affect business agility? who plays a role? , and why IT is needed in a company, and identify the influence of IT on business agility. The method used is a systematic literature review and through a review of 401 related journals, several factors have been identified that affect business agility. From several factors found, Information Technology has been identified as one of the factors that affect business agility. The results showed that Business Agility is an important aspect for the company. Business Agility is influenced by technology involvement, the role of top management, and employees of Human Resource, operations, and Information Technology divisions. With Information Technology, companies can identify and deal with business opportunities, customers and resources more effectively. It is emphasized in this paper that in the era of the Covid pandemic, the companies that can survive are those that understand technology/Technological literacy.

Keywords: *Business Agility, Industry 4.0 Developments, Information Technology, Systematic Literature Review*

1. Introduction

Business Agility is a capability that companies can use to see and analyze changes to make decisions in an uncertain environment, especially during the COVID-19 pandemic and in the face of industrial development 4.0. Companies must be able to adapt and innovate continuously to survive in an unstable environment and must act quickly and efficiently to take advantage of several resources, especially those related to the growing use of information technology. By knowing and mastering technology, companies can anticipate future needs and can respond quickly and efficiently. The agility ability of a company not only allows the company to survive in an uncertain environment but also can have a tremendous impact on the company.

Business agility is the main capability that allows companies to be able to see environmental changes and act effectively to maintain and improve sustainable performance (Marhraoui et al., 2019). That is, they must have the necessary skills to analyze current and future situations to be able to make the right decisions to manage uncertain future events (Hajevar & Kharazian, 2016). The impact of agility on a company not only allows the company to survive in an uncertain environment but can also have an even greater impact on the company (Hajevar & Kharazian, 2016). Several agility drivers in companies force organizations to remain agile with market changes, changes in competition, changes in customer preferences, changes in technology, changes in social factors, and changes in the economy (Žitkienė & Deksnys, 2018). Several factors affect business agility (Marhraoui & Manouar, 2017), namely Information Technology (IT), human resources, processes, knowledge management, innovation, and organizational structure. So it can be said that business agility or organizational agility is the ability of a company to see changes and opportunities so that companies can act quickly and effectively to survive, develop, and compete in an interconnected and volatile global business environment.

According to research conducted, 73.5% of research journals wrote that business agility is one way for companies to be able to face, respond, and adapt quickly to changes and competition in the market (Baškarada & Koronios, 2018; Cai et al., 2019; Darvishmotevali et al., 2020; Martínez-Caro et al., 2020; Zaini et al., 2020). Companies need to be able to deal with change. Companies can create and change strategies and tactics related to business agility (Barlette & Baillette, 2020; Qosasi et al., 2019) so that companies can use them to cope with fluctuating internal and external changes.

Harraf et al. (2015) in their journal wrote that 10 pillars influence business agility, namely a culture of innovation, empowerment, tolerance or ambiguity, vision, change management, organizational communication, market analysis

and response, operations management, structural fluidity, and learning organization. There are two antecedents of business agility, namely the ability of digital platforms and the company's innovation capacity (Kurniawan & Hamsal, 2019). These two things have an independent effect and have an impact on business agility. In addition, two aspects must be considered in business agility, namely internal and external aspects (Crick & Chew, 2017). The internal aspect is the company's ability to reconfigure its resources so that it can respond in a timely, effective, and efficient manner. While the external aspect is the environment that generates the need for changes that exist around the company (Pahala et al., 2021).

From 401 related journals, several factors have been found to affect business agility. Some of them are operational management, knowledge management, firm performance, employee empowerment, intellectual capital, human resource management, organizational learning, dynamic talent management capabilities, organizational culture, knowledge sharing, transformational performance, new product development, dynamic capabilities, strategic transformation, marketing, scenario planning, cash flow and debt, fuzzy agility index, organizational creativity, and IT. Of the many factors found, it has been decided to take IT as one of the factors that are considered the most influencing business agility with several considerations, namely, the development of the Industrial Revolution 4.0 and Society 5.0, the emergence of the COVID-19 outbreak, and the progress of the IT field. which has had a far-reaching impact on the business on several levels (Juneja & Kothari, 2018).

This research was made with the main purpose of wanting to know how business agility can affect a company and how information technology can affect business agility. In addition, this study also wants to see the results of previous studies related to factors that influence business agility, who plays an important role in running business agility, and why information technology is needed in a business.

2. Methodology

This research was conducted through a systematic literature review with the topic of business agility. A systematic literature review is a research method, a process for identifying, and critically assessing relevant research, as well as for collecting and analyzing data from that research. A systematic literature review aims to provide an updated summary of the current state of research knowledge. In addition, a systematic literature review also addresses the main problem that usually occurs in research, namely bias. This systematic literature review collects all empirical evidence that matches the eligibility criteria that have been determined to answer the research questions that have been determined. The following is a chart of the process of searching and selecting journal literature that researchers use in conducting research:

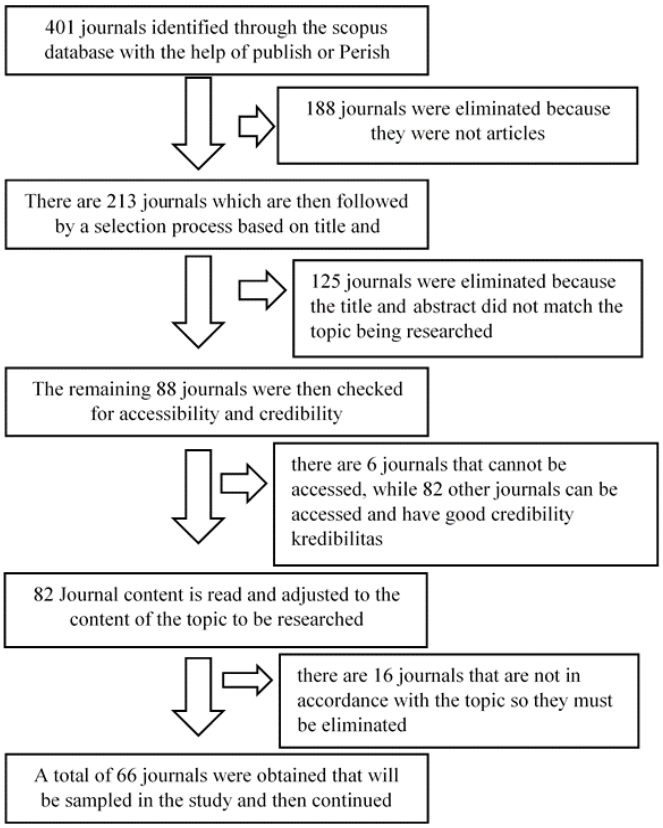

Fig 1. Chart of the process of searching

3. Results and Discussion

3.1. Journal Analysis of Research Question

Today, companies have to face a very dynamic and constantly changing environment, especially related to new technology and product innovation. Not only that but also intense competition makes companies have to be ready to keep changing so they don't lose out to other competitors. Therefore, companies must create strategies or tactics to innovate so that companies can remain competitive and agile in an uncertain environment. Business agility is needed at all levels of the company's divisions as a way to operate, leading to a rethink of organizational structure, influence, and control that can have an impact on the company (Govuzela & Mafini, 2019; Gunsberg et al., 2018). Not only that, but business agility also refers to a company's ability to detect and direct market opportunities (Al-Omoush, 2021; Barlette & Baillette, 2020; Gerster et al., 2020; Martínez-Caro et al., 2020; Panda & Rath, 2017, 2018c; Park et al., 2017; Shahzad et al., 2016; Zaini et al., 2020) and can innovate for companies to achieve goals (Cai et al., 2019; Nwankpa & Merhout, 2020).

In following up on opportunities that exist in the market, business agility can also direct, facilitate, mobilize and reconfigure the resources needed in the company so that they can be optimally used by the company to create copyright value and protect value for the company (Cheng et al., 2020; Chan et al., 2019; Côrte-Real et al., 2017; Lin et al., 2020; Panda & Rath, 2017; Saluy et al., 2021; Teece et al., 2016; Tsou & Cheng, 2018). That way, companies can gain, improve, influence, and maintain important aspects of the company, especially for business agility, namely competitive advantage (Lee et al., 2015; Luftman et al., 2015; Y. Mao & Quan, 2015) in these uncertain times to improve the company's performance and

creativity for the better (Darvishmotevali et al., 2020; Endri et al., 2020; Krotov et al., 2015).

3.2. Factors Influencing Business Agility

In business agility, there are many influencing factors ranging from the dimensions that exist in business agility, internal aspects, external aspects, capabilities, and components related to business agility, to factors that can hinder business agility. There are three dimensions in business agility, namely customer agility, partner agility, and operational agility (Khayer et al., 2020; Tsou & Cheng, 2018). Customer agility enables the company to capitalize on changes in the marketplace by providing new value that can help improve internal operations customization so that the company can expand its competitive action and grow in market position (Ricardianto et al., 2020).

Partnership agility is the company's ability to leverage the assets, knowledge, and competence of suppliers, distributors, contract manufacturers, and logistics providers through partnerships. This business agility allows organizations to adopt an extended enterprise network when the enterprise requires access that is not available within the enterprise. While operational agility refers to the extent to which a company can easily and quickly change its business operations to adapt to the current market environment (Gerster et al., 2020). This of course allows the company to see changing opportunities, and threats in the environment so that it can provide a fast and focused response to customers and stakeholders by configuring the company's internal resources and processes (Mansur et al., 2021).

According to Panda and Rath, (2017), two attributes can affect business agility, namely speed, and innovation. The speed in question is the realization of time and the right response to changes that occur in the market. While innovative concentrates more on the quality of the response. To improve business agility, the success of IT integration and business planning that utilizes resources has an impact on the company (Panda & Rath, 2018a; Panda & Rath 2018c)), as well as the effectiveness of organizational knowledge and application of corporate knowledge (Baškarada & Koronios, 2018). However, it turns out that several aspects can become obstacles in improving business agility, namely bureaucratic structures, cultural practices and routines, inflexible governance, lack of capacity to act, poor implementation, the fixed mindset at any level, neglected aspects of change, as well as unbalanced working relationships (Holbeche, 2019). In addition, the uniqueness of the company, the technical obstacles that must be overcome, and the involvement of technology gradually affect business agility (Krotov et al., 2015).

3.3. Parties with the main Role for Business Agility

In carrying out business agility in a company, many aspects influence, one of which is the person who has a role to run it. According to research conducted, the top management of a company is the most influential party in running the company's business agility (Gao et al., 2020; Lee et al., 2015; Cegarra-Navarro et al., 2016). The top management has an important role in building business agility through an adaptive business environment by encouraging creative thoughts to produce innovations and new ideas (Al-Omoush, 2020). Not only that, but top management must also pay attention to the importance of exploiting IT as a way to improve business agility (Diarto et al., 2018; Lee et al., 2015). Top management who is aware of this will increase the effectiveness of the company's operational initiatives so that it can make the organization more agile in dealing with a dynamic business environment.

However, top management must also avoid spending too much in developing IT integration, so that with a set budget, the company can develop the types of IT capabilities that are most useful and needed by the company (Gao et al., 2020). In addition to top management, employees also play a role in creating a company's business agility. Four policies influence employees in creating business agility (Wahyono, 2018), namely an adaptable structure, multi-skilled and flexible people, fast decision making, and continuous learning. The sections related to business agility in a company are HR, operations, IT, and HR managers who are related to Business Process Management (BPM).

3.4. Why IT is necessary for a Company

The application of technology is needed as a tool so that companies can progress and develop. Indeed, the existence of IT has a positive influence on the development of the company. IT has become an indispensable component in building enterprise capabilities to identify and act in response to change (Baloch et al., 2018; Melián-Alzola et al., 2020; Permadi et al., 2020). According to research, organizations become more responsive when they have a strong IT infrastructure so that they can detect, process, communicate, expand, and fulfill market demands (Panda & Rath, 2018b; Son et al., 2018). IT capabilities play an important role in developing business agility by increasing the company's capacity to perceive and respond to a dynamic environment. There are also various benefits that IT capabilities provide to agility, such as speeding up information processing, controlling business processes, and creating digital options (Fletcher & Griffiths, 2020; Khayer et al., 2020).

In addition, IT is also very important to allow companies to flexibly increase the company's ability to provide technical solutions quickly, manage its internal business operations to meet customer demands and preferences, and assist in modifying operational strategies while sensing and responding to changing market conditions (Fletcher & Griffiths, 2020; Liu et al., 2018). IT can have a significant impact on the growth and viability of the company's internal and external, for example by reducing communication costs because it will be later seen that the effective and efficient use of IT can be the main differentiator between successful and less successful companies (Cepeda & Arias-Pérez, 2019; Cheng et al., 2020). In terms of business intelligence, the research conducted is to deepen the findings that data integration and analytical capability are two core components. These two things play different but mutually reinforcing roles in a company's adaptation process. This study also clarifies that business intelligence has a great impact on increasing enterprise knowledge development (Cheng et al., 2020). Big data analytics technology related to business intelligence also enables companies to increase their competitive advantage. Therefore, the business intelligence function can help organizations to improve agility (Cheng et al., 2020; Côrte-Real et al., 2017).

3.5. Why does IT Influences Business Agility

IT involvement in business operations offers opportunities to increase agility. IT capabilities are defined as the ability to mobilize and deploy IT-based resources, improve business strategies, work processes (Mikalef & Pateli, 2017). Provide the ability to understand the characteristics of incoming signals from the internal and external environment, filter raw signals into actionable information, and lastly to respond promptly (Mao & Quan, 2015). There is also research that says that today's technology, namely cloud computing and big data analytics, can guard organizations to stay competitive due to its quick response to the market disruption, effective strategy execution, and beneficial business outcome, to maintain a leading position. in the market and increase business agility (Khayer et al., 2020;

H. Mao et al., 2020; Shuradze et al., 2018). For example, Dangerous Good companies expect IT to increase agility as it deploys advances in IT applications that enable companies to effectively connect with suppliers, customers, and business partners (Martínez-Caro et al., 2020). While in agribusiness companies, the results show that companies can achieve business agility by utilizing e-commerce because of more relevant management capabilities (Lin et al., 2020).

Data analytics can also improve business agility because it can help organizations to better and faster understand the market, make timely business decisions, quickly take advantage of opportunities by analyzing data (Ghasemaghaei et al., 2017), increase the use of data, starting from analysis from simple to more advanced analytics to facilitate significant business decision-making (Zaini et al., 2020), so the results suggest that these capabilities can have a positive impact on firms (Côrte-Real et al., 2017). In addition, there is also modern IT such as cloud computing that provides business agility that simplifies operations and management tasks (Barona Lopez et al., 2017; Kim, 2015; Wang et al., 2018) and also facilitates information sharing between companies and customers which allows improving customer agility (Liu et al., 2018; Najib et al., 2021). Finally, this research supports several previous articles, (Walter, 2021) which suggest that organizational agility contributes by integrating insights from different streams of research on organizational agility, which are closely related to strategic management and derivatives of agile models. This research also supports a study by (Ridwandono & Subriadi, 2019), through a critical literature review process that contributes manually from journals related to Information Technology and Organizational Agility obtained from a reputable journal database. In addition, a literature review based on the extraction and synthesis process, with several identified themes, and within each theme, will be useful as an insight for further research.

4. Conclusion

Business agility is an important aspect for companies because it can help companies to cope with changes in the business environment, both internally and externally. Several factors can affect business agility in a company which is divided into two parts, namely internal and external. Top management is the most influential party in running business agility. However, employees in the HR, operations, and IT divisions also play a role in assisting top management in creating the company's business agility. IT becomes an important component in companies to identify and take action to deal with change. Adequate IT capabilities can make companies agile in achieving competitive advantage.

For further research, the authors suggest deepening the discussion about business agility and IT in a more specific industry and not just, in general, to make it easier for companies to adjust the strategies used about business agility and IT in these industries. In addition, the advice that researchers can give to the industry is to apply IT in the company so that it can become more agile. For micro-enterprises, training on IT knowledge for business management is needed, as well as adequate infrastructure so that the training can run well. Microbusinesses can also apply simple cloud computing to collect customer data so that business people can see their customer segmentation and can make the right strategy for the business. For large companies, business people can use cloud computing, big data analytics, business intelligence, and other more sophisticated IT technologies to be applied within the company to help companies collect, store, process, and display data in the form of information that can be used to help companies make effective decisions, identify new opportunities and increase the company's competitive advantage.

References

[1] Al-Omoush, K. S. (2020). The role of top management support and organizational capabilities in achieving e-business entrepreneurship. Kybernetes, 50(5), 1163–1179. doi:10.1108/k-12-2019-0851.
[2] Baloch, M. A., Meng, F., & Bari, M. W. (2018). Moderated mediation between IT capability and organizational agility. Human Systems Management, 37(2), 195–206. doi:10.3233/hsm-17150.
[3] Barlette, Y., & Baillette, P. (2020). Big data analytics in turbulent contexts: towards organizational change for enhanced agility. Production Planning & Control, 33(2-3), 105–122. doi:10.1080/09537287.2020.1810755.
[4] Barona López, L., Valdivieso Caraguay, Á., Sotelo Monge, M., & García Villalba, L. (2016). Key Technologies in the Context of Future Networks: Operational and Management Requirements. Future Internet, 9(1), 1. doi:10.3390/fi9010001.
[5] Baškarada, S., & Koronios, A. (2018). The 5S organizational agility framework: a dynamic capabilities perspective. International Journal of Organizational Analysis, 26(2), 331–342. doi:10.1108/ijoa-05-2017-1163.
[6] Cai, Z., Liu, H., Huang, Q., & Liang, L. (2017). Developing organizational agility in product innovation: the roles of IT capability, KM capability, and innovative climate. R&D Management, 49(4), 421–438. doi:10.1111/radm.12305.
[7] Cegarra-Navarro, J.-G., Soto-Acosta, P., & Wensley, A. K. P. (2016). Structured knowledge processes and firm performance: The role of organizational agility. Journal of Business Research, 69(5), 1544–1549. doi:10.1016/j.jbusres.2015.10.014.
[8] Cepeda, J., & Arias-Pérez, J. (2019). Information technology capabilities and organizational agility. Multinational Business Review, 27(2), 198–216. doi:10.1108/mbr-11-2017-0088.
[9] Chan, Y. E., Denford, J. S., & Wang, J. (2019). The Co-Evolution of IT, Knowledge, and Agility in Micro and Small Enterprises. Journal of Information and Knowledge Management, 18(03), 1950027. https://doi.org/10.1142/S0219649219500278
[10] Cheng, C., Zhong, H., & Cao, L. (2020). Facilitating speed of internationalization: The roles of business intelligence and organizational agility. Journal of Business Research, 110, 95–103. doi:10.1016/j.jbusres.2020.01.003.
[11] Côrte-Real, N., Oliveira, T., & Ruivo, P. (2017). Assessing business value of Big Data Analytics in European firms. Journal of Business Research, 70, 379–390. https://doi.org/10.1016/j.jbusres.2016.08.011
[12] Crick, C., & Chew, E. K. (2017). Business processes in the agile organization: a socio-technical perspective. Software and Systems Modeling, 16(3), 631–648. https://doi.org/10.1007/s10270-015-0506-9
[13] Darvishmotevali, M., Altinay, L., & Köseoglu, M. A. (2020). The link between environmental uncertainty, organizational agility, and organizational creativity in the hotel industry. International Journal of Hospitality Management, 87(3), 102499. https://doi.org/10.1016/j.ijhm.2020.102499
[14] Diharto, A. K., Muafi, Resmi, S., Siswanti, Y., Retnaningdiah, D., Ghofar, A., & Kusumawati, R. A. (2018). The role of women empowerment and organizational agility toward the resilience of disaster-affected batik small-medium enterprises: An effort to overcome technology disruptive. International Journal of Mechanical Engineering and Technology, 9(4), 136–144.
[15] Endri, E., Susanti,D., Hutabarat, L., Simanjuntak,T.P., & Handayani, S. (2020). Financial Performance Evaluation: Empirical Evidence of Pharmaceutical Companies in Indonesia. Systematic Reviews in Pharmacy, 11(6): 803-816. DOI: 10.31838/srp.2020.6.117
[16] Fletcher, G., & Griffiths, M. (2020). Digital transformation during a lockdown. International Journal of Information Management, 55(5), 102185. https://doi.org/10.1016/j.ijinfomgt.2020.102185
[17] Gao, P., Zhang, J., Gong, Y., & Li, H. (2020). Effects of technical IT capabilities on organizational agility: The

moderating role of IT business spanning capability. Industrial Management and Data Systems, 120(5), 941–961. https://doi.org/10.1108/IMDS-08-2019-0433

[18] Gerster, D., Dremel, C., Brenner, W., & Kelker, P. (2020). How enterprises adopt agile forms of organizational design: A multiple-case study. Database for Advances in Information Systems, 51(1), 84–103. https://doi.org/10.1145/3380799.3380807

[19] Ghasemaghaei, M., Hassanein, K., & Turel, O. (2017). Increasing firm agility through the use of data analytics: The role of fit. Decision Support Systems, 101, 95–105. https://doi.org/10.1016/j.dss.2017.06.004

[20] Govuzela, S., & Mafini, C. (2019). Organizational agility, business best practices, and the performance of small to medium enterprises in South Africa. South African Journal of Business Management, 50(1), 1–13. https://doi.org/10.4102/sajbm.v50i1.1417

[21] Gunsberg, D., Callow, B., Ryan, B., Suthers, J., Baker, P. A., & Richardson, J. (2018). Applying an organizational agility maturity model. Journal of Organizational Change Management, 31(6), 1315–1343. https://doi.org/10.1108/JOCM-10-2017-0398

[22] Hajevar, S. Y., & Kharazian, M. A. (2016). Analyzing the effect of organizational agility and intellectual capital on the productivity of human resources through spiritual leadership (Case study: Social security organization of Chaharmahal and Bakhtiari). International Business Management, 10(10), 1893–1900. https://doi.org/10.3923/ibm.2016.1893.1900

[23] Harraf, A., Wanasika, I., Tate, K., & Talbott, K. (2015). Organizational agility. Journal of Applied Business Research, 31(2), 675–686. https://doi.org/10.19030/jabr.v31i2.9160

[24] Holbeche, L. (2019). Designing sustainably agile and resilient organizations. Systems Research and Behavioral Science, 36(5), 668–677. https://doi.org/10.1002/sres.2624

[25] Juneja, C., & Kothari, H. (2018). Business Agility: A Systematic Review of Literature and Design Oriented Research Synthesis. Journal of Advances and Scholarly Researches in Allied Education, 15(6), 198–218. https://doi.org/10.29070/15/57760

[26] Khayer, A., Jahan, N., Hossain, M. N., & Hossain, M. Y. (2020). The adoption of cloud computing in small and medium enterprises: a developing country perspective. VINE Journal of Information and Knowledge Management Systems, 51(1), 64-91. https://doi.org/10.1108/VJIKMS-05-2019-0064

[27] Kim, J. (2015). Survey for Sensor-Cloud System from Business Process Outsourcing Perspective. International Journal of Distributed Sensor Networks, 2015. https://doi.org/10.1155/2015/917028

[28] Krotov, V., Junglas, I., & Steel, D. (2015). The mobile agility framework: An exploratory study of mobile technology enhancing organizational agility. Journal of Theoretical and Applied Electronic Commerce Research, 10(3), 4067. https://doi.org/10.4067/S0718-18762015000300002

[29] Kurniawan, R., & Hamsal, M. (2019). The effect of sales-marketing collaboration, market-oriented product development, and nimble network structure on organizational agility. International Journal of Advanced Science and Technology, 28(8 Special Issue), 696–713.

[30] Lee, O. K., Sambamurthy, V., Lim, K. H., & Wei, K. K. (2015). How does IT ambidexterity impact organizational agility? Information Systems Research, 26(2), 398–417. https://doi.org/10.1287/isre.2015.0577

[31] Lin, J., Li, L., Luo, X. (Robert), & Benitez, J. (2020). How do agribusinesses thrive through complexity? The pivotal role of e-commerce capability and business agility. Decision Support Systems, 135, 113342. https://doi.org/10.1016/j.dss.2020.113342

[32] Liu, S., Chan, F. T. S., Yang, J., & Niu, B. (2018). Understanding the effect of cloud computing on organizational agility: An empirical examination. International Journal of Information Management, 43, 98–111. https://doi.org/10.1016/j.ijinfomgt.2018.07.010

[33] Luftman, J., Derksen, B., Dwivedi, R., Santana, M., Zadeh, H. S., & Rigoni, E. (2015). Influential IT management trends: An international study. Journal of Information Technology, 30(3), 293–305. https://doi.org/10.1057/jit.2015.18

[34] Mansur, S., Saragih, N., Susilawati, S., Udud, Y., & Endri, E. (2021). Consumer Brand Engagement and Brand Communications on Destination Brand Equity Maritine Tourism in Indonesia. **Journal of Environmental Management and Tourism**, 14(4), 1032-1042. https://doi.org/10.14505//jemt.v12.4(52).16

[35] Mao, H., Liu, S., Zhang, J., Zhang, Y., & Gong, Y. (2020). Information technology competency and organizational agility: roles of absorptive capacity and information intensity. Information Technology and People. https://doi.org/10.1108/ITP-12-2018-0560

[36] Mao, Y., & Quan, J. (2015). IT-enabled organizational agility: Evidence from Chinese firms. Journal of Organizational and End User Computing, 27(4), 1–24. https://doi.org/10.4018/JOEUC.2015100101

[37] Marhraoui, M. A., Idrissi, M. A. J., & El Manouar, A. (2019). A new approach to assessing organizational agility and recommending it levers of improvement: A case study. International Journal of Scientific and Technology Research, 8(12), 1029–1034.

[38] Marhraoui, M. A., & Manouar, A. El. (2017). IT-enabled organizational agility –proposition of a new framework. Journal of Theoretical and Applied Information Technology, 95(20), 5431–5442.

[39] Martínez-Caro, E., Cepeda-Carrión, G., Cegarra-Navarro, J. G., & Garcia-Perez, A. (2020). The effect of information technology assimilation on firm performance in B2B scenarios. Industrial Management and Data Systems, 120(12), 2269-2296. https://doi.org/10.1108/IMDS-10-2019-0554

[40] Melián-Alzola, L., Fernández-Monroy, M., & Hidalgo-Peñate, M. (2020). Information technology capability and organizational agility: A study in the Canary Islands hotel industry. Tourism Management Perspectives, 33, 100606. https://doi.org/10.1016/j.tmp.2019.100606

[41] Mikalef, P., & Pateli, A. (2017). Information technology-enabled dynamic capabilities and their indirect effect on competitive performance: Findings from PLS-SEM and fsQCA. Journal of Business Research, 70, 1–16. https://doi.org/10.1016/j.jbusres.2016.09.004

[42] Najib, M., Ermawati, W.J., Fahma, F., Endri, E., & Suhartanto, D. (2021). FinTech in the Small Food Business and Its Relation with Open Innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), 88. https://doi.org/10.3390/joitmc7010088

[43] Nwankpa, J. K., & Merhout, J. W. (2020). Exploring the effect of digital investment on IT innovation. Sustainability (Switzerland), 12(18), 7374. https://doi.org/10.3390/SU12187374

[44] Pahala, Y., Widodo, S., Kadarwati., Azhari, M., Muliyati., Lestari, N.I., Madjid, S.A., Sidjabat, S., Limakrisna, N., & Endri, E. (2021). The effects of service operation engineering and green marketing on consumer buying interest. Uncertain Supply Chain Management, 9(3), 603–608. https://doi: 10.5267/j.uscm.2021.5.011

[45] Panda, S., & Rath, S. K. (2017). The effect of human IT capability on organizational agility: an empirical analysis. Management Research Review, 40(7), 800–820. https://doi.org/10.1108/MRR-07-2016-0172

[46] Panda, S., & Rath, S. K. (2018a). Information technology capability, knowledge management capability, and organizational agility: The role of environmental factors. Journal of Management and Organization, 27(1), 1–27. https://doi.org/10.1017/jmo.2018.9

[47] Panda, S., & Rath, S. K. (2018b). Modeling the Relationship Between Information Technology Infrastructure and Organizational Agility: A Study in the Context of India. Global Business Review, 19(2), 424–438. https://doi.org/10.1177/0972150917713545

[48] Panda, S., & Rath, S. K. (2018c). Strategic IT-business alignment and organizational agility: from a developing country perspective. Journal of Asia Business Studies, 12(4), 422–440. https://doi.org/10.1108/JABS-10-2016-0132

[49] Park, Y., El Sawy, O. A., & Fiss, P. C. (2017). The role of business intelligence and communication technologies in organizational agility: A configurational approach. Journal of the Association for Information Systems, 18(9), 648–686. https://doi.org/10.17705/1jais.00001

[50] Permadi, A., Mursitama, T. N., Hamsal, M., & Bandur, A.

(2020). The impact of IT capability and supply chain agility in the electronic home appliance retail in Indonesia. International Journal of Advanced Trends in Computer Science and Engineering, 9(1), 833–844. https://doi.org/10.30534/ijatcse/2020/120912020

[51] Qosasi, A., Permana, E., Muftiadi, A., Purnomo, M., & Maulina, E. (2019). Building SMEs' competitive advantage and the organizational agility of apparel retailers in Indonesia: The role of ICT as an initial trigger. Gadjah Mada International Journal of Business, 21(1), 69–90. https://doi.org/10.22146/gamaijb.39001

[52] Ricardianto, P., Wibowo, H., Agusinta, L., Abdurachman, E., Suryobuwono, A., Fachrial, P., Setiawan, A., Rafi, S., Maemunah, S & Endri, E. (2022). Determinants of airport train operational performance. International Journal of Data and Network Science, 6(1), 91-98. doi: 10.5267/j.ijdns.2021.9.019

[53] Ridwandono, D., & Subriadi, A. P. (2019). IT and Organizational Agility: A Critical Literature Review. Procedia Computer Science, 161, 151–159. DOI: http://doi.org/10.1016/j.procs.2019.11.110

[54] Saluy, A.B., Abidin, Z., Djamil, M., Kemalasari, N., Hutabarat, L., Pramudena, S.M., & Endri, E. (2021). Employee productivity evaluation with human capital management strategy: The case of covid-19 in Indonesia. Academy of Entrepreneurship Journal, 27(5), 1-9.

[55] Shahzad, M. K., Cruz Jimenez, C., Ben Said, A., & Tollenaere, M. (2016). Towards quantified measures of Agility for Production Line Information Systems (PLIS). IFAC-PapersOnLine, 49(12), 562–567. https://doi.org/10.1016/j.ifacol.2016.07.695

[56] Shuradze, G., Bogodistov, Y., & Wagner, H. T. (2018). The role of marketing-enabled data analytics capability and organizational agility for innovation: Empirical evidence from German firms. International Journal of Innovation Management, 22(4), 1–32. https://doi.org/10.1142/S1363919618500378

[57] Son, I., Lee, D., Lee, G., & Yoo, Y. (2018). The effect of cloud-based IT architecture on IT exploration and exploitation: Enabling role of modularity and virtuality. Asia Pacific Journal of Information Systems, 28(4), 240–257. https://doi.org/10.14329/APJIS.2018.28.4.240

[58] Teece, D., Peteraf, M., & Leih, S. (2016). Dynamic capabilities and organizational agility: Risk, uncertainty, and strategy in the innovation economy. California Management Review, 58(4), 13–35. https://doi.org/10.1525/cmr.2016.58.4.13

[59] Tsou, H. T., & Cheng, C. C. J. (2018). How to enhance IT B2B service innovation? An integrated view of organizational mechanisms. Journal of Business and Industrial Marketing, 33(7), 984–1000. https://doi.org/10.1108/JBIM-07-2017-0175

[60] Wahyono. (2018). A conceptual framework of strategy, action, and performance dimensions of organizational agility development. Industrial and Commercial Training, 50(6), 326–341. https://doi.org/10.1108/ICT-12-2017-0103

[61] Walter, A.-T. (2020). Organizational agility: ill-defined and somewhat confusing? A systematic literature review and conceptualization. Management Review Quarterly, 71(2), 343–391. doi:10.1007/s11301-020-00186-6

[62] Wang, S., Wang, Y., & Archer, N. (2018). The co-evolution of IT competence, organisational agility and entrepreneurial action: a case study of entrepreneurial e-tailers. International Journal of Networking and Virtual Organisations, 18(1), 1. doi:10.1504/ijnvo.2018.090672.

[63] Zaini, M. K., Masrek, M. N., & Abdullah Sani, M. K. J. (2020). The impact of information security management practices on organisational agility. Information & Computer Security, 28(5), 681–700. doi:10.1108/ics-02-2020-0020.

[64] Zitkiene, R., & Deksnys, M. (2018). Organizational Agility Conceptual Model. Montenegrin Journal of Economics, 14(2), 115–129. doi:10.14254/1800-5845/2018.14-2.7.