



Decide to Digitalize! Barriers, Drivers and the Entrepreneurial Cognition Perspective

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Abstract. This article introduces the special issue *Decide to Digitalize! Barriers, Drivers and the Entrepreneurial Cognition Perspective*. Nine research papers have been selected to reach two primary research aims: first, to understand how entrepreneurs, cognitively, make strategical decisions in order to be more competitive in the technology sector; second, to investigate how digital technologies and ICTs are being used in the context of SMEs and entrepreneurship.

Keywords: entrepreneurship, ICT use, digitalization, cognition perspective, barriers and drivers.

1. Introduction

The application of digital technologies and ICTs in the context of entrepreneurship and small-and medium sized enterprises has revolutionized organizations and business models around the world (Caputo et al., 2021; Rosin et al., 2020; OECD, 2020). The digital environment provides a competitive landscape in which taking an entrepreneurial strategic posture may be particularly

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beneficial to SMEs. Indeed, digital technologies create more variability in entrepreneurial activities and allow SMEs to rapidly and easily enhance their capabilities and performance to create value (Nambisan, 2017; Millán et al., 2021; Barrientos-Marín et al., 2021; Van Stel et al., 2021). Digital technologies enabled the creation of new business ventures and digital start-ups, which incorporate novel technology as a vital component of their business models and operations (Elia et al., 2020). In this sense, digital technologies are enablers of entrepreneurial activity (Pizzi et al., 2021; Von Briel et al., 2018) and the use of digital technologies offers new opportunities to enhance current entrepreneurial goals by optimizing processes, managerial, and strategic decisions (Ferguson & Henrekson, 2019). ICT use at work can also increase working time flexibility and reduce stress at work of business owners (Block et al., 2022).

Moreover, due to Covid-19 entrepreneurs face numerous challenges and uncertainties. Therefore, they had to develop new ways to do business (Ayoko et al., 2021). In this context, digital technologies and ICTs have been confirmed to be helpful for a prompt and resilient adaptation process, also thanks to their facilitating roles in fostering open innovation (Marzi et al., 2023) and cooperation strategies (Corbo et al., 2023). Indeed, the use of digital technology and ICTs in this pandemic time may help entrepreneurs to stay connected and facilitate smart working situations (Papadopoulos et al., 2020; Salomaa and Caputo, 2021).

In the last decades, there was an increasing attention to understand the relationship between digital technologies and entrepreneurship, and a new stream of research was built: the *digital entrepreneurship* (Ladeira et al., 2019; Nambisan, 2017). However, this research stream is still under development and it is limited in scope in explaining the benefits of applying digital technologies in the area of entrepreneurship (Ladeira et al., 2019; Nambisan, 2017) but there is the need to build on (relate to) several important existing theoretical perspectives and research streams in entrepreneurship, such as the cognitive perspective (Caputo et al., 2022; Sasseti et al., 2018).

2. The Entrepreneurial Cognition and the Digital Context

Starting from these theoretical premises, the *first main aim* of this special issue was to understand how entrepreneurs, cognitively, make strategical decisions in order to be more competitive in the technology sector.

In this regard, the first paper by Baldacchino and Boffa, using a mixed-methods approach, investigated how intuition and analysis related to entrepreneurs' decisions to exploit high-tech opportunities. A key finding of this study is that there was a greater amount of analytical than intuitive processing during high-tech opportunity exploitation decision-making, suggesting that entrepreneurs engage in more deliberate processes such as interpreting, convergent thinking and mental simulation at this stage, in an attempt to select the

most promising option. Nevertheless, intuition was positively associated, while analysis was negatively associated, with the number of opportunities that participants decided they would exploit.

The second paper by Piqueras-León and Rialp-Criado aims to enhance the understanding of entrepreneurs' digital capabilities and their decision-making logic regarding internationalization within a Born Digital Start-up. A qualitative and interpretive method has been used for this purpose in a single case setting. Authors demonstrated how the interplay of entrepreneurs' international vision, prior international experience and international experience acquired through the deployment of digital technologies relates to a better understanding to recognize international opportunities.

The third paper by Ferri, Tron, Colantoni and Savio started from the premise that the choice to implement risk management instruments is essential for entrepreneurs in the technological industry. In this sense, derivatives are one of the main instruments that an entrepreneur can decide to use, since a relevant portion of the revenues of this sector comes from foreign countries, and this increases their exposition to the fluctuations of exchange rates. Considering a sample of 81 firms operating in the Telecommunication and Information Technology industries, the results revealed that the choice to use derivatives does not affect firm value in the technology sector in the European market, confirming that the impact of derivatives on firms' values is strictly linked to the specific industry (technology, airlines, oil & gas producers, etc.) in which they are applied.

3. Barriers and Drivers in the Entrepreneur's Decision to Digitalize

The second main aim of this special issue was to understand more in-depth how digital technologies and ICTs are used in the context of SMEs and entrepreneurship, particularly in response to Covid-19.

In this vein, the impact on this digitalization process by SMEs of both general determinants (e.g., country and/or time-specific effects) and more specific factors (e.g., firm and business owner characteristics such as size, age, industry or gender) also deserves research attention. Furthermore, the relationship between ICTs implementation and some alternative entrepreneurs' performance measures such as export propensity or innovation calls for further investigation.

Thus, the fourth paper by Schøtt, Kunday, Boutaleb, Menipaz, Rahman, Bouhaddioui, Pereira and Angoitia-Grijalba explores how, in a business, the intention to adopt digital technology is shaped by early and recent digitalization and by embeddedness in socio-temporal contexts. To this end, this research uses the GEM 2021 survey of businesses for Spain and eight non-European countries (Colombia, Egypt, Iran, Israel, Morocco, Sudan, Turkey, and the United Arab Emirates), which allows for exploring differences between advanced and

emerging societies after the Covid-19 outbreak. This study finds that intention to adopt digital technology is promoted by past digitalization, thus supporting the conception of digitalization as an ongoing process. The paper also identifies the pandemic, despite its damaging disruption, as an external enabler of digitalization for pursuing new opportunities. Moreover, this study reveals that non-European societies have been catching up during the pandemic and suggests that high intention to adopt digital technology may position these countries to forge ahead.

The fifth paper by Nazir, Roomi and Khan explores the contextual challenges faced by SMEs in adopting e-commerce in Pakistan. Using qualitative methods, this study identifies five major challenges: technological, organizational, environmental, national (local) institutional support and entrepreneurial characteristics of owner-managers. This study finds that the adoption of e-commerce in Pakistani SMEs is dynamic and mainly driven by the decision of the individual owner although some external challenges also limit them to fully transition their operational management system to the technology.

The sixth paper by Cowling, Liu and Vorley traces out the causal process by which some firms identified an opportunity to invest in ICT, and conditional upon an opportunity being present, making the choice of whether or not to invest in it. Their final element in the causal chain of events is the scale of the total ICT investment given the firm had decided to proceed. To this end, the authors use a large representative investment decision-making survey of UK businesses. The research identifies that firm size is positively associated with identifying an ICT opportunity, actual investment in that opportunity, and investment scale. The key finding on investment scale is that firms that are able to secure external equity invest more in ICT.

The seventh paper by Expósito, A. Sanchis-Llopis and J.A. Sanchis-Llopis contributes to the acknowledgement of the influence of the entrepreneur's gender on SMEs' digitalisation strategies in the service and retail sectors. Using a survey on business competitiveness for Spanish SMEs, the results of this study indicate a higher probability of male entrepreneurs to invest in software and ICT equipment, as compared to women. The paper also shows how entrepreneurial risk-taking and businesses' innovation capabilities are important drivers for engaging in these two digitalisation strategies, regardless of the gender of the entrepreneur. Regarding proactiveness, this entrepreneurial trait is found to be especially important for women, since the positive impact of entrepreneurial proactiveness on the probability to engage in digitalisation strategies is stronger in women-led businesses.

The eighth paper by Gómez-Sánchez, Máñez-Castillejo and J.A. Sanchis-Llopis explores the impact of several indicators of ICT on firms' export decisions for Colombian manufacturing. To this end, the authors specify a model that accounts for sunk costs, firm experience in exporting and the impact of importing on exporting. This study reveals that ICTs have a significant and positive impact on firms' propensity to export, regardless of the ICT category examined. This

work also confirms the existence of persistence on firms' exports, self-selection, and depreciation of export experience.

The final paper by Samsami and Schøtt extends the theoretical framework proposed by Schøtt et al. by exploring the relationship between digitalizing and innovating and, in particular, whether both elements may spiral upward over time. By using the GEM 2021-2022 survey of businesses for 47 countries, this study reveals how past and especially recent digitalization promote product innovation and particularly process innovation in a firm. In turn, product innovation, and especially process innovation are found to promote intention to soon adopt new digital technology.

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