**Technology, Entrepreneurship, Innovation and Social Change in Digital Economics**

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**Abstract**

Technology and digitalization are increasingly core subjects for researchers across disciplines, from economics and management to engineering and the humanities. Digital innovations, such as the Internet of Things, big data, cloud computing, artificial intelligence and various digital technology-based platforms, are influencing business venturing and changing the ways that extend beyond entrepreneurship and innovation practices to influence culture, politics and society. Social media platforms and digital communications have even restructured social relations. Yet little research has fully addressed the profound relationship between technology, entrepreneurship/innovation and social change. To correct this oversight, this Special Issue in *Technovation* is devoted to publishing original research that enriches our knowledge about thenature of digital technology and its influence on entrepreneurship and innovation in digital economies. We elaborate the emerging new business models, their antecedents, and their economic and social consequences. The issue also highlights key emerging research areas of digital technology-based entrepreneurship/innovation and articulates an agenda for future scholarship.

**Keywords: Digital Technology, Innovation, Entrepreneurship, Social Changes, Digital Economics**

**1. Introduction**

Digitalization is the core of today's new technology. Artificial intelligence (AI), the Internet of Things (IOT), big data blockchain, and digital multiple transformation have all been identified as important phenomena in innovation, entrepreneurship, and management research (Ahlstrom et al., 2020; Nambisan et al. 2019; Si et al., 2022). The emergence of digital technology, in particular, has changed the current business/management environment by restructuring old ecosystems, changing traditional governance and management models, and, in the process, supercharging economic growth (Beliaeva, et al., 2019; Tomizawa et al., 2020). Early research on digital technology tended to be limited to a focus on information and communication technology systems that could standardize information and allow organizations to rapidly encode, store, formalize and distribute knowledge. More recently, some researchers (Garud et al., 2020; Si et al., 2020) have broadened the definition of digital technology to include four levels: Equipment, network, service and content. More specifically, digital technology is understood to be comprised of digital components, digital platforms and digital infrastructure (Koo et al., 2021). Digital components refer to the applications or media contents with specific functions and values embedded in digital products or services, such as mobile phone applications. A digital platform is a set of shared, common services and architectures, such as extensible operating systems like IOS and Android. Finally, digital infrastructure refers to digital technology tools and systems that provide communication, collaboration or computing capabilities and support resource aggregation, such as network platforms that provide computing, communication and resource aggregation channels (Marion & Fixson, 2021).

Over the past decade, the rapid growth of digital technology-based entrepreneurial firms has generated a vast body of research devoted to understanding the nature and consequences of such digital entrepreneurship and innovation (Klaus et al., 2019; Ngoasong 2018; Nambisan, 2017). Despite substantial agreement about the disruptive effect the digital economy has had on business and society, researchers do not always view digital entrepreneurship and innovation in a uniform manner. The lack of agreement arises, in part, because of the broad range and variety of business practices that have been impacted by digitalization, most of which are in a process of regular disruptive change (Christensen & Raynor, 2013). Different disciplines of research use different theoretical lenses, methods and assumption to understand different manifestations of a common phenomenon. As a result, we lack a unified theoretical lens that can help practitioners make sense of the new practices in the digital economy and guide scholars in their research. This special issue seeks to address this problem by identifying commonality in the emergent theories of digital innovation and entrepreneurship.

The rapid and broad diffusion of digital technology has redefined both the fundamental nature of the economy and our core assumptions about entrepreneurship (Ahlstrom et al., 2020). The digital economy is, arguably, more complex and widespread than the previous “internet economy” that emerged in the wake of the internet’s rapid growth in the previous quarter century (Marion and Fixson, 2021). The digital economy refers to an economic sector that is based on digital computing and very widespread communications technologies. We increasingly perceive the digital economy to mean conducting business through markets based on the internet and the numerous digital platforms from communicating cars to the internet of things. The emergence of the internet and its ever-expanding digital platforms have also provided the foundations for the digital economy and fueled its expansion globally as well as its ever-pervasive influence on society (Ahlstrom et al., 2020).

Despite the anticipated benefits and social promise of the digital economy, some key problems have emerged. Individuals are increasingly anxious about the social problems associated with new technology, particularly the threat of job displacements (Gordon et al., 2016). Similarly, long standing anxieties such as technological security, environmental issues, sustainability, inequity, globalization, and many other challenges are exacerbated in the new digital economy. The digital economy raises a number of important questions about the relationship between innovation and the application of technology for more positive societal purposes (Wang et al., 2008). How can the development of technology be balanced with the needs of society? How can technological innovation, entrepreneurship and social innovation be aligned to encourage economic growth and new venture creation without undermining key societal institutions (Si et al., 2020)? How can the digital economy be structured to benefit both economic and social interests? These questions and issues challenge the existing foundations of innovation, entrepreneurship and management theory and practice.

As such, the papers of this special issue of *Technovation* seek to address these issues and answer these questions with respect to opportunities and challenges presented by new technology. This new landscape also offers important opportunities for creative and impactful research to balance the technological and social changes promoting economic and social progress of the world (Si et al, 2020; Tomizawa et al., 2020).

**2. Literature Review and Perspectives**

To gain an understanding of the diversity of research approaches to understanding the impact of digitalization, we reviewed the *Financial Times ‘*FT 50’ journals, paying particular attention to the major entrepreneurship and innovation journals including *Entrepreneurship Theory and Practice*, *Strategic Entrepreneurship Journal*, *Journal of Business Venturing* and *Research Policy.* We also reviewed other leading journals of this field such as *Entrepreneurship & Regional Development*, *Family Business Review*, *Journal of Small Business Management*, *Technovation*, *Journal of Product Innovation Management*, *Technological Forecasting and Social Change*, and the *Journal of Engineering and Technology Management*, as well as some digital technology related journals. Based on the search and selection above, the major articles published during the past five years can be seen in Table 1.

--Table 1 about here--

Our review revealed a broad range of empirical and theoretical approaches to researching digitalization. We synthesize these varied approaches into eight distinct theoretical perspectives which we elaborate in the following section.

**3. Theoretical Perspectives**

Our lack of a holistic understanding of the social impacts of digital technology arises, in large part, because of the fragmentation of knowledge across disciplines. Researchers in the field of information systems, for example, attends primarily to the ontological characteristics of digital technology, while those in the field of entrepreneurship and innovation pay more attention to the impact of digitalization on social and commercial change. However, the extant literature has not, on one hand, provided a holistic understanding of the intersection between technology, innovation, and entrepreneurship, and the predicted and unforeseen outcomes in business and society on the other (Si et al., 2020). Autio et al. (2018) indicate that social change will play a significant role in reshaping the development of digital technologies. Furthermore, the structure and governance mechanisms of innovation/entrepreneurship ecosystems enabled by digital technologies are shaping behaviors of various participants (Si et al., 2020; Zahra et al., 2022).

Industry convergence is powering innovations and firms are incorporating digital technologies in all aspects of business (Liu et al., 2021). New competitors emphasizing digital technology have entered and shaken up previously stable sectors of several industries (Ahlstrom et al., 2020; Isaacson, 2015). Thus, exploring the antecedents and consequences of the digital transformation across multiple levels such as individual, organizational, ecosystem/community, regional/societal may shed new light on complex digital transformation of innovation and entrepreneurship and our understanding of social change in digital era. For example, China has enjoyed a profound digital transformation in recent years. In understanding China’s digital rise, one needs to explore the joint effects of China’s unique institutional, market, and technological regimes, as well as the efforts put forth by China’s firms and people (Wei et al., 2018). In addition, over the past few decades, the interaction between digital technology and society has led to various changes including technological and digital technology in entrepreneurship.

According to the literature, some important theoretical perspectives of digital technology, entrepreneurship, innovation and social change, we summarized the following key perspectives, which we elaborate in the balance of this section.

**3.1 Digital transformation perspective**

Digital transformation is currently a critical issue, especially in developing economies such as China, which regards digital transformation as a strategy and approach to catch up with the more mature economies (Wang et al., 2008). Digital transformation is complex, polyhedral and multidimensional and has been studied by scholars from several different disciplines (Cukier, 2019; Hanelt et al., 2021; Verhoef et al., 2021). At the more macro level, it often invokes profound changes in society and industry using digital technologies (Agarwal et al. 2010). At the organizational level, it is defined as organizational change triggered and shaped by the widespread proliferation and application of digital technologies (Hanelt et al., 2021). These can be applied to product-markets or to process and services processes, shaping product capabilities, costs, and delivery (Christensen & Raynor, 2013; Cukier, 2019).

*Process of digital transformation.* Entities are needed to adapt to as well as being affected by evolving digital technologies. As a complex process, extant literature mainly explores digital transformation processes from the management and technological perspectives, but still lacks a coherent theoretical language to understand what the process encompasses (Hanelt et al., 2021). For example, Hinings et al. (2018) suggested that digital transformation was a process from the disruption and sometimes destruction of established business models, value chains and organizational processes resulted in new institutionalized arrangements. Autio et al. (2018) adopted an affordance perspective, that is, what the environment offers, to consider digital transformation as a process whereby digital and spatial affordances jointly change innovation and entrepreneurship for a specific set of actors. We argue that theorizing the process of digital transformation by utilizing established lenses generating new models can significantly advance our understanding of theory and practice regarding the innovation, entrepreneurship, and social change in digital era (cf. Eronen & Bringmann, 2021).

*Negative consequences of digital transformation.* Notwithstanding abundant discussion on the gains from digital transformation, there has been relatively limited focus on potential negative consequences for individuals, organizations, and society (Berente et al., 2021). First, the generativity of digital technology has made security and privacy issues such as illegal sharing of consumer data a central and serious issue (Henfridsson and Bygstad 2013). Second, the convergence of digital technology offers envelopment opportunities for platforms to expand into the adjacent but unrelated domains, triggering some governance issues between the platform owner and complementors (Tiwana et al. 2010). Third, digital transformation brought some ethical challenges in terms of unemployment, fairness, justice, privacy and safety, among other thorny issues (Berente et al. 2021). Overall, we appeal for more consideration of the significant risk carried out by digital transformation and some further suggestions for government bodies as well as practitioners.

In general, enterprise digital transformation also depends greatly on the development of digital industries, particularly in manufacturing and applications and accompanying institutional support (Jain, 2020). These firms provide digital technology, products, services, and infrastructure for industrial digital development, as well as numerous economic activities and services dependent on digital technology and data elements. In addition to the above, digital efficiency improvement industry refers to industrial digitalization activities, which specifically relates to the application of digital technology and data resources to improve the processes, efficiency, and output of traditional industries. As such, digital efficiency improvement represents the integration of digital technology and entrepreneurship/innovation in the economy.

**3.2 The disruptive innovation perspective**

Disruptive innovation theory initially described the concept as “disruptive technology,” later broadening the concept to innovation to include business models, technology platforms and relate concepts (Christensen & Raynor, 2013; Si & Chen, 2020). Over the past years, the concept of disruptive innovation and related theory have been widely adapted in the study of entrepreneurship with the key application being the importance of disruptive innovation for new entrants to an industry (Christensen and Raynor, 2003; Markides, 2006; Hang et al., 2015; Si & Chen, 2020; Si et al., 2020). The research on disruptive innovation suggests that the winning technology is not necessarily radical or superior technology. A dominant design is generated through a process of social, economic and political negotiation and selection that’s highly related to models of digital innovation, which includes products, services and processes that support IT, design and development (Ahlstrom et al., 2020; Christensen & Raynor, 2013; Si & Chen, 2020; Jain & Ahlstrom, 2021). It also involves adopting, developing, and disseminating new artifacts throughout the organization, and integrating existing organizations and their structures, cultures, processes, and institutions to innovate (Si et al., 2020). Digital technology, in turn, leads to many successful cases of disruptive innovation in both emerging economies and matured economies (Ahlstrom, 2015; Si et al., 2020; Christensen and Raynor, 2013).

In recent years, several new digital technologies and their application and integration into turnkey products and services have further changed numerous aspects of enterprise, entrepreneurship, and value creation, often with disruptive effect (Si et al., 2020; Kelly, 2011). Viewed through the lens of disruptive innovation, research on technology and entrepreneurship focuses on cases that demonstrate how digital technology and disruptive innovation mutually reinforce each other (Ahlstrom et al., 2020; Christensen & Raynor, 2013). A related thread focuses on elaborating the antecedents and consequences that emerge in the ongoing relationship between digital technology and disruptive innovation/entrepreneurship (Si et al., 2020). This particularly relates to how entrepreneurial firms can gain a foothold in industries previously difficult to enter such as healthcare delivery which is facilitated by disruptive innovations in the areas of digital diagnosis applications and communications technology (Ahlstrom & Wang, 2021; Christensen et al., 2009; Christensen et al., 2016).

**3.3 Entrepreneurship alertness** **perspective**

Regarding the discovery of potential entrepreneurial opportunities, Suddaby et al (2015) suggested to look at the unique role of imprinting, or the profound influence of social and historical context in constraining the perceptual apparatus of entrepreneurs and delimiting the range of opportunities for innovation. The researchers tried to advance the idea that the concept of entrepreneurial alertness resides in discovery theory (Alvarez and Barney, 2007; Alvarez et al., 2013). This engages a proactive stance of a diverse set of actors with different prior knowledge, skills, and experiences (Baron, 2006; Shane, 2003).

Digital platform ecosystems are particularly effective at enabling such multiple actors to jointly discover and create value for innovations online (Adner, 2006; Iansiti and Levien, 2004). Entrepreneurial alertness refers the cognitive process by which some actors are better able to identify and take advantage of entrepreneurial opportunities. Alertness positively influences the ability to identify, evaluate and exploit opportunities (Tang et al., 2012). However, we do not fully understand how some actors are uniquely sensitive to the ways in which the new digital economy can facilitate entrepreneurial alertness in some contexts but not others (Daniel et al., 2021). For example, Fellnhofer (2021) shows how the availability of digital applications at the level of the nation-state, can drive entrepreneurial alertness across a broad range of culturally and economically diverse innovation ecosystems. Fellnhofer (2021) further reveals how digital technologies alert any kind of individual to potential entrepreneurial opportunities. It thus contributes to potential research on digital economies by evaluating digital technologies’ potential to boost psychological starting drivers of any entrepreneurial endeavor across nations. Although this study is of interest to a wide range of stakeholders, it is particularly relevant for potential entrepreneurs and policymakers as an inspiration for new ideas to strengthen sustainable innovation ecosystems. Yet we largely lack detailed empirical understanding of how different digital platforms can be effectively mobilized to improve the awareness of potential entrepreneurs of opportunities that may exist in the ecosystem (Cavicchi et al., 2014; Santini et al., 2016). The role of digital technology in improving entrepreneurial awareness also holds important policy implications for stakeholders in government who seek to improve entrepreneurial activity in a given community, cluster or nation-state.

**3.4 Ecosystem development** **perspective**

In recent years, digital technology has proven to transform existing entrepreneurial ecosystems, while similarly, the role of entrepreneurial ecosystems in fostering digital entrepreneurship has received increasing attention. The rapid development and deployment of digital technologies (e.g., mobile services, IT, and cloud computing) has changed the business environment, disrupted long established industries and have ignited much digital entrepreneurship (Ahlstrom et al., 2018; Isaacson, 2015). In turn, this has infused new life into traditional industries, allowing them to survive and adapt (Gao et al., 2013). In this new competitive landscape, new ventures’ digitalization activities are not dependent on a single firm, but rest on the entire entrepreneurial ecosystem. Therefore, building an entrepreneurial ecosystem that fosters the creation and evolution of digital technologies and entrepreneurship has become a vital issue for both traditional and modern industries (Acs, et al., 2017; Song, 2019; Eila et al., 2020). Digital technology has also become an essential tool in designing companies’ business models and enabling their success (Ahlstrom et al., 2020). It also makes possible the creation of new businesses that keep the entrepreneurial ecosystem vibrant (Zahra et al., 2021). In addition, this perspective analyzes how these firms employ these technologies to shape the evolution of their ecosystems. Researchers such as Zahra et al. (2021) highlight the intimate links among ecosystem structures, digital technologies and the active role that new ventures play, in a complex evolutionary process, including shaping technological standards and seeking institutional support (Jain & Ahlstrom, 2021). Zahra et al. (2021) further discuss the role of pioneering, disruptive and imitator-digital new ventures in the growth of their ecosystems, as well as the theoretical, policy and managerial applications of digital technology, as well as entrepreneurship/innovation and society (Ahlstrom et al., 2020). Zahra et al. (2021) further propose that success exploitation of digital technologies within an ecosystem depends on the interaction between digital technology attributes and ecosystem characteristics.

**3.5 Affordance Perspective**

As for the affordance perspective, it is highly related with the concept of heuristic design theory that has been widely adopted in the innovation literature to study how innovation tools and infrastructure facilitate the innovation process in a given context (Nambisan et al., 2019). Technology affordance is defined as “an action potential, which is what a person or organization with a specific purpose can do with a technology or information system” (Majchrzak & Markus, 2012). To be specific, it can enhance the value of enterprise products and services and enhance the competitiveness of enterprises and even countries (Si et al., 2022). From the affordance perspective, digital technologies are universally a “set of affordances and constraints for specific actors”, which can lead to different innovation or entrepreneurial outcomes in different use contexts (Nambisan, 2017). While affordance supports value creation in digital technology in general, our understanding of how function support across multiple levels (e.g., institutional, regional, cultural, organizational, and individual) works in different contexts and results in different outcomes is limited (Autio et al., 2018; Du et al., 2019). For example, Belitski et al. (2021) showed that digital, culture and human capital affordances together led to net entry of firms, while the complementarities between technology and human capital affordances reduced high-growth employment.

While the latest research revealed that the potential interaction between digital infrastructure-related support between organizations and functions can lead to different outcomes in different ways in different contexts. We still lack detailed understanding and experience evidence (Chatterjee et al., 2020), as digital technologies such as the Internet of Things and blockchain may redefine the relationship between objects and entities (Liu et al., 2021). The accessibility perspective is especially valuable for understanding the impact of these redefined relationships in broader institutional, regional, and cultural contexts.

**3.6 Interactive perspective**

Research on digital entrepreneurship originated from entrepreneurial management and information technology and can be traced back to Internet entrepreneurship at the start of the 21st century, especially during the early days of e-commerce. Digital entrepreneurship can broadly be defined as creating new ventures and transforming existing businesses by developing novel digital technologies and/or novel applications of such technologies (European Commission, 2015). As an academic term, digital entrepreneurship first emerged in the field of information systems. For digital entrepreneurship research, entrepreneurship and information systems have formed a relatively stable research tradition. Especially due to the novel and cross-functional nature of digital innovation, the initiation and implementation of digital innovation is extremely challenging in these firms (Nambisan et al., 2017; Yoo et al., 2012). As such, in recent years, the attraction of digital entrepreneurship research has been rising rapidly requiring more cross disciplinary research. As a result, scholars from different fields such as science, information system, engineering design, AI and technology management have joined in digital entrepreneurship research, and its interdisciplinary nature has become increasingly prominent (European Commission, 2015). Research in strategy, entrepreneurship and innovation management but also psychology, economics and even political science examining digital entrepreneurship has emerged (e.g., Rosenbaum and Cronin, 1993; Fischer, and Reuber, 2014). In addition, scholars (e.g., Si et al., 2022) noticed that both matured economy and emerging economy countries with the trend that digital technology development and digital entrepreneurship development are interdisciplinary and constantly updated digital technology formed by the intersection of researchers. Moreover, the digital technology-based interaction has now increasingly proven to be a new model for problem solving and innovation at the national and enterprise levels, as well as for gaining market and competitive advantage (Si et al., 2022).

**3.7 Digital inclusive perspectives**

It is relatively recently that entrepreneurial scholars have turned their attention to how digital entrepreneurship might alleviate the problems from economic and social perspectives. For instance, entrepreneurship seems to offer more purchase, more leverage and a better grip of the causes and consequences of poverty than simply offering aid. Scholars (e.g., Si et al., 2020) begin to see recognition of the frugal, clever and remarkably ingenious ways of resourcing, whereby poor entrepreneurs create their own opportunities. Indeed, the remediation perspective recognizes that poverty restricts access to resources, and entrepreneurial efforts are impeded by these constraints and will always struggle to realize potential. This economic perspective of resource deficiency signals the solution of providing access (Anderson, 2021). However, things have been changing when digital technology was applied to inclusive entrepreneurship (e.g., Si et al., 2022). Fu et al (2022) identify mechanisms that make a platform fair and more accessible to the poorer segments of society. They further examine how the digital technology-based platform impacts income creation, capabilities development and social capital development at the BoP, as well as its impact on BoP entrepreneurial growth and the enabling factors that are essential for the scale-up and success of such a business model (Jain & Koch, 2020). Moreover, some scholars employing a displaced theory lens (e.g., Kuratko et al., 2015) raised the question if digital entrepreneurship actually helped to improve the standing of marginalized groups. Displaced theory is concerned with the possibility that when a person’s development is hindered by some important factors (including political, economic or cultural), he or she may choose to start a business (Kuratko et al., 2015). Currently, the application of digital technology and digital platforms in entrepreneurship is encouraged by governments, society and enterprises such as Wal-Mart, which tries to include small farmers in the supply chain (Lin, et al., 2014). How digital entrepreneurship can better assist entrepreneurs in those areas is a question worthy of further study.

**3.8 Next-generation digital technology perspective**

The recent development and diffusion of next-generation digital technologies (NGDTs) such as Artificial Intelligence, the Internet of Things, big data, 3D printing, and robotics are expected to have an immense impact on businesses, entrepreneurship/innovation, and society (Ahlstrom et al., 2019, 2020; Cukier, 2019). Choi and DeStefano et al. (2022) investigated that in this issue and found that more than half of companies using NGDTs deploy multiple technologies at the same time, showing heterogeneity of strategies and fast speeds of deployment across company types and industries (Ahlstrom and Wang, 2021). One of the insightful complementarities found is technologies that generate, promote, and require large amounts of data, including “big data,” the Internet of Things, Cloud Computing, and Artificial Intelligence (Cukier, 2019; Kraus et al., 2019). Besides the technological perspectives above, next-generation digital technologies will be largely related with social changes. In recent years, digital entrepreneurship has often been applied in enabling the empowerment of resource-poor and socially marginalized people, providing more economic participation while reducing poverty (Martinez et al., 2018), and assisting disadvantaged groups. For example, rural entrepreneurs in remote areas generally have difficulty finding large markets for their products (Si et al., 2020). However, with the development of digital technology, they can reduce their geographic limitations considerably (Zahra et al., 2022) in becoming entrepreneurial sellers on digital platforms such as JD.com, Taobao, and Amazon, and thus able to reach customers almost anywhere in the world. As a trend, the application of digital technology will further facilitate the going on inclusive entrepreneurship and automation of production services and management processes in enterprises, such as the automation of banking and insurance companies in recent years (Si et al., 2022). Thus, this all raises the broad question as to how digital technology may continue to impact entrepreneurial innovation and the developmental future of society. The research on future trends and the research we are doing now should complement each other and develop collaboratively.

**4. Special Issue Articles**

The call for papers for this special issue resulted in many manuscript submissions which reflects the large research interests on disruptive and digital technologies (Kraus et al., 2019). After a rigorous review process with multiple rounds of revisions, the seven papers that resulted in this special issue.

Taken together, they offer new perspectives on technology, innovation, entrepreneurship and social changes in digital economies. We have provided readers with a compendium of eight articles that collectively advance current knowledge of technology and digital economies. Both qualitative and quantitative studies are included, with analyses covering such diverse topics as digital innovation ecosystems, digital technologies, digital innovation, digital business model and digital diffusion. All of the studies include rigorous analysis and careful measurement of technology, and all take place within naturally occurring digital economy contexts.

The first paper is “Entrepreneurial Alertness Toward Responsible Research and Innovation: Digital Technology Makes the Psychological Heart of Entrepreneurship Pound” by Katharina Fellnhofer. Applying entrepreneurial discovery theory, this study explains how digital applications can drive entrepreneurial alertness across heterogeneous innovation ecosystems. Using a quantitative survey-based experimentation phase with 686 individuals, the author found that those digital applications, including discovery tasks, facilitate entrepreneurial alertness regardless of the innovation ecosystem in which the user operates. Through its psychological foundations, this work reveals how digital technologies alert any kind of individual to potential entrepreneurial opportunities. It thus contributes to research on digital economies by evaluating digital technologies’ potential to boost psychological starting drivers of any entrepreneurial endeavor across nations.

The second paper, “What’s Driving the Diffusion of Next-Generation Digital Technologies?” by Jaehan Cho, Timothy J DeStefano, Hanhin Kim, Nchul Kim and Jin Paik investigates what determines the use of digital tools such as Artificial Intelligence, the Internet of Things, big data and 3D printing. This study uses Probit and OLS modeling on a large sample of 12,579 South Korean firms in 2017, where the authors examine the extent to which firms implement NGDTs in bundles. The results show that more than half of the firms that use NGDTs deployed multiple technologies at one time, manifesting heterogeneous strategies across firm types.

The third paper is “How Digital Technology Promotes Entrepreneurship in Ecosystems” by Shaker Zahra, Wan Liu and Steven Si. This paper extends existing research surrounding entrepreneurial ecosystems by investigating entrepreneurial roles of digital new ventures and digital technology implementation. It fills a gap in existing research on how digital technologies foster the birth, development and growth of new ventures and how these firms use these technologies to (re) shape the evolution of their ecosystems. This research highlights the intimate links among ecosystem development, digital technologies, and the active role new ventures play, indicating a complex evolutionary process. This research also indicates the role of pioneering, disruptor, and imitator new ventures in developing their ecosystems.

The fourth paper is “Digital innovation; profit from innovation; intellectual property rights; government subsidies; Chinese manufacturing firms” by Yang Liu, Jiuyu Dong, Liang Mei and Rui Shen. This research deals with the underlying mechanisms and institutional conditions of profiting from digital innovation in the context of manufacturing firms. It draws from affordance theory to propose that digital innovations positively affect manufacturing firms’ performance via innovation speed acceleration and operational efficiency improvement due to the affordance of digital technology. Moreover, the interactions between digital and institutional affordances suggest that the intellectual property rights (IPR) protection system negatively moderate the relationship between digital innovations and innovation speed as well as operational efficiency. Results from a longitudinal sample of Chinese listed firms support those hypotheses.

The fifth paper is “Short Video Platform, Business Model Innovation and Entrepreneurship from The Base of the Pyramid” by Xiaolan Fu, Pervez Ghauri, Nwamaka Ogbonna and Xiaoqiang Xing. The authors present the case study of a successful platform which has hundreds of millions of active users from the BOP and developed a content-based new inclusive digital business model for grassroot entrepreneurs; also identified the mechanisms that makes such a platform fair and inclusive for the poor. The paper analyzed its impact on income creation, capabilities development, and social capital development at the BOP, as well as its impact on the growth of BOP entrepreneurs, and the enabling factors that are essential for the scale-up and success of such a business model.

The sixth paper is “Digital Affordances and Entrepreneurial Dynamics: New Evidence from European Regions” by Maksim Belitski, Julia Korosteleva and Lucia Piscitello. The authors follow Richard Florida’s three Ts (talent- tolerance- technology) framework for a region and evaluate how the interplay between technology and digital affordances shape regional entrepreneurial dynamics. Their findings show evidence that complementarities between digital, culture and human capital affordances within the 3T framework serve as a conduit for a net entrepreneurial entry, while the complementarities between technology and human capital affordances reduce high-growth employment. Joint negative effect of a technology and human capital affordances on high-growth employment and business survival is seen as lack of required skills in high-tech industries to facilitate technology diffusion. The findings have practical implications for policymakers and practitioners.

The final paper is “Rhetoric, Prospect, and Expectation: Toward a Theory of Hype Cycles” by Y. W. Shi and John Herniman suggests that there is a lack of evidence for the hype cycle phenomenon in spite of its apparent popularity over the past 20 years. Drawing on the literature of innovation diffusion and limited hype cycle, supplemented with perspectives across several diverse disciplines, this paper develops a conceptual framework for understanding hype cycles and integrating them with the S-curves. It also establishes the role of expectation and presents its changes over the course of early-stage innovations leading to the initial adoptions.

**5. Discussion and future research**

In this special issue, we have sought to bring greater attention to research issues regarding digital technology, entrepreneurship/innovation and social changes covering both emerging economies and matured economies. Technology, especially digital technology, is often the source of new waves of entrepreneurship and innovation, where newer technological and market opportunities come into existence and new product-markets open up, often to those who previously never had access to those goods and services (Kraus et al., 2019; Si et al., 2022). Thus, this special issue seeks to add to a growing body of research that shows the relevance of digital technology-based entrepreneurship and innovation for changing management/business theory and practice as well as positively impacting society. It helps to address the shortage of relevant studies in the topic; the articles it contains offer fresh views and perspectives that collectively inform us about the nature and consequences of the topic of this special for individuals, teams, companies and societies at large in terms of research, policy, and practice.

Table 2 summaries the eight theoretical perspectives and their key insights outlined in Section 3, how the papers in this special issue further develop these perspectives, and what further research is needed.

--Table 2 about here--

**6. Conclusion**

The world is undergoing a profound economic transformation as high technology firms increasingly dominate key industries in Europe and North America and begin to compete with their technological counterparts from emerging economies. The interactions between these technological behemoths have become a force for disruptive economic development and social change around the world. They are reshaping the economy and society through a variety of new technologies, entrepreneurship, and innovations (Kraus et al., 2019).

Today technology, especially digital technology is changing every aspect of industry and society. For example, entertainment, voice control, interaction between car and mobile phone, remote unlock, assisted driving, AR navigation and automatic parking in autonomous driving and driverless cars are all supported by digital technology.

The current digital technology as a key competitive force to be widely used by both matured and emerging economy countries for promoting the development of real economy. Obviously, digital economy is not equal to virtual economy, and the real economy, economic transformation and innovative development now and in the future cannot do without digital technology (Myers, et al., 2019; Si et al., 2022).

We hope this special issue, with its eight articles, helps to identify blind spots and limitations in this research literature, and highlight relevant research avenue that can transform scholarship on this special issue research focus. We hope future researchers will espouse a broader view of this special issue research focus. We believe that scholars from the fields of technology management, strategic management, industry and competitive analyses and organizational behavior have much to offer. We hope they take on the grand challenges that firms/entrepreneurs face in the new economies and new society.

**References**

Acs, Z. J., Stam, E., Audretsch, D. B., & O’Connor, A. (2017). The lineages of the entrepreneurial

ecosystem approach. *Small Business Economics*, *49*(1), 1-10.

Adner, R. (2006). Match your innovation strategy to your innovation ecosystem. *Harvard Business*

*Review.* 84.

Agarwal, R., Gao, G., DesRoches, C. & Jha, A.K. (2010). Research commentary—The digital transformation of healthcare: Current status and the road ahead. *Information Systems Research.* 21(4), 796-809.

Ahlstrom, D., Arregle, J. L., Hitt, M. A., Qian, G., Ma, X., & Faems, D. (2020). Managing technological, sociopolitical, and institutional change in the new normal. *Journal of Management Studies*, 57(3), 411-437.

Ahlstrom, D., Chang, A. Y., & Cheung, J. S. T. (2019). Encouraging entrepreneurship and economic growth. *Journal of Risk and Financial Management*, 12(4), 178-199.

Ahlstrom, D., & Wang, L. C. (2021). Temporal strategies and firms’ speedy responses to COVID‐19. *Journal of Management Studies*, 58(2), 592-596.

Ahlstrom, D. (2015). Innovation and growth in emerging economies. In Austrian Council for Research and Technology Development (eds.). *Designing the future: Economic, societal, and political dimensions of innovation.* Vienna: Echomedia. 353-387

Ahlstrom, D., Yang, X., Wang, L., & Wu, C. (2018). A global perspective of entrepreneurship and innovation in China. *Multinational Business Review*, 26(4), 302-318.Christensen, C. M., Hall, T., Dillon, K., & Duncan, D. S. (2016). *Competing against luck: The story of innovation and customer choice*. New York: Harper Business

Allen, D. W., Berg, C., Markey-Towler, B., Novak, M., & Potts, J. (2020). Blockchain and the evolution of institutional technologies: Implications for innovation policy. *Research Policy*, *49*(1), 103865.

Alvarez, S.A., Barney, J.B., 2007. Discovery and Creation: Alternative Theories of Entrepreneurial Action. *Strategic Entrepreneurship Journal* 1, 11–26.

Alvarez, S.A., Barney, J.B., Anderson, P., 2013. Forming and exploiting opportunities: The implications of discovery and creation processes for entrepreneurial and organizational research. *Organizational. Science*. 24, 301– 317

Amit, R., & Han, X. (2017). Value creation through novel resource configurations in a digitally enabled world. *Strategic Entrepreneurship Journal*, *11*(3), 228-242.

Anderson, A. (2021). Business, Entrepreneurship and Innovation Toward Poverty Reduction. *Taylor & Francis Group*. Pp.1-2.

Antonopoulou, K., & Begkos, C. (2020). Strategizing for digital innovations: Value propositions for transcending market boundaries. *Technological Forecasting and Social Change*, *156*, 120042.

Autio, E., Nambisan, S., Thomas, L.D., and Wright, M. 2018. "Digital affordances, spatial

affordances, and the genesis of entrepreneurial ecosystems," *Strategic Entrepreneurship*

*Journal*. 12(1), pp.72-95.

Baron, R.A., 2006. Opportunity recognition as pattern recognition: How entrepreneurs “connect the dots” to identify new business opportunities. *Academic Management Perspective*. 20, 104–119.

Beliaeva, T., Ferasso, M., Kraus, S., & Damke, E. J. (2019). Dynamics of digital entrepreneurship and the innovation ecosystem: A multilevel perspective. *International Journal of Entrepreneurial Behaviour & Research*, 26(2), 266-284.

Belitski, M., Korosteleva, J., and Piscitello, L. 2021. "Digital affordances and entrepreneurial

dynamics, New evidence from European regions, " *Technovation*. 102442.

Berente, N., Gu, B., Recker, J. & Santhanam, R. (2021). Managing artificial intelligence. *MIS Quarterly*. 45(3), 1433-1450.

Berger, E. S., von Briel, F., Davidsson, P., & Kuckertz, A. (2021). Digital or not–The future of entrepreneurship and innovation: Introduction to the special issue.

Campbell, D. L., & Mau, K. (2021). On “Trade Induced Technical Change: The Impact of Chinese Imports on Innovation, IT, and Productivity”. *The Review of Economic Studies*, *88*(5), 2555-2559.

Cavallo, A., Ghezzi, A., Dell'Era, C., & Pellizzoni, E. (2019). Fostering digital entrepreneurship from startup to scaleup: The role of venture capital funds and angel groups. *Technological Forecasting and Social Change*, *145*, 24-35.

Cavicchi, A., Santini, C., Bailetti, L., 2014. Mind the “academician-practitioner” gap: an experience-based model in the food and beverage sector. *Qual. Mark. Res. An Int. J.* 17, 319–335.

Chanias, S., Myers, M.D., Hess, T., 2019. Digital transformation strategy making in pre-digital organizations: the case of a financial services provider. *Journal of Strategic Information Systems*, 28, 17–33.

Chatterjee, S., Moody, G., Lowry, P.B., Chakraborty, S., and Hardin, A. 2020. "Information

Technology and organizational innovation: Harmonious information technology

affordance and courage-based actualization," *The Journal of Strategic Information*

*Systems*.29(1), 101596.

Cho, J., DeStefano, T., Kim, H., Kim, I. & Paik, J. (2022). What’s Driving the Diffusion of Next-

Generation Digital Technologies? *Technovation*, forthcoming.

Christensen, C. M., Grossman, J. H., & Hwang, J. (2009). *The innovator's prescription: A disruptive solution for health care*. New York: McGraw Hill.

Christensen, C.M. Raynor, M.E. 2003. The innovator’s solution: Creating and sustaining

successful growth. Boston: Harvard Business Press.

Christensen, C. M. & Raynor, M. E. (2013). *The innovator's solution: Creating and sustaining successful growth*. Boston: Harvard Business Review Press.

Ciarli, T., Kenney, M., Massini, S., & Piscitello, L. (2021). Digital technologies, innovation, and skills: Emerging trajectories and challenges.

Cukier, K. (2019). Ready for robots? How to think about the future of AI. *Foreign Affairs*, 98(4), 192-98.

Daniel, A. D., Adeel, S., & Botelho, A. (2021). Entrepreneurial alertness research: Past and future. *Sage Open*, July-September: 1–12

Du, W. D., & Mao, J. Y. (2018). Developing and maintaining clients’ trust through institutional mechanisms in online service markets for digital entrepreneurs: A process model. *The Journal of Strategic Information Systems*, *27*(4), 296-310.

Du, W.D., Pan, S.L., Leidner, D.E., and Ying, W. 2019. "Affordances, experimentation and

actualization of FinTech: A blockchain implementation study," *The Journal of Strategic*

*Information Systems*.28(1), pp.50-65.

Eiteneyer, N., Bendig, D., & Brettel, M. (2019). Social capital and the digital crowd: Involving backers to promote new product innovativeness. *Research Policy*, *48*(8), 103744.

Elia, G., Margherita, A., & Passiante, G. (2020). Digital entrepreneurship ecosystem: How digital technologies and collective intelligence are reshaping the entrepreneurial process. *Technological Forecasting and Social Change*, *150*, 119791.

Eronen, M. I. & Bringmann, L. F. (2021). The theory crisis in Psychology: How to move forward. *Perspectives on Psychological Science*, 16(4): 779–788.

European Commission (2015). European Commission (EC), Digital Transformation of European Industry and Enterprises; A report of the Strategic Policy Forum on Digital Entrepreneurship, available from: <http://ec.europa.eu/DocsRoom/documents/9462/attachments/1/translations/en/renditions/native>.

[Fellnhofer](https://www.sciencedirect.com/science/article/pii/S0166497221001656?via%3Dihub" \l "!), K. (2021). Entrepreneurial alertness toward responsible research and innovation:

Digital technology makes the psychological heart of entrepreneurship pound.

*Technovation*, September, 102384

Fischer, E., and Reuber, R. A. (2014). Online entrepreneurial communication: Mitigating

uncertainty and increasing differentiation via Twitter, *Journal of Business Venturing* (29),

565-583

Fisch, C., & Block, J. H. (2021). How does entrepreneurial failure change an entrepreneur's digital identity? Evidence from Twitter data. *Journal of Business Venturing*, *36*(1), 106015.

Floyd, S. W., & Lane, P. J., 2000. Strategizing throughout the organization: management role conflict in strategic renewal. Academy of Management Review, 25, 154–177.Garud, R., Kumaraswamy, A., Roberts, A., & Xu, L. (2020). Liminal movement by digital platform‐based sharing economy ventures: The case of Uber Technologies. *Strategic Management Journal*.

Fu, X., Ghaure, P., Ogbonna,N & Xing, X. (2022). Platform-based business model and entrepreneurs from Base of the Pyramid. *Technovation,* online 102451.

Gao, J., Gruhn, V., He, J., Roussos, G., & Tsai, W. T. (2013). Mobile cloud computing research-issues, challenges and needs. In *2013 IEEE Seventh International Symposium on Service-Oriented System Engineering*, pp. 442-453.

Geissinger, A., Laurell, C., Sandström, C., Eriksson, K., & Nykvist, R. (2019). Digital entrepreneurship and field conditions for institutional change–Investigating the enabling role of cities. *Technological Forecasting and Social Change*, *146*, 877-886.

George, G., Lakhani, K. R., & Puranam, P. (2020). What has changed? The impact of Covid pandemic on the technology and innovation management research agenda. *Journal of Management Studies*, *57*(8), 1754.

Gfrerer, A., Hutter, K., Füller, J., & Ströhle, T. (2021). Ready or Not: Managers’ and Employees’ Different Perceptions of Digital Readiness. *California Management Review*, *63*(2), 23-48.

Ghezzi, A., & Cavallo, A. (2020). Agile business model innovation in digital entrepreneurship: Lean startup approaches. *Journal of business research*, *110*, 519-537.

Ghezzi, A. (2019). Digital startups and the adoption and implementation of Lean Startup Approaches: Effectuation, Bricolage and Opportunity Creation in practice. *Technological Forecasting and Social Change*, *146*, 945-960.

Ghezzi, A. (2020). How Entrepreneurs make sense of Lean Startup Approaches: Business Models as cognitive lenses to generate fast and frugal Heuristics. *Technological Forecasting and Social Change*, *161*, 120324.

Goldfarb, B., & Kirsch, D. A. (2019). *Bubbles and crashes: The boom and bust of technological innovation*. Stanford University Press.

Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). On the fintech revolution: Interpreting the forces of innovation, disruption, and transformation in financial services. *Journal of Management Information Systems*, *35*(1), 220-265.

Gordon, L., Loeb, M. & Zhou L. (2016). Investing in Cybersecurity: Insights from the Gordon-Loeb Model. *Journal of Information Security* Vol.07 No.02,11 pages

Gregersen, H. (2018). Digital Transformation Opens New Questions-and New Problems to Solve. *MIT Sloan Management Review*, *60*(1), 27-29.

Guo, H., Wang, C., Su, Z., & Wang, D. (2020). Technology Push or Market Pull? Strategic Orientation in Business Model Design and Digital Start‐up Performance. *Journal of Product Innovation Management*, *37*(4), 352-372.

Gupta, G., & Bose, I. (2019). Strategic learning for digital market pioneering: Examining the transformation of Wishberry's crowdfunding model. *Technological Forecasting and Social Change*, *146*, 865-876.

Hang, C. C., Garnsey, E., Ruan, Y. (2015). Opportunities for disruption. *Technovation*, 39, 83-93.

Hanelt, A., Bohnsack, R., Marz, D. & Antunes Marante, C. (2021). A systematic review of the

literature on digital transformation: Insights and implications for strategy and

organizational change. *Journal of Management Studies.* 58(5), 1159—1197.

Henfridsson, O. & Bygstad, B. (2013). The generative mechanisms of digital infrastructure

evolution. *MIS Quarterly*, 907-931.

Hinings, B., Gegenhuber, T. & Greenwood, R. (2018). Digital innovation and transformation: An

institutional perspective. *Information and Organization*. 28(1), 52-61.

Hsieh, Y. J., & Wu, Y. J. (2019). Entrepreneurship through the platform strategy in the digital era: Insights and research opportunities. *Computers in Human Behavior*, *95*, 315-323.

Isaacson, Walter (2015). [*Steve Jobs*](https://en.m.wikipedia.org/wiki/Steve_Jobs_(book)). New York: [Simon and Schuster](https://en.m.wikipedia.org/wiki/Simon_and_Schuster).

Iansiti, M., Levien, R.（2004）. Strategy as Ecology. *Harvard Business Review. 51*

Jain, S. (2020). Fumbling to the future? Socio-technical regime change in the recorded music industry. *Technological Forecasting and Social Change*, 158, 120168.

Jain, S., & Ahlstrom, D. (2021). Technology legitimacy and the legitimacy of technology: The case of chronic kidney disease therapies. *Journal of Engineering and Technology Management*, 62, 101653.

Jain, S., & Koch, J. (2020). Crafting markets and fostering entrepreneurship within underserved communities: social ventures and clean energy provision in Asia. *Entrepreneurship & Regional Development*, 32(1-2), 176-196.Kelly, K. (2011). *What technology wants*. New York: Penguin Books.

König, M., Ungerer, C., Baltes, G., & Terzidis, O. (2019). Different patterns in the evolution of digital and non-digital ventures' business models. *Technological Forecasting and Social Change*, *146*, 844-852.

Koo, W. W., & Eesley, C. E. (2021). Platform governance and the rural–urban divide: Sellers' responses to design change. *Strategic Management Journal*, *42*(5), 941-967.

Kraus, S., Palmer, C., Kailer, N., Kallinger, F. L., & Spitzer, J. (2019). Digital entrepreneurship: A research agenda on new business models for the twenty-first century. *International Journal of Entrepreneurial Behaviour & Research*, 25(2), 353-375.

# Kuratko, D., Hornsby, J. & Hayton, J. (2015). Corporate entrepreneurship: the innovative challenge for a new. [*Small Business Economics*](https://link.springer.com/journal/11187). 45, pp. 245–253.

Ladeira, M. J., Ferreira, F. A., Ferreira, J. J., Fang, W., Falcão, P. F., & Rosa, Á. A. (2019). Exploring the determinants of digital entrepreneurship using fuzzy cognitive maps. *International Entrepreneurship and Management Journal*, *15*(4), 1077-1101.

Li, L., Su, F., Zhang, W., & Mao, J. Y. (2018). Digital transformation by SME entrepreneurs: A capability perspective. *Information Systems Journal*, *28*(6), 1129-1157.

Lin, S. & Si, S. (2014). Factors Affecting Peasant Entrepreneurs’ Intention in the Chinese

Context', *International Entrepreneurship and Management Journal*. 10: pp 803–825.

Liu, Y., Dong, J., Ying, Y., & Jiao, H. 2021. "Status and digital innovation: A middle-status

conformity perspective". *Technological Forecasting and Social Change*, 168, 120781.

Logue, D., & Grimes, M. (2019). Platforms for the people: Enabling civic crowdfunding through the cultivation of institutional infrastructure. *Strategic Management Journal*.

Majchrzak, A., and Markus, L. 2012. "Technology affordances and constraint theory of MIS,"

*Encyclopedia of management theory. Sage, Thousand Oaks, CA*.

Marion, T., and Fixson, S. 2021. “The Transformation of the Innovation Process: How Digital

Tools are Changing Work, Collaboration, and Organizations in New Product

Development. *Journal of Production Innovation Management*, 38 (1): 192-215.

Markides, C. 2006. Disruptive innovation: In need of better theory. *Journal of Product*

*Innovation Management,* 23(1), 19-25.

Martinez Dy, A., Martin, L., & Marlow, S. (2018). Emancipation through digital entrepreneurship? A critical realist analysis. *Organization*, *25*(5), 585-608.

Michelman, P. (2019). Key words for digital transformation. *MIT Sloan Management Review*, *60*(2), 1-7.

Miric, M., Boudreau, K. J., & Jeppesen, L. B. (2019). Protecting their digital assets: The use of formal & informal appropriability strategies by App developers. *Research Policy*, *48*(8), 103738.

Montiel, I., Delgado-Ceballos, J., Ortiz-de-Mandojana, N., & Antolin-Lopez, R. (2020). New ways of teaching: using technology and mobile apps to educate on societal grand challenges. *Journal of business ethics*, *161*(2), 243-251.

Nambisan, S. (2017). Digital entrepreneurship: Toward a digital technology perspective of entrepreneurship. *Entrepreneurship Theory and Practice*, *41*(6), 1029-1055.

Nambisan, S., Lyytinen, K., Majchrzak, A., & Song, M. (2017). Digital Innovation Management: Reinventing innovation management research in a digital world. *MIS quarterly*, *41*(1).

Nambisan, S., Siegel, D., & Kenney, M. (2018). On open innovation, platforms, and entrepreneurship. *Strategic Entrepreneurship Journal*, *12*(3), 354-368.

Nambisan, S., Wright, M., & Feldman, M. (2019). The digital transformation of innovation and entrepreneurship: Progress, challenges and key themes. *Research Policy*, *48*(8), 103773.

Ngoasong, M. Z. (2018). Digital entrepreneurship in a resource-scarce context: A focus on entrepreneurial digital competencies. *Journal of Small Business and Enterprise Development*. 25(3), 483-500

Papazoglou, M. E., & Spanos, Y. E. (2018). Bridging distant technological domains: A longitudinal study of the determinants of breadth of innovation diffusion. *Research Policy*, *47*(9), 1713-1728.

Richter, C., Kraus, S., Brem, A., Durst, S., & Giselbrecht, C. (2017). Digital entrepreneurship: Innovative business models for the sharing economy. *Creativity and innovation management*, *26*(3), 300-310.

Rippa, P., & Secundo, G. (2019). Digital academic entrepreneurship: The potential of digital technologies on academic entrepreneurship. *Technological Forecasting and Social Change*, *146*, 900-911.

Rosenbaum, H., and Cronin, B. (1993). Digital entrepreneurship: doing business on the information superhighway, *International Journal of information Management*, 13, 461-463.

Saldanha, T. J., John-Mariadoss, B., Wu, M. X., & Mithas, S. (2021). How Information and Communication Technology Shapes the Influence of Culture on Innovation: A Country-level Analysis. *Journal of Management Information Systems*, *38*(1), 108-139.

Santini, C., Marinelli, E., Boden, M., Cavicchi, A., Haegeman, K., 2016. Reducing the distance between thinkers and doers in the entrepreneurial discovery process: An exploratory study. *Journal of Business Research*. 69, 1840–1844.

Secundo, G., Rippa, P., & Cerchione, R. (2020). Digital Academic Entrepreneurship: A structured literature review and avenue for a research agenda. *Technological Forecasting and Social Change*, *157*, 120118.

Shane, S., 2003. A General Theory of Entrepreneurship. The Individual-Opportunity Nexus. Edward Elgar, Cheltenham.

Si, S., Zahra, S., Wu, X. & Don Jyh-Fu Jeng (2020). Disruptive innovation and entrepreneurship

in emerging economics. *Journal of Engineering and Technology Management*, 58, 1-12.

Si, S., Ahlstrom, D., Wei, J., & Cullen, J. (2020). Business, Entrepreneurship and Innovation Toward Poverty Reduction. *Entrepreneurship & Regional Development*, 32(1-2), 1-20.

Si, S., & Chen, H （2020）A literature review of disruptive innovation: What it is, how it works and where it goes. *Journal of Engineering and Technology Management*, 56，1-21.

Si, S., Hall, J., Suddaby, R., Ahlstrom, D. &Wei, J. (2022). Technology, entrepreneurship, innovation and social change in digital economics, *Technovation,* forthcoming.

Smith, C., Smith, J. B., & Shaw, E. (2017). Embracing digital networks: Entrepreneurs' social capital online. *Journal of Business Venturing*, *32*(1), 18-34.

Song, A. K. (2019). The Digital Entrepreneurial Ecosystem—a critique and reconfiguration.

Small Business Economics, 53(3), 569-590.

Sorescu, A., & Schreier, M. (2021). Innovation in the digital economy: a broader view of its scope, antecedents, and consequences.

Srinivasan, A., & Venkatraman, N. (2018). Entrepreneurship in digital platforms: A network‐centric view. *Strategic Entrepreneurship Journal*, *12*(1), 54-71.

Steininger, D. M. (2019). Linking information systems and entrepreneurship: A review and agenda for IT‐associated and digital entrepreneurship research. *Information Systems Journal*, *29*(2), 363-407.

Suddaby, R., Bruton, G. & Si, S. (2015). Entrepreneurship Through a Qualitative Lens:

Insights on the Construction and/or Discovery of Entrepreneurial Opportunity, *Journal of*

*Business Venturing* 30, pp 1–10

Tang, J., Kacmar, K.M.M. & Busenitz, L. (2012). Entrepreneurial alertness in the pursuit of new

opportunities*. Journal of Business Venturing*. 27, 77–94.

Teece, D. J. (2018). Profiting from innovation in the digital economy: Enabling technologies, standards, and licensing models in the wireless world. *Research Policy*, *47*(8), 1367-1387.

Tiwana, A., Konsynski, B. & Bush, A.A. (2010). Research commentary—Platform evolution:

Coevolution of platform architecture, governance, and environmental

dynamics. *Information Systems Research*. 21(4), 675-687.

Tomizawa, A., Zhao, L., Bassellier, G., & Ahlstrom, D. (2020). Economic growth, innovation, institutions, and the Great Enrichment. *Asia Pacific Journal of Management*, 37(1), 7-31.

Verhoef, P.C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J.Q., Fabian, N. & Haenlein, M.

(2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal*

*of Business Research*. 122, 889-901.

Von Briel, F., Davidsson, P., & Recker, J. (2018). Digital technologies as external enablers of new venture creation in the IT hardware sector. *Entrepreneurship Theory and Practice*, *42*(1), 47-69.

Wang, L. C., Ahlstrom, D., Nair, A., & Hang, R. Z. (2008). Creating globally competitive and innovative products: China's next Olympic challenge. *SAM Advanced Management Journal*, 73(3), 4-16.

Wei, J., Wang, D., and Liu, Y. 2018. Towards an asymmetry-based view of Chinese firms’ technological catch-up. *Frontiers of Business Research in China*, 12(1), 1-13.

Yoo, Y., Boland, R. J., Lyytinen, K., & Majchrzak, A. (2012). Organizing for Innovation in the Digitized World. *Organization Science* 23, 1398-1408.

Zaheer, H., Breyer, Y., Dumay, J., & Enjeti, M. (2019). Straight from the horse’ mouth: Founders’ perspectives on achieving ‘traction’ in digital start-ups. *Computers in Human Behavior*, *95*, 262-274.

Zahra, S. A., Liu W. & Si, S. (2022). How digital technology promotes entrepreneurship in

ecosystems. Technovation, forthcoming.

Zhao, F., & Collier, A. (2016). Digital entrepreneurship: Research and practice. In: 9th Annual Conference of the EuroMed Academy of Business. *EuroMed Academy of Business*, pp. 2173-2182.

**Table 1 Digital technology and digital entrepreneurship/innovation and social change articles published in the last five years**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Article Title | Author(s) | Journal | Year | Cits | Disc |
| How does entrepreneurial failure change an entrepreneur's digital identity? Evidence from Twitter data | Fisch and Block | *Journal of Business Venturing* | 2021 | 14 | Entrep |
| Ready or Not: Managers' and Employees' Different Perceptions of Digital Readiness | Gfrerer et al. | *California Management Review* | 2021 | 5 | Mgmt |
| How information and communication technology shape the influence of culture on innovation: A country-level analysis | Saldanha et al. | *Journal of Management Information Systems* | 2021 | 0 | IS |
| Innovation in the digital economy: a broader view of its scope, antecedents, and consequences | Sorescu and Schreier | *Journal of the Academy of Marketing Science* | 2021 | 0 | Eco |
| Digital technologies, innovation, and skills: Emerging trajectories and challenges | Ciarli et al | *Research Policy* | 2021 | 4 | IS |
| On “trade induced technical change: The impact of Chinese imports on innovation, IT, and productivity” | Campbell and Mau | *Review of Economic Studies* | 2021 | 11 | IS |
| Digital entrepreneurship ecosystem: How digital technologies and collective intelligence are reshaping the entrepreneurial process | Elia et al. | *Technological Forecasting and Social Change* | 2020 | 164 | Entrep |
| Liminal movement by digital platform-based sharing economy ventures: The case of Uber Technologies | Garud et al. | *Strategic Management Journal* | 2020 | 31 | Eco |
| How entrepreneurs make sense of lean startup approaches: Business models as cognitive lenses to generate fast and frugal heuristics | Ghezzi | *Technological Forecasting and Social Change* | 2020 | 10 | Mgmt |
| Platform governance and the rural-urban divide: Sellers' responses to design change | Koo and Eesley | *Strategic Management Journal* | 2020 | 5 | Mktg |
| Strategizing for digital innovations: Value propositions for transcending market boundaries | Antonopoulou and Begkos | *Technological Forecasting and Social Change* | 2020 | 9 | Mktg |
| Technology push or market Pull? Strategic orientation in business model design and digital start-up performance | Guo et al. | *Journal of Product Innovation Management* | 2020 | 12 | Mgmt |
| New ways of teaching: using technology and mobile apps to educate on societal grand challenges | Montiel et al. | *Journal of Business Ethics* | 2020 | 29 | Edu |
| Digital academic entrepreneurship: A structured literature review and avenue for a research agenda | Secundo et al. | *Technological Forecasting and Social Change* | 2020 | 24 | Entrep |
| What has changed? The impact of Covid pandemic on the technology and innovation management research agenda | George et al. | *Journal of Management Studies* | 2020 | 57 | Mgmt |
| [Blockchain and the evolution of institutional technologies: Implications for innovation policy](https://www.sciencedirect.com/science/article/pii/S0048733319301842) | [Darcy](https://www.sciencedirect.com/science/article/pii/S0048733319301842" \l "!) et al. | *Research Policy* | 2020 | 61 | IS |
| Bubbles and crashes: The boom and bust of technological innovation | Goldfarb and Kirsch | *Stanford University Press* | 2019 | 13 | IS |
| Key words for digital transformation | Michelman | *MIT Sloan Management Review* | 2019 | 4 | IS |
| The digital transformation of innovation and entrepreneurship: Progress, challenges and key themes | Nambisan et al. | *Research Policy* | 2019 | 425 | Entrep |
| Digital academic entrepreneurship: The potential of digital technologies on academic entrepreneurship | Rippa and Secundo | *Technological Forecasting and Social Change* | 2019 | 134 | Entrep |
| Digital startups and the adoption and implementation of lean startup approaches: Effectuation, bricolage and opportunity creation in practice | Ghezzi | *Technological Forecasting and Social Change* | 2019 | 85 | Entrep |
| Digital entrepreneurship and field conditions for institutional change-Investigating the enabling role of cities | Geissinger et al. | *Technological Forecasting and Social Change* | 2019 | 71 | Entrep |
| Fostering digital entrepreneurship from startup to scaleup: The role of venture capital funds and angel groups | Cavallo et al. | *Technological Forecasting and Social Change* | 2019 | 45 | Entrep |
| Protecting their digital assets: The use of formal & informal appropriability strategies by App developers | Miric et al. | *Research Policy* | 2019 | 40 | IS |
| Different patterns in the evolution of digital and non-digital ventures' business models | König et al. | *Technological Forecasting and Social Change* | 2019 | 32 | Mgmt |
| Strategic learning for digital market pioneering: Examining the transformation of wish berry’s crowdfunding model | Gupta and Bose | *Technological Forecasting and Social Change* | 2019 | 40 | Mktg |
| Social capital and the digital crowd: Involving backers to promote new product innovativeness | Eiteneyer et al. | *Research Policy* | 2019 | 38 | Eco |
| Platforms for the people: enabling civic crowdfunding through the cultivation of institutional infrastructure | Logue and Grimes | *Strategic Management Journal* | 2019 | 29 | Fin |
| Entrepreneurship through the platform strategy in the digital era: Insights and research opportunities | Berger et al. | *Journal of Business Research* | 2019 | 98 | Entrep |
| Linking information systems and entrepreneurship: A review and agenda for IT-associated and digital entrepreneurship research | Ladeira et al. | *International Entrepreneurship and Management Journal* | 2019 | 108 | IS |
| Digital or not – The future of entrepreneurship and innovation: Introduction to the special issue | Du et al. | *Journal of Strategic Information Systems* | 2019 | 35 | Entrep |
| Exploring the determinants of digital entrepreneurship using fuzzy cognitive maps | McAdam et al. | *Small Business Economics* | 2019 | 29 | Entrep |
| Straight from the horse's mouth: Founders' perspectives on achieving 'traction' in digital start-ups | Satalkina et al. | *Sustainability* | 2019 | 46 | Entrep |
| Dynamics of digital entrepreneurship and the innovation ecosystem A multilevel perspective | Beliaeva et al. | *International Journal of Entrepreneurial Behavior & Research* | 2019 | 41 | Entrep |
| On open innovation, platforms, and entrepreneurship | Nambisan et al. | *Strategic Entrepreneurship Journal* | 2018 | 185 | Entrep |
| Profiting from innovation in the digital economy: Enabling technologies, standards, and licensing models in the wireless world | Teece | *Research Policy* | 2018 | 431 | Eco |
| Digital transformation opens new questions-and new problems to solve | Gregersen | *MIT Sloan Management Review* | 2018 | 4 | IS |
| Bridging distant technological domains: A longitudinal study of the determinants of breadth of innovation diffusion | Papazoglou and Spanos | *Research Policy* | 2018 | 26 | IS |
| On the fintech revolution: Interpreting the forces of innovation, disruption, and transformation in financial services | Gomber et al. | *Journal of Management Information Systems* | 2018 | 524 | Fin |
| Digital technologies as external enablers of new venture creation in the IT hardware sector | Von et al. | *Entrepreneur-ship Theory and Practice* | 2018 | 202 | IS |
| Entrepreneurship in digital platforms: A network-centric view | Srinivasan and Venkatraman | *Strategic Entrepreneurship Journal* | 2018 | 111 | Entrep |
| Digital transformation by SME entrepreneurs: A capability perspective | Kraus et al. | *International Journal of Entrepreneurial Behavior & Research* | 2018 | 307 | IS |
| Digital entrepreneurship A research agenda on new business models for the twenty-first century | Kraus et al. | *Review of Managerial Science* | 2018 | 202 | Entrep |
| Emancipation through digital entrepreneurship? A critical realist analysis | Martinez et al. | *Organization* | 2018 | 62 | Entrep |
| Developing and maintaining clients' trust through institutional mechanisms in online service markets for digital entrepreneurs: A process model | Steininger | *Information Systems Journal* | 2018 | 19 | Entrep |
| Digital entrepreneurship in a resource-scarce context: A focus on entrepreneurial digital competencies | Du et al. | *Information Systems Journal* | 2018 | 80 | Entrep |
| Digital innovation management: reinventing innovation management research in a digital world | Sussan and Acs | *Small Business Economics* | 2017 | 1167 | Mgmt |
| A Web of opportunity or the same old story? Women digital entrepreneurs and intersectionality theory | Dy et al. | *Human Relations* | 2017 | 202 | Entrep |
| Digital entrepreneurship: Innovative business models for the sharing economy | Richter and Chris | *Creativity and Innovation Management* | 2017 | 206 | Mgmt |
| Agile business model innovation in digital entrepreneurship: Lean startup approaches | Ghezzi and Cavallo | *Journal of Business Research* | 2017 | 240 | Entrep |
| Digital entrepreneurship: Toward a digital technology perspective of entrepreneurship | Nambisan | *Entrepreneurship Theory and Practice* | 2017 | 921 | Entrep |
| Value creation through novel resource configurations in a digitally enabled world | Amit and Han | *Strategic Entrepreneurship Journal* | 2017 | 160 | Mgmt |
| Embracing digital networks: Entrepreneurs' social capital online | Smith et al. | *Journal of Business Venturing* | 2017 | 50 | Entrep |
| Digital entrepreneurship: Research and practice | Nambisan et al. | *Management Information Systems Quarterly* | 2016 | 50 | Entrep |

Disc: Main discipline that the article is rooted in: IS: information sciences, Entrep: Entrepreneurship, Eco: Economics, Mgmt: Management, Fin: Finance, Mktg: Marketing.

a Book.

**Table 2:** **Literature and the** **SI Based** **Theoretical Perspectives**

|  |  |  |  |
| --- | --- | --- | --- |
| **Theoretical Perspectives** | **Key Insights** | **Contributions from this special issue** | **Further research** |
| 1. *Digital transformation* | A strategy to catch up with and perhaps leapfrog the more mature economies by skipping certain steps along a developmental path. | Application of digital technologies for effective integration of digital technology and entrepreneurship/innovation in the economy | Further integration of digital technology and entrepreneurship/innovation for affecting management and economy |
| 1. *Disruptive innovation* | Provides viable entry points into an industry often at the lower ends of a market. Digitalization can facilitate the development of disruptive innovation. | Expounded the disruptive innovation mode based on digital technology, which develops and enriches the existing disruptive innovation theory | How to effectively integrate further digital technology with current disruptive innovation model to promote economic and social development. |
| 1. *Entrepreneurship alertness* | Entrepreneurial alertness refers to the cognitive process by which certain actors can identify and seize of entrepreneurial opportunities. | Application of digital technology can drive entrepreneurial alertness across a broad range. It can diverse innovation ecosystems and alert individual to potential entrepreneurial opportunities and contribute to economic and social development. | Explore the digital technology-based entrepreneurial alertness and its dynamic relationship with entrepreneurial environment and entrepreneurial ecosystem. And to identify and seize entrepreneurial opportunities. |
| 1. *Ecosystem development* | Entrepreneurs and firms are supported by digital innovation friendly ecosystems and in turn help to shape them and seek institutional support. | Analyzed the intimate links among ecosystem development, digital technologies and the active role new ventures play, indicating a complex evolutionary process. And discussed the role of pioneering, disruptor and imitator new ventures in developing their ecosystems. | How Digital Technology Promotes Entrepreneurship in Ecosystems in future. |
| 1. *Affordance* | Technology and digital technology can enhance the value of enterprise products and services and enhance the competitiveness of enterprises and even countries. | Digital technologies are pervasively “sets of affordances and constraints for particular sets of actors”, which can lead to different innovation or entrepreneurial outcomes in different use contexts and the value creation. | Further study how affordances across multiple levels (e.g., institutional, regional, cultural, organizational, individual levels) taking effect in different contexts and lead to different outcomes. |
| 1. *Interactive* | Digital technology development and digital entrepreneurship development are interdisciplinary and constantly updated digital technology formed by the intersection of researchers. | Digital technology-based interaction has now increasingly proven to be a new model for problem solving and innovation at the national and enterprise levels, as well as for gaining market and competitive advantage. | Explore how new digital technology can create new value and interdisciplinary model for digital entrepreneurship and innovation in future. |
| 1. *Digital inclusive* | Digital technology-based entrepreneurship is with the potential impact on creating more assessable technologies and inclusive economies in the world. | Identified the mechanisms that make platforms fair and inclusive for the poorer segments of society.  And reported the digital technology’s impact on income creation, capabilities development, and social capital development at the BOP, as well as its impact on the growth of new BOP entrepreneurs. | Update and enrich the new BOP theory based on digital technology through different practical cases. And how to create new inclusive entrepreneurship and innovation theories based on the practical cases. |
| 1. *Next-generation digital technology* | Recent developments and the diffusion of next-generation digital technologies (NGDTs) such as Artificial Intelligence, the Internet of Things, big data, 3D printing, and robotics are expected to have an immense impact on businesses, entrepreneurship/innovation, and society. | Identified more and more firms that use NGDTs, deployed multiple technologies at one time, manifesting heterogeneous strategies across firm types. Complementary technologies facilitate and demand large sums of data and continually generate newer technologies. | Digital technologies including big data, IoT, cloud computing and AI will advance more and more. How will such advance in digital technology affect the formation of a new entrepreneurial ecosystem and the development of digital entrepreneurship and innovation in future? |