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The co-evolutionary relationship between digitalization and organizational agility: Ongoing debates, theoretical developments and future research perspectives

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(Article begins on next page)

1. Introduction

effectiveness of millions of companies' busin

(Škare and Soriano, 2021)

(Škare and Soriano, 2021)

2. Theoretical background

to it”

“sensing change and responding

digital transformation process. In the “digitization” stage, in which

the “digitalization” phase, where IT and digital technologies act as ke

, in the “digital transformation phase”, new business

, intended as a firm’s skill, talent, and

3. Methodology

and Čater, 2015)

(TITLE-ABS-KEY(("digitali?at"OR"digiti?at*"OR"big data"OR"BD"OR"internet of thing*"OR"IoT"OR"digital transfor*"OR"digital technol*"OR"information technolog*"OR"ICT*"OR"Information Communication Technolog*"OR"Information and Communication Technolog*"OR"IT")AND("agil*"))*

of things” were included.

" and “internet

, was used to perform our search. The “*” and “?” operators

of their importance for the main topics of each thematic cluster. Again, Krippendorf's

4. Results of the bibliometric and VOS analyses

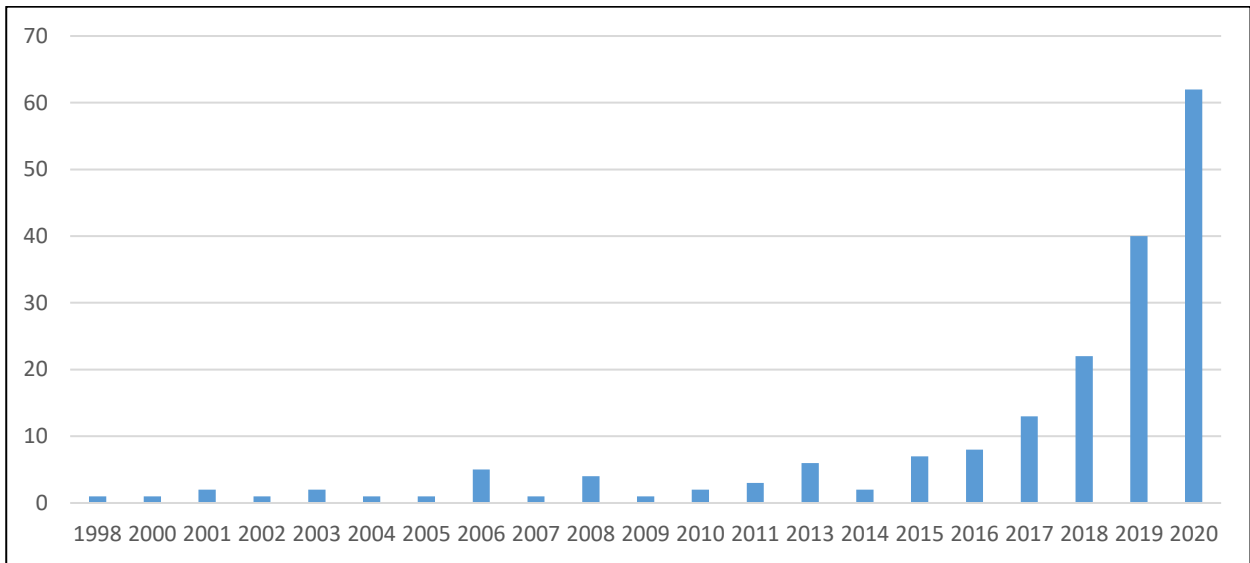


Figure 2.

Table 1.

Studies per country (top 10 countries)

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Studies per author (top 10 authors)
Studies per journal (top 10 journals)

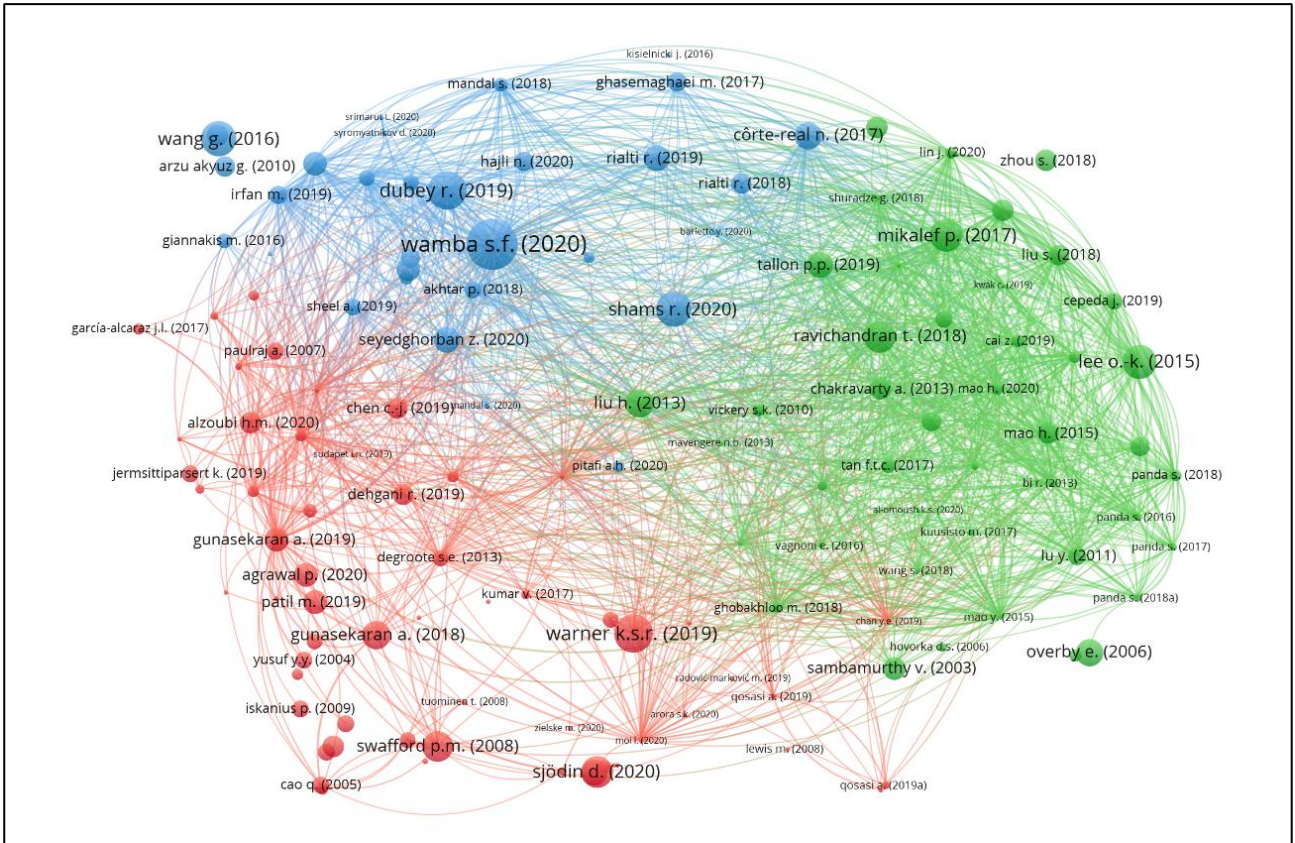


Figure 3

5. Results of the systematic literature review

Table 2.

Main Topics	References
GREEN CLUSTER: INFORMATION TECHNOLOGY CAPABILITIES AND ORGANIZATIONAL AGILITY	

RED CLUSTER: DIGITALIZATION AND SUPPLY CHAIN AGILITY	

BLUE CLUSTER: BIG DATA ANALYTICS CAPABILITIES, AGILITY AND PERFORMANCE	
	;
	;

5.1 Green cluster: information technology capabilities and organizational agility

5.1.1 The role of information technology capabilities in enabling organizational agility
the firm's

constituted by the combination of IT flexibility, i.e., the organization's ability to

firms more flexible in scheduling and deploying IT applications, responding to changes in customers'

organizations' sensing and responding agility of "human ITC", a specific form

firm's

5.1.2. The factors that enhance the relationship between information technology capabilities and organizational agility

5.1.3. Combining information technology capabilities and organizational agility to gain competitive advantages and enhance firm performance

5.1.4. The mediating role of innovation capabilities and culture in the relationship between information technology capabilities and organizational agility

“innovative climate” as an environmental

5.2. Red cluster: digitalization and supply chain agility.

5.2.1. Digital transformation and supply chain agility

such as “no sense of urgency”, “lack of industry guidelines”, “lack of digital skills and talent” and “high implementation and running costs”

5.2.2. Digital-based supply chain agility and firm performance

SC's

5.2.3. Digital organizational culture and supply chain agility

company's

5.2.4. Digital-based supply chain agility: manufacturing and logistics perspectives

. Furthermore, consumers' increased expectation of rapid delivery of goods

5.3. Blue cluster: Big data analytics capabilities, agility and performance.

company's

5.3.1. Big data analytics capabilities, ambidexterity and agility

company's

5.3.2. Big data analytics capabilities, agility and performance

5.3.3. The role of organizational competences and learning culture

5.3.4. Big data analytics capabilities and supply chain agility

5.3.5. The new digital solutions as drivers of organizational agility

6. Discussion and research propositions

Table 3.

Research gaps	References
Green Cluster: information technology capabilities and organizational agility	
Red Cluster: digitalization and supply chain agility	
Blue Cluster: big data analytics capabilities, agility and performance	
company's	
company's	

match between them to enhance firms' agility

6.1 Research propositions

6.1.1. The complementarity between different digital capabilities

Propositions 1. *Researchers should deepen the understanding of the complementary and interaction mechanisms between the different digital capabilities that impact organizational agility in diverse competitive contexts.*

6.1.2 Environmental uncertainty

Proposition n. 2. *There is a need to expand the meaning of environmental uncertainty to better understand all its possible causes and impacts on organizational agility capabilities.*

6.1.3. Digital technology assimilation strategy as an amplifier of the absorptive capacity–agility relationship

Proposition 3. *Currently, investment in digital technology can represent an effective answer to the need for ever-higher levels of agility brought on by an ever more rapidly changing environment. Further studies are therefore needed to investigate which IT assimilation strategies allow to maximize*

the impact of absorptive capacity on organizational agility.

6.1.4. The role of the non-IT complementary capabilities

firm's

Proposition 4. *Scholars should deepen the role played by non-IT complementary capabilities within the IT capabilities-agility relationship and the possible types of these complementary capabilities and analyse whether and how they can allow firms to leverage their digital platforms more effectively.*

6.1.5. Business model innovation and supply chain digital transformation processes

transformation journey asks for a strategic renewal of the firm's business model, collaborative

Proposition n. 5. *Digital transformation allows the implementation of significant renewal processes of the supply chain configuration and strategy. In this connection, researchers should more deeply investigate the best practices through which digitalization can effectively impact business model innovation at the supply chain level as well as the barriers to be overcome for effectively developing and implementing these practices.*

6.1.6. The role of digital technologies in improving trust-based relationships between SC partners

Proposition n. 6. *SCA depends on the effectiveness of the knowledge sharing processes activated between SC partners. Trust represents a fundamental enabler of these processes. In this connection, researchers should deepen how and which SC digital integration strategies, processes and practices should be projected and implemented to fully leverage the agility effect of trust mechanisms at the SC level.*

6.1.7. Integrating different digital competences for SC agility

Proposition n. 7. *Researchers and practitioners should investigate the impact of the different types of digital competences (technical, operational and managerial) on SCA, as well as explore which best practices for integrating internal and external digital knowledge and skills should be adopted at the SC level.*

6.1.8. The impact of the new digital technologies on SC sustainability

Proposition n. 8. *Currently, sustainability is a new imperative to which SCs must effectively respond to remain competitive. Digital technologies may help effectively face this challenge. To help firms better orient their IT investments, researchers should investigate how and which digital technologies and infrastructures could be leveraged to optimize the level of SC sustainability.*

6.1.9. Delving into the BDAC effect on ambidexterity

Proposition n. 9. *Researchers and firms should deepen their understandings of how and which BDAC impact company ambidexterity in different competitive environments. In addition, more research is needed to better understand the impact of the soft aspect of BDAC on organizational ambidexterity.*

6.1.10. *Using specific key performance indicators to assess how the BDA-agility interconnections impact the performance of different firm departments and processes*

Proposition n. 10. *Future research should aim to design and test specific KPIs suitable to assess the impact of the BDAC-agility relationship on the performance of different company areas and processes.*

6.1.11. *Exploring the BDA-organizational learning fit issue*

Proposition n. 11. *Researchers should more deeply explore the qualitative and quantitative characteristics of the system of coherences that are to be reached and maintained between a company's needs and willingness of BD usage and the BDA competencies of its employees that are needed to fully exploit BDA for agility purposes.*

6.1.12. *Barriers and enablers in the adoption of new digital technologies*

Proposition n. 12. *Researchers should investigate which barriers or enablers limit or facilitate the effective adoption of new digital technologies for agility purposes. In addition, they should control if and how the impact of these technologies on OA is affected by the industry context. Finally, further research should be carried out to better understand the effects of using different combinations of digital technologies on firm agility.*

6.2. Theoretical contributions

firm's development

DT phase **Table 4.** **Critical agility capabilities** **Research propositions**

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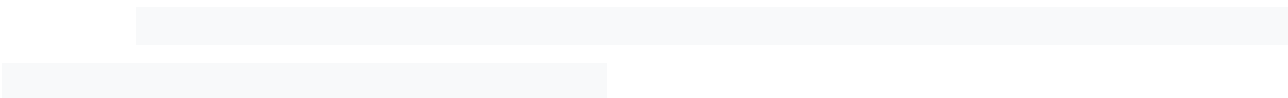
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usage and employers' knowledge (

6.3. Implications for practice

Third, effectively leveraging

personnel's digital skills but also be continuously engaged in designing appropriate solutions and



6.4. Limitations and future studies

. The fact that Krippendorff's alpha coefficient was greater than 0.80 supports the robustness of

7. Conclusions

Table 5.

company's needs

8. References

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