



# Understanding the use of digital technologies in entrepreneurial start-up settings and growth-oriented firms

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### ***Understanding the use of digital technologies in entrepreneurial start-up settings and growth-oriented firms.***

Entrepreneurship contributes to the national and world economy in areas of employment, finance and economic growth and has received a lot of attention among academics, practitioners, and policy makers. The “entrepreneurship ecosystem” has become the principal symbol for leveraging an economic development strategy capable of nurturing entrepreneurship. Entrepreneurship ecosystems consist of interconnected elements that facilitate innovation and growth of entrepreneurship (Fetters et al., 2010; Kantis and Federico, 2012). Entrepreneurship ecosystem aims to include an encouraging environment through availability of financing, the acquisition and development of human capital, new markets for products and services and various governmental and infrastructural supports (Isenberg, 2011). Part of the entrepreneurial ecosystems is the development of programs, policies and initiatives to promote entrepreneurship and grow entrepreneurial activity across regions (Isenberg, 2014). In modern entrepreneurial ecosystems, a crucial role digitalisation which shapes value creation, delivery and capture in the economy and society (Nambisan et al., 2017; Yoo et al., 2010).

More specifically, the use of internet and ICT enhance entrepreneurial activities as they provide access to the digital enterprise platform (Accenture, 2014; LeBlanc, 2015; Schmidt, 2011). Globally, digital technologies enhance entrepreneurial opportunity exploitation (Castells, 2010; Hull et al., 2007; Mole and Mole, 2010). Digital entrepreneurship has been defined as ‘the pursuit of opportunities based on the use of digital media and other information and communication technologies’ (Davidson and Vaast, 2010: 2). Digital entrepreneurship embraces all new ventures and the transformation of existing businesses that drive economic and/or social value by creating and using novel digital technologies. Digital enterprises are characterized by a high intensity of utilization of novel digital technologies (particularly social, big data, mobile and cloud solutions) to improve business operations, invent new business models, sharpen business intelligence, and engage with customers and stakeholders. They create the jobs and growth opportunities of the future (European Commission, 2005, p. 1).

Technologies such as social media, open-source software and hardware, crowdsourcing, crowdfunding, e-trust and online reputation assessment, 3Dprinting, digital imaging, and big data are empowering would-be entrepreneurs to reduce the barriers between idea of venture formation and the actual creation phase (Steininger 2019). The use of digital tools and platforms is favoring the emergence of new type of jobs that is hard to classify unambiguously in the traditional categories of employment, self-employment, freelance, or growth-oriented

entrepreneurial undertakings. In the same vein, Steininger (2019) highlights that information and communication technology (ICT) plays four major roles in digital entrepreneurial operations: as a facilitator, making the operations of start-ups easier; as a mediator for new ventures' operations; as an outcome of entrepreneurial operations; and as an ubiquitous enabler of new digital business models. However, the analysis of DE cannot be reduced to the addition of ICT or to traditional entrepreneurship.

However, there is skepticism regarding the success of ICT-led initiatives has also been voiced in academic literature (Kuriyan et al. 2008; Parmar et al., 2007; Marsical, 2005; Fors and Moreno, 2002), and hence the assessments of the impact of ICT intervention on entrepreneurial and business development remain inconclusive, indicating the need for further studies (Thapa and Sæbø, 2014; Rashid and Elder, 2009; Donner, 2006). If technology is to contribute to development, it has to be integrated into the social and professional lives of the target users. The uptake of technology does not in itself guarantee continued use and positive impacts. Many of the technology adoption models, such as the Technology Acceptance Model (TAM) (Davis, 1989; Venkatesh and Bala, 2008), the Innovation Diffusion Theory (IDT) (Rogers, 1995), the Theory of Planned Behavior (TPB) (Ajzen, 1991), and the Unified Theory of Acceptance and Use of Technology (UTAUT: Venkatesh et al., 2003) and its variations including meta-UTAUT (Dwivedi et al., 2019) are based on organizational use of technology and have limited applications in assessing technology adoption by entrepreneurs who have varied needs, expertise, knowledge and experience. The extent of scholarly works on ICT use by entrepreneurs across various industries is also sparse. The dynamics of technology use and the iterative nature of the interaction between human agents and technological applications require longitudinal investigation and more in-depth and interpretivist enquiries. As duality of technology and interpretive flexibility of technology suggest human capability, social practice and technological applications can have iterative interactions leading to reciprocal influence (Orlikowski, 1992; Orlikowski and Iacono, 2001; Dey et al. 2011). Hence, entrepreneurs' interaction of the proposed digital technologies will enable us to assess what problems they encounter while dealing with technology in socio-cultural contexts, how they overcome those problems, what benefits they can achieve, and how and to what extent such interactions can enhance their capacity for entrepreneurial activities. More specifically, it will be key to assess how digital platforms mediated services foster their entrepreneurial skills and competencies. This will contribute to the current understanding of technology use by entrepreneurs and impact of digital technologies on business growth in developed and in developing region context and beyond.

For this special issue we invited conceptual and empirical papers that help illuminate the use of digital technologies in entrepreneurial start-up settings as well as in growth –oriented firms. We were particularly interested in novel methodologies, and conceptualisations of digital entrepreneurship.

The first paper by Ali et al. (2022) looks at social entrepreneurship and reviews the literature at the intersection of social media platforms and social entrepreneurship. The paper offers a classification of the different platforms depending on their use and offers a timeline of the evolution of research in each cluster as well as different methodologies used by researchers. The contribution of this research lies in proposing a conceptual framework that links social media platforms and various social entrepreneurial practices to social enterprise performance.

Griva et al. (2021) focus on the growth of digital start-ups. After analysing what growth means or early-stage digital start-ups, they combine an adapted Delphi study, a questionnaire-based survey, and a comparative case study to investigate which characteristics are important in growing digital start-ups. They propose that an agile culture combining clan with adhocracy; the ability to nurture their absorptive, innovative, and adaptive capabilities effectively; and a human capital with adequate entrepreneurial skills, emotional attachment to and fitness with the start-up are important for their growth.

Kitsios and Kamariotou (2022) continue the discussion on start-ups by looking into how hackathons (i.e. digital innovation competitions) provide an excellent opportunity to nascent entrepreneurs to collaborate with others, brainstorm on new ideas, and build start-ups. The paper is based on the analysis of data from six case studies of open data hackathons and innovation competitions held between 2014 and 2018 to discuss those strategies that contribute to the success of open data hackathons and innovation competitions.

Yang et al. (2022) focus on how entrepreneurs evaluate different digital transformation solutions to help their businesses grow, drawing on a new information error-driven Tspherical fuzzy cloud algorithm to evaluate digital transformation solutions of entrepreneurial SMEs and support its selection. They illustrate the effectiveness of their proposed method by using a practical example. The strength of this method lies in being able to provide a flexible way for the entrepreneur to evaluate and make decisions under different external contexts and conditions including the subjective preferences of the decision-maker.

Finally, Ghobadi (2022) focuses on post-release activities for crowdfunding initiatives. She uses a grounded theory approach to examine diverse crowdfunding activities and their post-release

outcomes. The contribution of Ghobadi's work lies in highlighting the role of ongoing activities (post-release) that will help developers maintain and advance their digital goods. The focus, then should not be only on the short-term outcomes (fundraising) but on longer term consequences.

We would like to extend our gratitude to the Editor-in-Chief Professor Yogesh Dwivedi for this opportunity. Heartfelt thanks goes to all contributors, authors, referees, and the administrative team of Elsevier. We hope that this Special Issue will be well received and referenced by the academic community.

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