

# How Do IT Competence and Business Competence Bring Organizational Agility? An Evidence from Pakistan

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Importance of digitization was rushed during COVID-19 pandemic than ever before in the current or past century. Embracing information technology (IT) enables the organizations to achieve organizational agility. Current study was aimed at evaluating impact of digitization and business competence on organizational agility in Pakistan. This study targeted manufacturing, information technology, banking, finance, insurance, and telecommunications firms to check current status of business firms regarding adoption of IT. Moreover, current study tried to probe status of IT adoption and business competence owned by the public, private, and foreign owned firms. This was a cross-sectional study in which data was collected from the employees of business firms operating in the capital city of Punjab province. The data was collected from 200 employees through a self-administrated questionnaire. The results revealed a direct significant impact of IT competence and business competence on organizational agility of the organizations. Current study also describes various research limitations and implications for future research.

**Keywords:** Digitization, Information Technology, COVID-19, Business Competence, Organizational Agility

## 1. INTRODUCTION

Agility has laid significant impact on manufacturing industry to effectively respond to the changes in supply chain management practices. As the agile firms performs well in manufacturing, they are considered to be the market leaders (Harraf, Wanasika, Tate, & Talbott, 2015). According to Rigby, Sutherland, and Takeuchi (2016), agile firms used agile procedures and methods to enhance their performance of their projects. During spread and

outbreak of COVID-19 pandemic in the world, it was revealed that agile firms had successfully responded to a sudden change in business practices. Therefore, the findings of Glenn (2009) were proved to be true who said that agility was the core competence for the organizations to grow in a dynamic marketplace. Simultaneously, connotations of Sambamurthy, Bharadwaj, and Grover (2003) were proved to be true that competency in IT and digitized procedures helped organizations to respond effectively against abrupt changes in the market. Current situation of COVID-19 pandemic and post-COVID-19 would require keen attention of the scholars and practitioners on digitization of the functions performed by the individuals and the organizations.

The organizations face dynamic environment with the higher level of uncertainty in the market which create cut throat competition among the organization (Felipe, Roldán, & Leal-Rodríguez, 2016). Therefore, the organizations need to respond to the market uncertainties accurately, effectively, and efficiently that are collectively termed as organizational agility (Ashrafi, Ravasan, Trkman, & Afshari, 2019). Appelbaum, Calla, Desautels, and Hasan (2017) found organizational agility as the capability of an organization to effectively respond against market dynamics. Previous studies evaluated organizational agility and its effectiveness in achieving organizational objectives (Cai, Richter, & McKenna, 2019; Routroy, Potdar, & Shankar, 2015). According to Tallon, Queiroz, Coltman, and Sharma (2019), to achieve organizational agility, the organizations need to understand the importance of information technology. Some studies found that information technology enhanced operational and strategic performance of the organizations in dynamic business environment (Aburub, 2015; Mandal, Korasiga, & Das, 2017). Cai et al. (2019) suggested to employ information technology to make the organizations more agile. According to Tallon et al. (2019), research is required to probe the potential role of information technology in achieving organizational agility.

Previous research tested information technology as an important contributor towards achieving organizational agility. However, those studies never evaluated the combined synergetic impact of business competence and IT competence on organizational agility. Recent studies (Cai et al., 2019; Tallon et al., 2019) suggest to evaluate organizational agility to enhance organizational performance. All the fields of life are facing the challenges that can be mitigated through rapid advances in technology and digitization (Žitkienė & Deksnys, 2018). Moreover, COVID-19 pandemic makes digitization mandatory and necessitates all of us to utilize our digital potential to meet the needs and hunt the opportunities. Current study evaluates current status of the organizations and provide important insights for the scholars and practitioners.

## 2. LITERATURE REVIEW

### **Information Technology Competence and Organizational Agility**

Information technology refers to the technological infrastructure including use of mobile technology (Krotov & Junglas, 2006), service-oriented infrastructure, and Web Services (de Oliveira, Balloni, de Oliveira, & Toda, 2012). Infrastructure of information technology is an important factor upon which the organizations can build digitization process regarding their processes and resources (Melville, Kraemer, & Gurbaxani, 2004). Infrastructure of information technology can help in digitalizing financial infrastructure, human resources, quality management, and relationship management with the stakeholders (Subriadi, Hadiwidjojo, Djumahir, Rahayu, & Sarno, 2013). Digitalization is different from digitization in the sense that digitization is a mere conversion from analog to digital. However, digitalization refers to the use of digital technology and digitized data to perform various organizational functions (Ritter & Pedersen, 2020). The IT capability as the ability of an organization to deliver services and products (Bharadwaj, 2000) and the ability of obtaining, implementing, and reconfiguring IT resources to efficient and effectively achieve organizational objectives (Cai, Liu, Huang, & Liang, 2017; Lu & (Ram) Ramamurthy 2011). Therefore, it can be inferred that capabilities of an organization to utilize resources information technology, IT competencies, and IT Infrastructure are important factors of digitalization in business processes.

Organizational agility refers to an aggregate of flexibility, nimbleness, and speed of an organization to respond to any business situation (Singh, Sharma, Hill, & Schnackenberg, 2013). In a recent study, Ravichandran (2018) defined organizational agility as the ability of an organization to optimally respond to change by availing opportunities. According to Aghina, De Smet, and Weerda (2015), the concept of organizational agility is application to all the organizations irrespective of their nature of business. Heckler and Powell (2016) argued that organizational agility was very important for the organization as the dynamics were changing rapidly around the world. According to Sambamurthy, Wei, Lim, and Lee (2007) organizational agility refers to the ability of an organization to accurately anticipate future changes and become proactive against all future dynamics. This means that an organization with organizational agility would accurately sense the changes and effectively respond to those market and/or environment changes.

There are a lot number of studies that have evaluated direct impact of information technology on organizational agility (Ridwandono & Subriadi, 2019). They conducted a meta-analysis and found that infrastructure of IT significantly influenced organizational agility in all types of organizations. Similarly, Heckler and Powell (2016) found direct and significant impact of information technology in achieving organizational agility. Fink and Neumann (2007) found that IT infrastructure capabilities directly influenced organizational agility. Previous research found and argued that information technology competence directly contributed towards making an organization more agile towards the dynamic competitive business environment (Liu, Ke,

Wei, & Hua, 2013). Hence, concluding from prior literature, it can be inferred that digitalization directly impacts the organizational agility. Therefore, we developed the following alternative hypothesis to be tested by the current study:

H1: Information Technology Competence directly affects organizational agility.

### **Business Competence and Organizational Agility**

Weinert (2001) defined the concept of competence. He argued that the construct of competence included the competencies of economic, technology, technical, methodology, creativity, innovation, mobility, and flexibility. Moreover, the concept of competence also covered the persistence, reliability, and precision by the organizations (Weinert, 2001). He elaborated the concept of business competence that was given by Baker, Mapes, New, and Szwejcowski (1997). According to Baker et al. (1997), business competence includes various competencies that helped an organization to perform better in the operations and general management. They included competitive competence and enabling competence as the additional dimensions of original model of business competence provided by Prahalad and Hamel (1990) published in Harvard Business Review. Baker et al. (1997) proposed “competitive” competence as fifth (5th) competence in business competence model alongside strategic competence, distinctive competence, functional competence, and individual competence. Therefore, business competence can be defined as a set of business competences that includes strategic competence, distinctive competence, functional competence, individual competence, and competitive competence.

According to previous studies (Crocitto & Youssef, 2003; Ferguson & Reio Jr, 2010), organizations need to develop business competence in their employees to achieve organizational agility. Tallon (2007) argued that employees equipped with IT skills assisted their organizations in a better way. Previous studies found that business competence of employees was directly associated with the organizational capability to manage in dynamic environment (DeHaes & Van Grembergen, 2005). According to Reich and Benbasat (2000), a combination of IT skills and business competencies lead to business efficiency. Similarly, Bi, Zhou, and Cai (2014) found when the IT professionals had higher levels of business competence, they performed better and responded well to the various challenges. Henceforward, relying on prior literature, we conclude that business competence is directly associated with organizational agility. Therefore, we developed the following alternative hypothesis to be tested by the current study:

H2: Business competence directly affects organizational agility.

The combination of IT skills and business competencies lead to the efficiency and agility (Reich & Benbasat, 2000). Similarly, Bi et al. (2014) found that IT competence and business competence aggregately contributed towards better performance and ability to respond well to

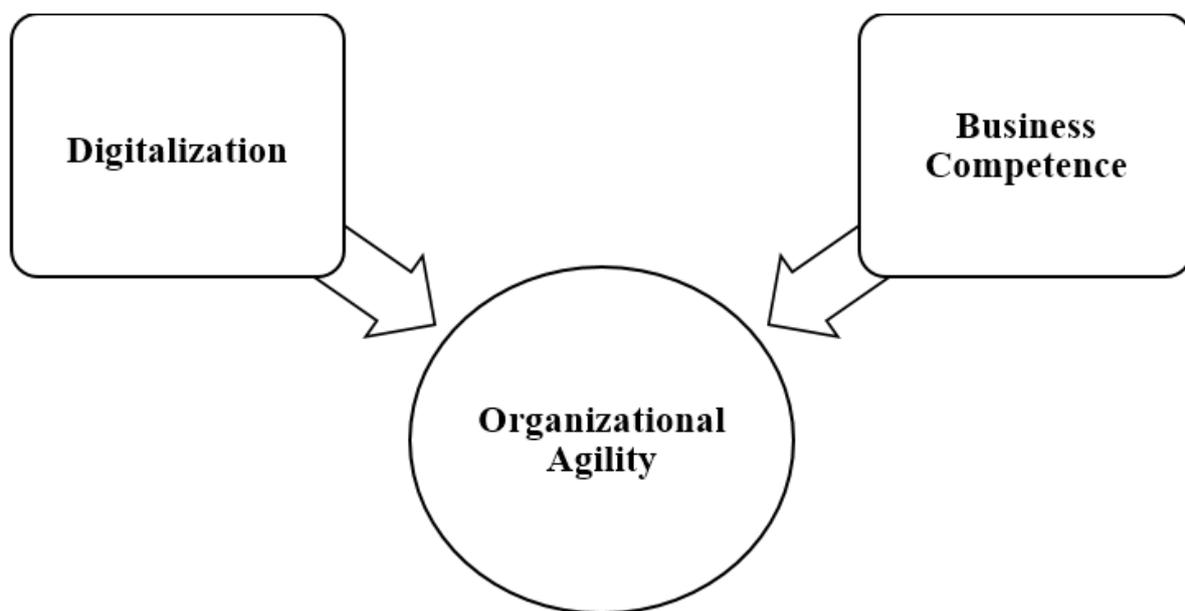
the various challenges. Hence, relying on these studies, the combined effect is expected to be present in this study, we also developed the following hypothesis:

H3: Business competence has direct synergetic interactive effect on organizational agility.

### 3. CONCEPTUAL FRAMEWORK

The researchers had critical review of previous literature and developed testable and falsifiable hypotheses. According to the discussion made in above sections, the following conceptual framework is presented:

Figure 1: Proposed Research Model



### 3. METHODOLOGY

Current study used quantitative research approach to reach at the decisions by using numeric data. As this study is correlational in nature, deductive method of inferencing was applied. Current study is cross-sectional where survey was used as the research strategy to gather the data from the respondents due to available limited time and financial resources. Current study used individual (managers and employees) as the unit of analysis. The data gathered from the firms operating in Lahore and employees working therein. Current study utilized simple random sampling technique where 384 sample size was deemed appropriate with confidence interval of 5% and confidence level of 95% (Krejcie & Morgan, 1970). Out of questionnaires distributed randomly to the respondents, only 200 questionnaires that were complete in all aspects were used in this study.

Self-administered questionnaire was used in this survey study. Already developed measurement tools were used for the variables of interest. Researchers used measurement scale of Lu and (Ram) Ramamurthy (2011) to measure the variable of organizational agility, measurement scale of Davis (2013) to measure information technology competence, and measurement scale of Kowal and Roztocki (2015) to measure business competence. SPSS (26.0) software was used for management and analysis of the data. The current study tested its proposed research model by conducting a quantitative analysis through a digital survey-questionnaire form.

## 4. DATA ANALYSIS AND RESULT

### 4.1 Reliability Analysis

Preliminary analysis was conducted to verify the reliability of data set. The results are described in the following table:

Table 1: Reliability Statistics

Variables	Cronbach's Alpha
Organizational agility	0.829
IT competence	0.801
Business competence	0.750

Table 1 shows Cronbach's alpha values for all the variables. The resulting statistics of Cronbach's alpha showed good reliability values of 0.829, 0.801, and 0.750 for organizational agility, IT competence, and business competence respectively. Therefore, it was concluded that the scales were reliable as they had value more than the threshold value of 0.70, the data set was reliable for all the variables.

### 4.2 Correlation Analysis

As the data set was normally distributed for the continuous variables of current study, Pearson correlation was applied. The results of correlation analysis are provided in the following table:

Table 2: Correlations

Variables	IT Competence	Business Competence	Organizational Agility
IT Competence	1		
Business Competence	.642**	1	
Organizational Agility	.638**	.638**	1

\*\* Significance at the level of 0.01.

\* Significance at the level of 0.05.

The correlational matrix shows correlation among the variables. The results show that business competence had significant and positive correlations with IT competence ( $r = .642^{**}$ ,  $p < 0.01$ ) and organizational agility ( $r = .638^{**}$ ,  $p < 0.01$ ). Business competence had positive has significant and positive correlations with organizational agility ( $r = .638^{**}$ , value of  $p < 0.01$ ).

### 4.3 Regression Analysis

In order to evaluate effects of IT competence and business competence on organizational agility, regression analysis was run. The results of the analysis are provided in the following table:

Table 3: Regression Analysis

Hypothesis	Relationship	R <sup>2</sup>	Adjusted R <sup>2</sup>	$\beta$	F	P
H1	ITC-OA	.407	.404	.638	136.068	.000
H2	BC-OA	.408	.405	.638	136.250	.000
H3	ITC.BC-OA	.496	.494	.704	194.916	.000

\* Significance at the level of 0.05.

The results show that IT competence and business have positive and significant effects on organizational agility. The value of Adjusted R-Square for IT competence 0.404 shows that 40.4% variation in organizational agility was accounted for by the IT competence. The value of F statistic (136.07) showed that the model was fitted good. The standardized beta ( $\beta$ ) value (0.638) showed the magnitude of direct effect of IT competence on the organizational agility. The significance level was ( $P = .000$ ) lesser than 0.05 which showed that the effect of IT competence on organizational agility was statistically significant. Hence, the hypothesis developed by the researchers was supported that IT competence directly affected organizational agility.

The results show that business competence and business have positive and significant effects on organizational agility. The value of Adjusted R--Square for business competence 0.405 shows that 40.5% variation in organizational agility was accounted for by the business competence. The value of F statistic (136.25) showed that the model was fitted good. The standardized beta ( $\beta$ ) value (0.638) showed the magnitude of direct effect of business competence on the organizational agility. The significance level was ( $P = .000$ ) lesser than 0.05 which showed that the effect of business competence on organizational agility was not by-chance rather it had statistically significant effect. Hence, the hypothesis developed by the researchers was supported that business competence directly affected organizational agility. The regression analysis shows that there are direct synergetic effect of IT competence and business competence on organizational agility.

The value of Adjusted R-Square for their synergetic effect 0.494 shows that 49.4% variation in organizational agility was accounted for by the business competence. The value of F statistic (194.92) showed that the model was fitted good. The standardized beta ( $\beta$ ) value (0.704) showed the magnitude of direct effect of business competence on the organizational agility. The significance level was ( $P = .000$ ) lesser than 0.05 which showed that the synergetic effect was not by-chance rather it was a statistically significant effect. Hence, the hypothesis developed by the researchers was supported that both the IT competence and business together had direct impact on organizational agility. Therefore, we rejected the null hypothesis and accepted the alternative hypothesis made by this study that IT competence and business competence together have direct synergetic interactive effect on organizational agility.

#### 4.4 Discussion

This study found direct impact of information technology competence of the employees on organizational agility. This result is similar to the findings of previous well-known studies such as Fink and Neumann (2007); Chakravarty, Grewal, and Sambamurthy (2013); Liu et al. (2013); Heckler and Powell (2016); Cai et al. (2017); Zhou et al. (2018); and Tallon et al. (2019). Hence, this finding of current study supported prior findings that information technology competence helped the organizations to attain organizational agility. Current study found direct impact of business competence of the employees on organizational agility. This result is similar to the findings of Crocitto and Youssef (2003); DeHaes and Van Grembergen (2005); Ferguson and Reio Jr (2010); Zhou et al. (2018); Felipe, Leidner, Roldán, and Leal-Rodríguez (2020); and Männistö (2021). Current study found that the combined effect of IT competence and business competencies was positive and significant on organizational agility. This finding was similar to the findings of Reich and Benbasat (2000) and Bi et al. (2014) who found that IT competence and business competence aggregately contributed towards organizational agility. During the spread and outbreak of COVID-19 pandemic in the world, it is expected that the agile organizations would successfully respond to the resultant changes in business practices. The organizational agility is considered as the core competence for the organizations to grow in a dynamic marketplace. Therefore, competency in IT, digitized procedures, and business competence would help organizations to respond effectively against abrupt changes in the market.

#### 5. CONCLUSION

Current study puts forth various important implications for the practitioners and the academia through which they might be able to reveal the ways to make business firms agile. The findings of current study suggest that it is necessary for managers to obtain the competence of information technology and competence of business to respond well against the market dynamics. Current study guides the practitioners to have these two types of competencies in order to achieve organizational agility which is considered to be the most important element



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of organizational success. This study reveals the way to mitigate the challenges of rapid advances in technology and digitization.

As all other studies have, current study also had some limitations that may serve as the implications for academia through which they may find avenues for future research. This study used a small sample size due to availability of the responses from the target organizations. The data was collected from business of Lahore only which might have hindered the generalizability of the findings. Therefore, future studies may collect data from a wide area with enhanced sample size to improve confidence level of the findings. Moreover, the questionnaire was used for the collection of the data which may have some limitations as a data collection method. In this technique, there are higher chances of biasness, errors, and lack of accurate responses by the respondents. Therefore, future studies may use triangulation technique by simultaneously utilizing various methods of data collection. As current study was cross-sectional in nature, future studies may use longitudinal designs to establish and evaluate causal relationships. Moreover, various important mediating and/or moderating variables might be included to explain such relationships in a better way.

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## References

- Aburub, F. (2015). Impact of ERP systems usage on organizational agility. *Information Technology & People*, 28(3), 570-588.
- Aghina, W., De Smet, A., & Weerda, K. (2015). Agility: It rhymes with stability. *McKinsey Quarterly*, 51(4), 2-9.
- Appelbaum, S. H., Calla, R., Desautels, D., & Hasan, L. (2017). The challenges of organizational agility (part 1). *Industrial and Commercial Training*.
- Ashrafi, A., Ravasan, A. Z., Trkman, P., & Afshari, S. (2019). The role of business analytics capabilities in bolstering firms' agility and performance. *International Journal of Information Management*, 47, 1-15.
- Baker, J. C., Mapes, J., New, C. C., & Szejczewski, M. (1997). A hierarchical model of business competence. *Integrated Manufacturing Systems*, 8(5), 265-272.
- Bharadwaj, A. S. (2000). A resource-based perspective on information technology capability and firm performance: an empirical investigation. *MIS Quarterly*, 24(1), 169-196.
- Bi, G., Zhou, J., & Cai, Z. (2014). The Impact of Employee Competence on Organizational Agility: The Mediating Role of IT Alignment. In *PACIS* (p. 190).
- Cai, W., Richter, S., & McKenna, B. (2019). Progress on technology use in tourism. *Journal of Hospitality and Tourism Technology*.
- Chakravarty, A., Grewal, R., & Sambamurthy, V. (2013). Information technology competencies, organizational agility, and firm performance: Enabling and facilitating roles. *Information Systems Research*, 24(4), 976-997.
- Crocitto, M., & Youssef, M. (2003). The human side of organizational agility. *Industrial Management & Data Systems*, 103(6), 388-397.
- Davis, J. M. (2013). Leveraging the IT competence of non-IS workers: social exchange and the good corporate citizen. *European Journal of Information Systems*, 22(4), 403-415.
- De Haes, S., & Van Grembergen, W. (2005). IT governance structures, processes and relational mechanisms: Achieving IT/business alignment in a major Belgian financial group. In *Proceedings of the 38th Annual Hawaii International Conference on System Sciences* (pp. 237b-237b). IEEE.
- de Oliveira, S. B., Balloni, A. J., de Oliveira, F. N. B., & Toda, F. A. (2012). Information and Service-Oriented Architecture & Web Services: enabling integration and organizational agility. *Procedia Technology*, 5(2012), 141-151.
- Felipe, C. M., Leidner, D. E., Roldán, J. L., & Leal-Rodríguez, A. L. (2020). Impact of its capabilities on firm performance: the roles of organizational agility and industry technology intensity. *Decision Sciences*, 51(3), 575-619.
- Felipe, C. M., Roldán, J. L., & Leal-Rodríguez, A. L. (2016). An explanatory and predictive model for organizational agility. *Journal of Business Research*, 69(10), 4624-4631.
- Ferguson, K. L., & Thomas, G. Reio Jr (2010) Human resource management systems and firm performance. *Journal of Management Development*, 29(5), 471-494.



- Fink, L., & Neumann, S. (2007). Gaining agility through IT personnel capabilities: The mediating role of IT infrastructure capabilities. *Journal of the Association for Information Systems*, 8(8), 440-462.
- Harraf, A., Wanasika, I., Tate, K., & Talbott, K. (2015). Organizational agility. *Journal of Applied Business Research (JABR)*, 31(2), 675-686.
- Heckler, J., & Powell, A. (2016, May). IT and organizational agility: a review of major findings. In *The Eleventh Midwest Association for Information Systems Conference* (pp. 1-5).
- Kowal, J., & Roztocki, N. (2015). Job satisfaction of IT professionals in Poland: does business competence matter? *Journal of Business Economics and Management*, 16(5), 995-1012.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607-610.
- Krotov, V., & Junglas, I. (2006, June). Mobile technology as an enabler of organizational agility. In *2006 International Conference on Mobile Business* (pp. 20-20). IEEE.
- Liu, H., Ke, W., Wei, K. K., & Hua, Z. (2013). The impact of IT capabilities on firm performance: The mediating roles of absorptive capacity and supply chain agility. *Decision support systems*, 54(3), 1452-1462.
- Lu, Y., & (Ram) Ramamurthy, K. (2011). Understanding the link between information technology capability and organizational agility: An empirical examination. *MIS quarterly*, 35(4), 931-954.
- Mandal, S., Korasiga, V. R., & Das, P. (2017). Dominance of agility in tourism value chains: evidence from India. *Tourism Review*, 72(2), 133-155.
- Männistö, T. (2021). Industrial Agile Transformations Lacking Business Emphasis: Results from a Nordic Survey Study. In *Software Business: 11th International Conference, ICSOB 2020, Karlskrona, Sweden, November 16–18, 2020, Proceedings* (p. 46). Springer Nature.
- Melville, N., Kraemer, K., & Gurbaxani, V. (2004). Information technology and organizational performance: An integrative model of IT business value. *MIS Quarterly*, 28(2), 283—322.
- Prahalad, C.K. & Hamel, G. (1990). The core competence of the corporation. *Harvard Business Review*, 63(3), 79-91.
- Ravichandran, T. (2018). Exploring the relationships between IT competence, innovation capacity and organizational agility. *The Journal of Strategic Information Systems*, 27(1), 22-42.
- Reich, B. H., & Benbasat, I. (2000). Factors that influence the social dimension of alignment between business and information technology objectives. *MIS quarterly*, 24(1), 81-113.
- Ridwandono, D., & Subriadi, A. P. (2019). IT and Organizational Agility: A Critical Literature Review. *Procedia Computer Science*, 161(2019), 151-159.
- Rigby, D., Sutherland, J., & Takeuchi, H. (2016). Embracing agile—*Harvard business review*.



- Ritter, T., & Pedersen, C. L. (2020). Digitization capability and the digitalization of business models in business-to-business firms: Past, present, and future. *Industrial Marketing Management*, 86, 180-190.
- Routroy, S., Potdar, P. K., & Shankar, A. (2015). Measurement of manufacturing agility: a case study. *Measuring Business Excellence*.
- Sambamurthy, V., Bharadwaj, A., & Grover, V. (2003). Shaping agility through digital options: Reconceptualizing the role of information technology in contemporary firms. *MIS quarterly*, 237-263.
- Sambamurthy, V., Wei, K. K., Lim, K., & Lee, D. (2007). IT-enabled organizational agility and firms' sustainable competitive advantage. *ICIS 2007 proceedings*, 91.
- Singh, J., Sharma, G., Hill, J., & Schnackenberg, A. (2013, January). Organizational agility: What it is, what it is not, and why it matters. In *Academy of management proceedings* (Vol. 1, No. 1, pp. 1-40). Briarcliff Manor, NY 10510: Academy of Management.
- Subriadi, A. P., Hadiwidjojo, D., Rahayu, M., & Sarno, R. (2013). Information Technology Productivity Paradox: A Resource-Based View and Information Technology Strategic Alignment Perspective for Measuring Information Technology Contribution on Performance. *Journal of Theoretical & Applied Information Technology*, 54(3), 541-552.
- Tallon, P. P. (2007). A process-oriented perspective on the alignment of information technology and business strategy. *Journal of Management Information Systems*, 24(3), 227-268.
- Tallon, P. P., Queiroz, M., Coltman, T., & Sharma, R. (2019). Information technology and the search for organizational agility: A systematic review with future research possibilities. *The Journal of Strategic Information Systems*, 28(2), 218-237.
- Weinert, F. E. (2001). Concept of competence: A conceptual clarification. In D. S. Rychen & L. H. Salganik (Eds.), *Defining and selecting key competencies* (p. 45–65). Hogrefe & Huber Publishers.
- Zhou, J., Bi, G., Liu, H., Fang, Y., & Hua, Z. (2018). Understanding employee competence, operational IS alignment, and organizational agility—An ambidexterity perspective. *Information & Management*, 55(6), 695-708.
- Žitkienė, R., & Deksnys, M. (2018). Organizational agility conceptual model. *Montenegrin Journal of Economics*, 14(2), 115-129