Received 28 January 2024
Revised 23 February 2024
Accepted 26 March 2024

Strategies for digital entrepreneurship success: the role of digital implementation and dynamic capabilities

Tal Berman
Johannesburg Business School, University of Johannesburg, Johannesburg, South Africa
Daniel Schallmo
Neu-Ulm University of Applied Sciences, Neu-Ulm, Germany, and
Sascha Kraus
Faculty of Economics and Management, Free University of Bozen-Bolzano, Bolzano, Italy and
Department of Business Management, University of Johannesburg, Johannesburg, South Africa

Abstract

Purpose – To augment sales revenue, B2B digital start-ups aim to create and sustain commercial relationships with industry incumbents. However, since these incumbents have traditionally struggled with implementing disruptive digital artifacts, most studies have almost exclusively concentrated on their challenges, leaving the digital start-ups' side underexplored. Therefore, this study seeks to understand how digital start-ups navigate digital implementation (DI) hardships to ultimately achieve digital entrepreneurship success.

Design/methodology/approach – An abductive explanatory multi-case study of four industries that pose a variety of implementation challenges for B2B digital start-ups (agriculture, insurance, real estate and construction, and healthcare) was conducted using data collected from 40 interviews with Israeli experts and relevant digital data observations.

Findings – This study articulates two main observations. (1) Throughout their journeys, digital start-ups have utilized newly created and/or refined dynamic capabilities (DC) to successfully implement their digital artifacts. Simultaneously, successful DI has enabled digital start-ups to create new DC or sustain and evolve current DC. (2) We provide empirical evidence outlining how digital start-ups using continuous learning have combined causation and effectuation logic throughout their DI journeys.

Originality/value – This study answers a call to explore more explicit digital-related drivers (i.e. DI) for digital entrepreneurship success by studying a highly-ranked country on the Global Entrepreneurship Index (GEI) to achieve this. Moreover, it illustrates how digital start-ups evolve throughout their commercial relationships with industry incumbents, thereby enabling an effective approach for successful DI. Such an approach can be considered very valuable for both practitioners and policymakers. Consequently, it advances digital entrepreneurship as an independent research topic.

Keywords Entrepreneurship, Digital, Strategies, Dynamic capabilities, Digital implementation, Successs

Paper type Research paper

1. Introduction

In addition to revamping and transforming entire markets and industries, digital technologies have also democratized entrepreneurship by making new venture creation

European Journal of Innovation Management
Vol. 27 No. 9, 2024
pp. 198-222
Emerald Publishing Limited
1460-1060
DOI 10.1108/EJIM-01-2024-0081

significantly easier and more accessible (Tang *et al.*, 2022). This development gave rise to a novel research domain known as *digital entrepreneurship*, which can be defined as "the pursuit of opportunities based on the use of digital media and other information and communication technologies" (Davidson and Vaast, 2010, p. 2).

Simultaneously, digital technologies have also shaped the concept of entrepreneurial success (Kraus *et al.*, 2018). The notion of success, which is commonly considered as achieving the firm's objectives (Aguilera *et al.*, 2023), takes on a distinctive role within the realm of B2B digital start-ups. Specifically, these entities are considered disruptive market entrants that create, develop, and commercialize digital artifacts to exploit business opportunities (Dong, 2019). For these start-ups, a consistent and prominent objective revolves around the augmentation of sales revenue, often requiring the establishment and sustainment of commercial relationships with industry incumbents (Lammers *et al.*, 2022; Pugliese *et al.*, 2021).

However, numerous incumbents have demonstrated a lack of competence in adopting the disruptive new digital artifacts introduced by such emerging players (Cozzolino *et al.*, 2021). This has largely been due to contextual and cultural challenges, highlighting the pivotal role of effective DI as a critical factor for digital entrepreneurship success (Berman *et al.*, 2023; Garcia Martin *et al.*, 2023). Although research on the relationships between digital start-ups and incumbents has gained momentum, it continues to lack a theoretical foundation (Giglio *et al.*, 2023). Furthermore, since this research has largely been led by strategic management and/or information systems scholars, the focus has been on the incumbents' challenges, whereas studies on the evolution required by digital start-ups for successful DI remain scarce (Prashantham and Madhok, 2023; Usman and Vanhaverbeke, 2017).

Therefore, this study aims to accomplish three objectives by focusing on B2B digital start-ups' roles and development during the DI process. First, we wish to generate a holistic understanding of DI from a digital entrepreneurship perspective. Second, we aim to explain DI as an explicit digital economy-related driver of digital entrepreneurship success. Third, we seek to understand the evolution of digital start-ups in their approach toward successful DI. Consequently, our research questions in this paper are presented as follows:

RQ1. How and in what ways can DI drive digital entrepreneurship success in the context of start-up–incumbent relationships?

RQ2. When viewed through a digital entrepreneurship perspective, how does DI manifest in practice within the context of start-up–incumbent relationships?

RQ3. How and in what ways do digital start-ups evolve during the DI process?

Our study makes three primary contributions. First, it presents an approach for achieving successful DI and elucidates its significance as a salient driver of digital entrepreneurship success. Second, we demonstrate how digital start-ups generate, refine, and evolve distinct DC by effectively implementing their artifacts. Lastly, we offer empirical evidence that highlights the utilization of continuous learning by digital entrepreneurs, who integrate both causation and effectuation logic throughout their DI journeys to achieve success.

Given the considerable failure rate among digital start-ups, understanding the determinants of success is paramount. This study contributes to the burgeoning field of digital entrepreneurship by delving deeper into the drivers that enable these organizations to achieve both subjective and objective goals. As this field of research continues to develop, it involves exploring analogous topics that enrich our comprehension of the associated strategies and tactics that are conducive to favorable outcomes. Thus, to address these gaps in the literature, we propose an approach that digital entrepreneurs can adopt to effectively implement digital artifacts while concurrently elucidating cognitive and behavioral mechanisms that facilitate organizational success.

2. Theoretical background

2.1 Theoretical knowledge

2.1.1 Digital entrepreneurship. Traditionally, entrepreneurs have been able to introduce digital innovation (e.g. eCommerce websites such as Amazon and Alibaba; Felicetti *et al.*, 2023) because they are constantly alert to situations (i.e. entrepreneurial opportunities) in imperfect markets that potentially enable financial gains for themselves and other related relevant stakeholders (Alvarez and Barney, 2007; Amit and Zott, 2012; Shane and Venkataraman, 2000). Consequently, entrepreneurship scholars define them as venture creators, action-takers, and resource deployers in ambiguous environments (Klein, 2008).

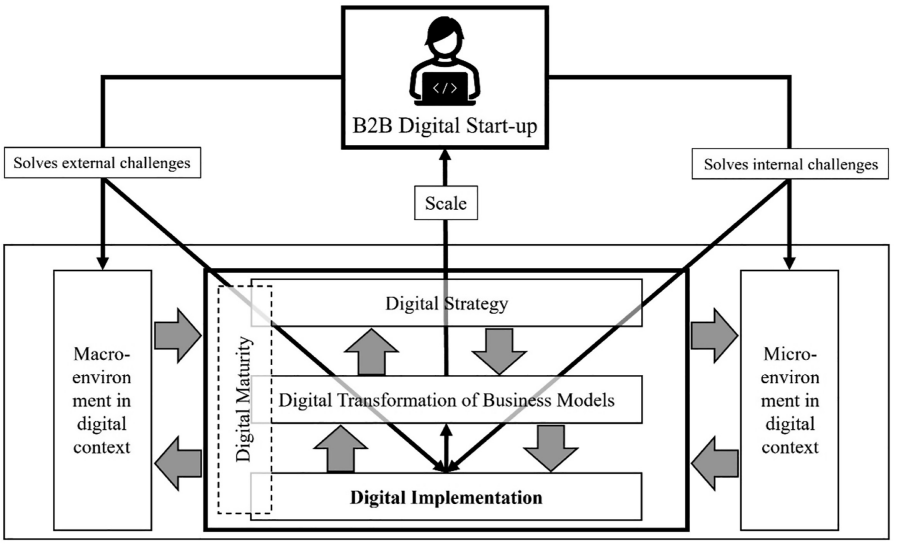
Digital technologies are changing entrepreneurship as a practice (Si *et al.*, 2023). They enable the digital transformation of the entire traditional entrepreneurial process and facilitate new entrepreneurial opportunities (Guimarães *et al.*, 2023; Trischler and Li-Ying, 2023). Moreover, digital technologies have democratized new venture creation, prompting many from underrepresented groups to engage in entrepreneurial activities (Aloulou *et al.*, 2023). For example, many entrepreneurs have utilized digital platforms (e.g. Shopify and eBay) to gain massive amounts of exposure for their offers and cost-effectively reach wide populations (Wegner *et al.*, 2023). Overall, digital entrepreneurship is the creation of new digital undertakings by exploiting entrepreneurial opportunities while leveraging the disruptive potential of digital technologies (Fuster *et al.*, 2019).

These realizations have created the potential to promote novel theory-building opportunities for entrepreneurship scholars (Zahra *et al.*, 2023). Consequently, digital entrepreneurship has become an independent research topic that essentially studies digital entrepreneurs creating, growing, and sustaining digital start-ups—organizations that previous research considered to be salient fosters of innovation (Felicetti *et al.*, 2023).

However, since digital entrepreneurship remains a nascent and underexplored research field, many of its pillars require further investigation (Lamine *et al.*, 2023). One such pillar is the successful outcomes of digital entrepreneurial initiatives, especially their drivers and factors (Kraus *et al.*, 2018). Even more so, since the digital economy is a relatively novel construct itself, it is important to discover more explicit digital-related drivers of such success (e.g. smart city infrastructure and initiatives; Richter *et al.*, 2015; Berman *et al.*, 2023).

2.1.2 Digital implementation. At present, digital technologies have become essential assets for almost every firm (Matt *et al.*, 2015; Ramadani *et al.*, 2023). Consequently, DI refers to the ability to effectively put digital technology to work (Leonard-Barton and Kraus, 1985). Implementing useful digital technologies is imperative for the survival of firms because it increases their efficiency and competitiveness; thus, it promotes creating and sustaining a competitive edge (Allataifeh *et al.*, 2021; Galindo-Martín *et al.*, 2023). As a fundamental pillar of Schallmo *et al.*'s (2022) holistic digitalization theory, DI supports firms in executing their digital strategies and transforming their business models. Nevertheless, to date, moving from theory to practice appears to be quite an intricate challenge that many traditional companies fail to live up to (Ammirato *et al.*, 2018). Much of this challenge is related to the profound organizational changes businesses must go through during the digital transformation process (Martínez-Caro *et al.*, 2020). Overall, many companies are hindered from fulfilling their journey toward digital maturity due to a lack of much-needed relevant capabilities (e.g. agility and adaptability; Ramadani *et al.*, 2023; Leso *et al.*, 2023).

Therefore, as part of open innovation mechanisms, incumbents turn to the external assistance of digital start-ups that they consider digital exemplars (Bonnet and Westerman, 2020; Sá *et al.*, 2023; Spender *et al.*, 2017). To extend the holistic digitalization theory to the context of digital entrepreneurship, we define DI as how digital start-ups align their digital artifacts with the existing digital strategies of incumbents to enhance the digital transformation of business models for the latter (see Figure 1 for illustration).



Source(s): Adapted from Schallmo, Williams and Tidd (2022)

Figure 1. Digital entrepreneurship perspective of holistic digitalization

However, while digital start-ups carry the disruptive potential to transform entire industries, cultural and contextual differences with incumbents often disturb their efforts (Garcia Martin *et al.*, 2023). Consequently, DI has become a driver of digital entrepreneurship success (Berman *et al.*, 2023). Nonetheless, due to the lack of knowledge on how to successfully conduct DI, existing research has largely concentrated on the incumbents' relevant internal challenges, thereby leaving the digital start-ups underexplored (Giglio *et al.*, 2023; Prashantham and Madhok, 2023).

2.2 Theoretical foundations

2.2.1 Bridging demotivational factors for successful digital implementation. Entrepreneurship research has lagged behind practice (Zaheer *et al.*, 2019a, b). This realization offers an intricate scholarly challenge on one hand while requiring entrepreneurship researchers to utilize a practice approach on the other (Champenois *et al.*, 2020). One such lens, known as technology-in-practice, can potentially promote digital entrepreneurship researchers' investigations of underexplored real-life phenomena such as DI (Morgan-Thomas, 2016). Essentially, this approach primarily concentrates on the real-time and actual use of the technology and is defined as "sets of rules and resources that are (re)constituted in people's recurrent engagement with the technologies at hand" (Orlikowski, 2000, p. 407).

A key component of successful DI is recurrent engagement, which is the sustainable use of a digital artifact by customers and/or users (MacVaugh and Schiavone, 2010). Therefore, digital artifacts must bridge the demotivational gap to become fully integrated into the digital strategy (Borges *et al.*, 2021). Rogers's (2003) innovation diffusion theory (specifically the perceived attributes of innovation) is a tool used in information systems (e.g. Lin *et al.*, 2021), operations management (e.g. Wamba *et al.*, 2019), marketing (e.g. Shaw *et al.*, 2022), and other disciplines to explain why certain functionalities prevent industry actors from implementing digital artifacts (Wang *et al.*, 2021). Therefore, we found it to serve as an appropriate theoretical foundation for the present research.

The theory enables a generic and inclusive analysis by investigating five DI conditions: (1) relative advantage – whether or not the digital artifact is better than currently available solutions or workflows; (2) compatibility – whether or not the digital artifact adheres to the needs and expectations of its users; (3) complexity – whether or not the digital artifact is comprehendible and user-friendly; (4) trialability – whether or not the digital artifact can be tested; (5) observability – whether or not the digital artifact promotes clear-cut positive outcomes (Rogers, 2003).

2.2.2 Dynamic capabilities for successful digital implementation. Digital start-ups are affected by their external environment (Kimjeon and Davidsson, 2022). Therefore, we define DC as how digital start-ups create, develop, and sustain relevant organizational know-how and proficiencies to adapt and react to ambiguous and ever-changing environments (Teece, 2018). Unexpectedly, our understanding of the way digital entrepreneurial organizations develop and evolve DC remains largely unknown (Leso *et al.*, 2023). Therefore, for digital entrepreneurship scholars, an extrinsic perspective (i.e. the challenges of the incumbents) is insufficient for investigating and understanding DI (Planko *et al.*, 2017); notwithstanding, the intrinsic focus lies in the transformation that digital start-ups must undergo before, during, and after the implementation process and has not been sufficiently studied (Giglio *et al.*, 2023).

DC are considered a theoretical backbone for studying the way firms develop and transform to bring about successful outcomes (Ilmudeen *et al.*, 2020). Furthermore, DI represents a dynamic challenge (Schallmo *et al.*, 2022). Simultaneously, DC are considered enablers for fundamental change and have served pivotal roles in configuring start-up–incumbent relationships, making this an appropriate theoretical approach (Teece, 2020). According to Teece (2014), in the entrepreneurial context, DC can be split into three main groups: (1) sensing – identifying and recognizing entrepreneurial opportunities; (2) seizing – utilizing available resources to exploit entrepreneurial opportunities and achieve economic growth; (3) transforming – continual reconfigurations, adaptations, and modifications that assist with and result in further growth.

2.3 Conceptual framework

Digital entrepreneurs possess the cognitive capabilities to discover entrepreneurial opportunities (Chen *et al.*, 2020). As previously implied, they are alert to market disequilibria and possess robust digital capabilities that assist with connecting the dots (i.e. problem–solution fit) (Baron, 2006). Essentially, their goal in the early stages is to come up with a valid value proposition (VP) (Le and Suh, 2019). Their vision is to capitalize on disruptive VPs to digitally transform traditional business models and/or achieve digital business model innovation (Trischler and Li-Ying, 2023).

Nonetheless, they can only exploit entrepreneurial opportunities via the highly challenging task of new venture creation (Foss and Klein, 2020), which is a digital start-up in the digital entrepreneurship context. The conceptual problem–solution fit is hardly enough to build a sustainable business; therefore, digital start-ups search for a product–market fit (Xu and Koivumäki, 2019). Once it is found, they can finally replicate their digital business model for exponential growth (Mithani, 2023). For B2B digital start-ups, a valid digital business model signifies the fact that they can consistently grow via the value capture component (i.e. sales revenue), among others (Teece and Linden, 2017).

Linking the two theories together (Section 2.2), Table 1 presents our conceptual framework for a digital entrepreneurship perspective of holistic DI. This lens can serve as a basis for improving our understanding of how B2B digital start-ups evolve to succeed.

3. Methods

3.1 Research context and design

Contextualization has become a salient pillar in entrepreneurship research. Although this study deals with the digital context, it remains insufficient in this developing requirement

	Relative advantage	Compatibility	Complexity	Trialability	Observability
Sensing	Digital entrepreneurs work diligently on opportunity discovery activities to polish their VP and explain how they can solve a challenge that has not yet been dealt with or handled (Le and Suh, 2019). Within the VP, the digital entrepreneurs, among others, illustrate why and in what ways their artifact is superior when compared to available substitutes (Todeschini *et al.*, 2017)	The VP is essentially the promise of value to the target audience (Payne *et al.*, 2020). By using various framing techniques, digital entrepreneurs typically work to convince relevant stakeholders that their digital artifact is beneficial (e.g. cost saving; Reynolds *et al.*, 2023; Yi *et al.*, 2020)	Convincing stakeholders in the early stages is a challenging task (e.g. in cases where the digital technology used is very novel). Even more so, the entire industry might be novel and complex (e.g. the underexplored domain of the metaverse; Ferrigno *et al.*, 2023). Therefore, consistently communicating the VP and framing it with the relevant stakeholders would eventually make it coherent (Castellano *et al.*, 2021)	Once the VP is sufficiently polished, the digital entrepreneurs realize how to transform it into a minimal product with one or two "killer features". The concept of the MVP helps digital entrepreneurs face reality for the first time, fail fast, and pivot (Blank and Eckhardt, 2023)	Effectively framing the VP may result in gaining trust and developing the expectation that digital entrepreneurs can develop a digital artifact that can potentially solve the challenge and create a positive impact (Zutshi *et al.*, 2021)

(*continued*)

Table 1. Digital entrepreneurship perspective of holistic digital implementation

Table 1.

	Relative advantage	Compatibility	Complexity	Trialability	Observability
Seizing	In the opportunity exploitation stage, digital start-ups strive to achieve a proof-of-concept (Mishra and Zachary, 2015). Such an achievement represents the fact that they can deliver an artifact that is undoubtedly superior and beneficial. Moreover, it shows that the newly established digital business model is ready for replication at scale (Mithani, 2023)	The proof-of-concept is not only about ensuring that the digital artifact works well (i.e. value creation) but also signals a firm potential for sustainable business rather than a mere technical initiative (Foss and Klein, 2020; Maia and Claro, 2013). Moreover, B2B digital start-ups must be very firm regarding how their digital artifact fits the incumbent's digital strategy (Schallmo *et al.*, 2022)	The lean start-up methodology asserts that developing a digital artifact is an iterative process (Chengbin *et al.*, 2022). This has driven digital start-ups to seek design partners for the co-creation of digital artifacts (Garcia Martin *et al.*, 2023)	Once the MVP (and even later versions of the relatively raw digital artifact) is ready for commencing pilots with design partners, this is the point at which the reciprocal benefits of these trials occur. On the one hand, digital start-ups should fix bugs on the go with minimal losses. On the other hand, the partner receives salient answers to all previously mentioned questions that may arise during the discovery stage or later (Nobari and Dehkordi, 2023)	Certain institutions act as innovation intermediaries to ensure that the mutual co-creation between digital start-ups and incumbents has predefined goals and measurable results (Garcia Martin *et al.*, 2023)
Transforming	During the artifact's development, the digital start-up must remain alert for ways to continue improving and innovating to avoid losing any hard-gained momentum (Lehmann and Recker, 2022). For example, if a new technology enters the market, they must reevaluate the opportunity and sometimes pivot and implement it themselves (Bohn and Kundisch, 2020)	As the relationships with current customers develop and efforts are made to recruit prospective customers, their needs and preferences unfortunately change over time (Hanelt *et al.*, 2021); therefore, active listening is imperative, followed by acting accordingly when appropriate (Srivastava *et al.*, 2021; Zaheer *et al.*, 2019b)	Even after the digital artifact is operating well and sold at scale, the digital start-up continues developing and innovating it further, as implied. Consequently, B2B digital start-ups provide constant support to their customers and users to reduce any misunderstandings or miscommunications (Hochstein *et al.*, 2021)	Digital start-ups aim to establish trust with prospective customers when attempting to penetrate new markets or industries. While communicating former success stories sometimes works, many customers prefer to commence trials before completely shifting to the newly implemented artifact (Pollack *et al.*, 2017)	As part of the aforementioned support process, digital start-ups work closely with incumbents to measure results and fix issues that arise from crises (Hutter *et al.*, 2021)

Source(s): Authors' own work

(Welter *et al.*, 2019). In a recent opinion article, the founder of *Playbuzz* and *Pigi*, Mr. Shaul Olmert (2023), discussed a case study of Pillsbury, in which people who baked pastries using their ready-to-bake refrigerated dough were not satisfied with the results because they did not feel it was their genuine craft. He emphasized that this is a lesson they are trying to incorporate when digitally implementing Pigi's generative AI solution; thus, they added a "human touch" to their product.

Considered a real-world phenomenon, DI is challenging for many other Israeli digital start-ups. Therefore, we chose to focus on the Israeli digital entrepreneurial ecosystem as our research setting. Globally considered a "start-up nation," Israel enjoys a high start-up per capita ratio, with many of these start-ups being digital and born-global (Balicer and Afek, 2017; Efrat and Asseraf, 2019; Hashai, 2015). This makes the Israeli digital entrepreneurial ecosystem appropriate for our research.

This contextualization need, our minimal to no control over the explained variable (i.e. digital entrepreneurship success generally and augmenting sales revenue specifically), and the aforementioned lack of theoretical foundation made us opt for the use of qualitative methods for our investigation (Bodolica *et al.*, 2015; Preller *et al.*, 2023; Sastararuji *et al.*, 2022). Specifically, since we aimed to decipher intricate mechanisms within challenging relationships, an explanatory case study was an appropriate fit for this study (Garcia Martin *et al.*, 2023; Yin, 2018).

Traditionally, the case study approach has not found much popularity in entrepreneurship research (Henry and Foss, 2015). Despite this, it allows a contextual investigation of real-world phenomena and is appropriate for answering "What?" and "How?" types of research questions (Gölgeci *et al.*, 2021; Yin, 2018). However, the DI challenges faced by B2B digital start-ups are not only context-dependent but also multifaceted (Schallmo *et al.*, 2022) because they are influenced by many factors that we wish to further understand. Additionally, since digital entrepreneurship is an iterative and dynamic process (Aloulou *et al.*, 2023), relevant organizations are constantly changing and evolving. This challenge entails the tracing of relevant strategies that bring about successful advancement in the digital entrepreneurial journey (Berman *et al.*, 2023). In light of these conditions, we chose a multi-case study approach (Eisenhardt, 1989; Yin, 2018) to better understand the DI challenges and methodologies experienced, developed, and mastered by digital exemplars such as digital start-ups across various sectors. Following a study by Dana and Dumez (2015), we opted for the organizational level of analysis. As a result, digital start-ups are the unit of analysis in this study.

3.2 Case selection

We concentrated our research on four industries, which is the minimum number that scholars suggest for extracting the benefits of case studies (Stake, 2005). The chosen industries are agriculture, insurance, real estate and construction, and healthcare.

Notably, the case study methodology is only appropriate if the case selection is based on specific criteria (Eisenhardt, 1989). Therefore, these industries must be quite different from each other to bring about cumulative knowledge. For example, in agriculture, the relatively old average age of its actors (e.g. 59 in the UK; Gittins, 2022) negatively affects their digital capabilities and literacy levels (Tirado-Morueta *et al.*, 2018), whereas in healthcare, various actors differ in terms of these attributes and their DI preferences (e.g. medical doctors vs. nurses; de Jong *et al.*, 2020).

Furthermore, the chosen industries had to be those in which Israeli B2B digital start-ups are very active (e.g. healthcare; Balicer and Afek, 2017), while also being industries facing intricate DI-related issues (e.g. Tal, 2021).

3.3 Data collection

During 2021 and 2022, we interviewed 40 experts (Table 2), with an even split between all cases. Since we aimed to hear from representatives of both sides of the start-up-incumbent relationship, within cases, we evenly split the interviewees between digital start-up founders or top executives on one hand, and incumbents' executives or other relevant industry experts on the other. We opted for the popular semi-structured approach because by asking open-ended questions and having an open conversation with the participants, we could gain vast knowledge on the subject (Harrell and Bradley, 2009).

Nevertheless, using only one data source in case studies is unsatisfactory (Gioia *et al.*, 2013). As such, for triangulation, we also initiated archival digital data research by investigating start-up databases (e.g. TechCrunch) because this type of source has recently become popular in entrepreneurship research (Feldman *et al.*, 2022). This form of triangulation should help in the investigation of novel topics such as digital entrepreneurship success (Van Burg *et al.*, 2022).

3.4 Research process

Figure 2 depicts the process of our entire study and elaborated further in this section.

3.4.1 Phase 1: within-case analysis. Using our acquired data, we initiated an inductive within-case analysis with each case analyzed separately and its findings presented as a single case study because this allowed us to concentrate on similarities and formulate the research questions (Klein *et al.*, 2021; Zerbinati and Souitaris, 2005). Moreover, this has made us opt for an abductive approach because moving back and forth from the data to the relevant literature seemed imperative (Awuzie and McDermott, 2017).

3.4.2 Phase 2: literature review. A theoretical backbone is necessary for researching real-world phenomena such as DI (Baskerville and Dulipovici, 2006). Nevertheless, this research topic has been over-reliant on inductive research, resulting in heavy fragmentation (Giglio *et al.*, 2023). Therefore, we opted for the approach of Burström *et al.* (2023), which integrated digital entrepreneurship literature and constructs into the holistic digitalization theory (see Section 2.1.2). This helped us create the necessary definitions and choose the appropriate theoretical foundation.

3.4.3 Phase 3: conceptual framework. Since we aimed to decipher DI in the context of the challenging relationship between digital start-ups and incumbents, we had to re-approach the literature by seeking relevant theories and combining some theories as required. Therefore, by integrating the two theories (see Section 2.3), we created a relevant fundamental conceptual framework since this is a requirement for explanatory case studies (Gartner *et al.*, 2022; Köhler *et al.*, 2022). This framework enabled a holistic view of the digital entrepreneurship perspective of DI, meaning that we could holistically and thoroughly analyze the interviews.

3.4.4 Phase 4: between case analysis. We then commenced a comparative analysis by consolidating the single case studies into a multi-case study to achieve better generalization of the findings (Eisenhardt and Graebner, 2007).

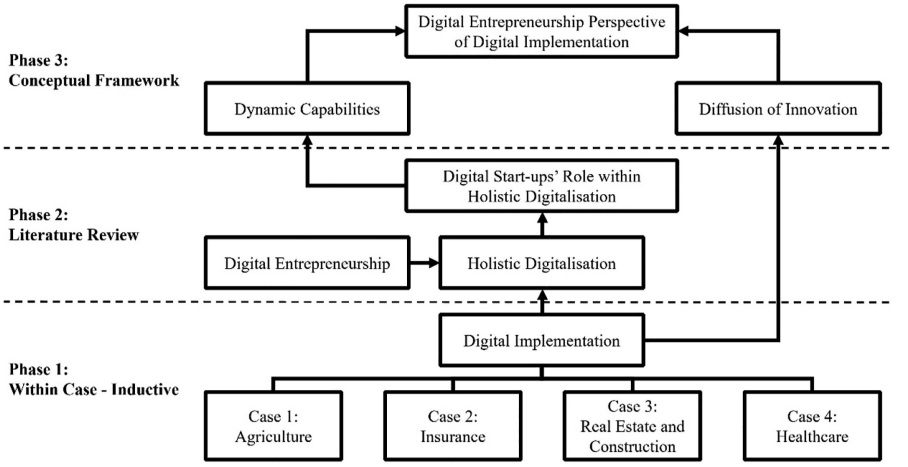
For content analysis, we used *a priori* coding. Such an abductive approach provides a focused analysis of the collected data and strengthens the results in case studies (Eisenhardt, 1989; Nili *et al.*, 2020). ATLAS.ti 23 was used as a tool for coding because this instrument is appropriate for qualitative data analysis (Haftor and Costa, 2023). Overall (excluding duplicates), we constructed 377 unique codes, which emphasizes the richness of our collected data.

Moreover, we conducted a thematic analysis. This was chosen since it allows for maximum flexibility on one hand and helps gain insights by finding patterns based on the participants' shared experiences and beliefs on the other (Braun and Clarke, 2006). Axial

ID	Position	Company/institution	Interview date
Agriculture			
A1	Type C executive	AgTech start-up	14/02/2021
A2	Co-founder and CEO	AgTech start-up	15/02/2021
A3	Co-founder and CEO	AgTech start-up	16/02/2021
A4	Co-founder and CMO	AgTech start-up	18/02/2021
A5	Co-founder and CEO	AgTech start-up	18/02/2021
A6	Head of irrigation	Field crops at a northern kibbutz	18/02/2021
A7	Farm owner	Pepper and date farm	21/02/2021
A8	Farm owner	Vertical farm	23/02/2021
A9	Independent farming contractor	Farms in the Hula Valley	25/02/2021
A10	Farm owner	Flower farm in Southern Israel	28/02/2021
Insurance			
I1	Innovation leader	The Israeli branch of a global insurance group	01/07/2021
I2	Founding partner	FinTech consultancy firm	05/07/2021
I3	CEO	InsurTech consultancy firm that runs an accelerator and invests in relevant start-ups	11/07/2021
I4	VP of innovation	The Israeli branch of a global insurance group	12/07/2021
I5	VP of technology and innovation	A large Israeli automobile conglomerate	19/08/2021
I6	Co-founder and CEO	InsurTech start-up	06/07/2021
I7	Serial entrepreneur, Co-founder, and CTO	InsurTech start-up	08/07/2021
I8	Co-founder and COO	InsurTech start-up	11/07/2021
I9	Co-founder and CTO	InsurTech start-up	14/07/2021
I10	Co-founder and CEO	InsurTech start-up	20/07/2021
Real estate and construction			
R1	Marketing and innovation executive	Real estate entrepreneurship corporate	06/12/2021
R2	Innovation manager	Real estate fund	07/12/2021
R3	Chairman of the board	Real estate investment fund	09/12/2021
R4	CEO	Construction innovation center	14/12/2021
R5	Capital markets director	Real estate investment management	21/12/2021
R6	Co-founder and CEO	ConTech start-up	6/12/2021
R7	Co-founder and CEO	Publicly traded ConTech company on TASE	10/12/2021
R8	Co-founder and CTO	Recently acquired PropTech start-up	13/12/2021
R9	Co-founder and CEO	ConTech start-up	16/12/2021
R10	Co-founder and CEO	ConTech start-up	28/12/2021
Healthcare			
H1	Senior radiologist	Public hospital	13/07/2022
H2	Founding partner and CIO	HealthTech-focused venture capital fund	14/07/2022
H3	Former HealthTech investor and current head of community	HealthTech bottom-up community	14/07/2022
H4	Head of an innovation center	Public hospital	17/07/2022
H5	Director of start-ups	Public hospital	27/07/2022
H6	Co-founder and CTO	HealthTech start-up	13/07/2022
H7	Founder and CEO	HealthTech start-up	14/07/2022
H8	CTO	HealthTech start-up	18/07/2022
H9	Co-founder and CEO	HealthTech start-up	26/07/2022
H10	Co-founder and CTO	HealthTech start-up	02/08/2022

Source(s): Authors' own work

Table 2.
Participants' profiles



Source(s): Authors' own work

Figure 2.
Research process (phases 1–3)

codes and aggregated dimensions were chosen according to the conceptual framework and the notable theories previously discussed.

4. Findings

As previously implied, and based on our data, a major achievement in the world of B2B digital start-ups is the ability to capture value. "The fact that I have paying customers means that I'm successful (I10)."

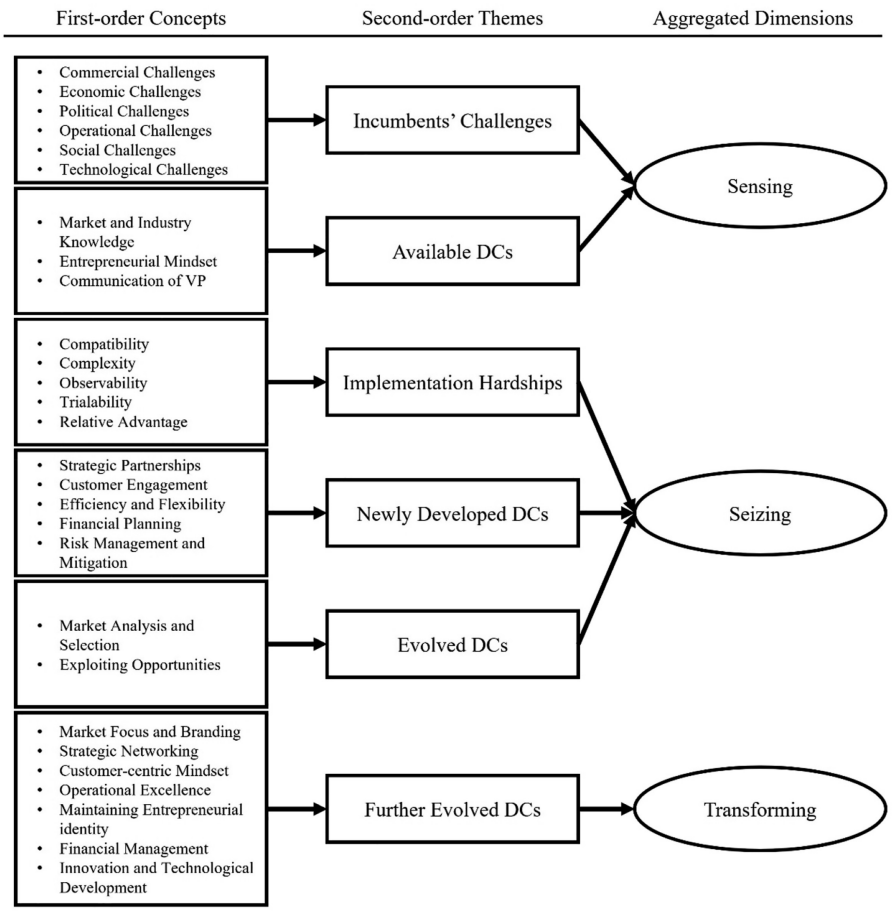
In the following sections, we will describe the activities that digital start-ups perform to successfully implement their digital artifacts and enable value capture. Our description is divided based on the DC that represent the entrepreneurial journey (Figure 3).

4.1 Sensing

We identified 71 different challenges experienced by incumbents (Table 3) in our data, covering most aspects of any ecosystem (i.e. commercial, operational, social, economic, political, and technological). At the top of our list, we found three technological challenges that require external assistance.

Evidently, incumbents turn to digital exemplars to develop innovative digital artifacts. "Our travel insurance application is handy during these COVID-19 times [. . .] This app was built with the help of an external vendor that developed it for us (I4)". Being alert to this, digital entrepreneurs start their journey by recognizing and evaluating opportunities. First, they conduct firm market research and analysis. Notably, they do not conduct it in the same way that conventional market analysts would. Alternatively, they integrate their entrepreneurial mindset into it, often by using their existing background and experience. However, even in cases where they lack these characteristics, they actively seek available opportunities in the market and simultaneously use other beneficial skills (e.g. their robust digital capabilities) to acquire vast knowledge in the process.

As previously implied, they ultimately seek to connect the dots and come up with a precise VP. We identified 56 different VPs in our data (Table 4). Most of these align with the aforementioned challenges of the incumbents. For example, making workflows more efficient is compatible with current workflows that are inefficient, while aiming for automation aligns



Source(s): Authors' own work

Figure 3.
Data structure

Challenge	Type	Count
Current workflows are inefficient	Operational	45
Shortage of manpower	Social	37
Lack of resources and their high cost	Economic	36
New entrants are changing the industry's mindset	Commercial	35
Very weak digital capabilities	Technological	30
Intuitive and habitual decision-making and workflows	Operational	23
Increasing regulation	Political	22
Customers' expectations are rising	Commercial	21
Profits are diminishing	Economic	20
Lack of interoperability	Technological	18
Need for holistic solutions	Technological	18

Note(s): Since the last two items had the same count, we presented 11 challenges
Source(s): Authors' own work

Table 3.
Incumbents' challenges

Value proposition	Count
Making processes, decisions, and workflows more efficient	99
Focusing on financials (increasing revenue and/or cutting costs)	89
Aiming for automation	62
Technology brings more accurate results	36
Technology is revamping and taking over traditional jobs	33
Aiming and searching for new and improved production methods	32
Improving customer experience and service	27
Time-saving	26
Technology improves productivity and performance	24
Moving to "predict and prevent" mode	22

Source(s): Authors' own work

Table 4. Value proposition types

with the shortage of manpower and focusing on financials is compatible with diminishing profits.

To prepare themselves for the actual digital artifact implementation stage as part of their entrepreneurial mindset (e.g. actively searching for opportunities), they must realize how to advance from the ability to coherently communicate their VP to creating a sustainable venture. They must ensure that their weaknesses (e.g. the venture's risks or the technology's shortcomings) can be improved with time and that their business model can create a comprehendible market differentiation from the competing solutions available.

4.2 Seizing

Digital start-ups are constantly seeking various opportunities to exploit. For example, during the adversities of the COVID-19 pandemic, many incumbents accelerated their digital transformation processes and were ready to implement all available digital artifacts, even those that were not completely ready for implementation. Nevertheless, we found many similar opportunities in our data, such as generational changes, where younger people who are digital natives take over decision-making positions and are more open to digital innovation than their older predecessors.

However, as previously implied, even in scenarios where there is a reciprocal willingness to create and sustain a commercial relationship, the DI process can face severe hardship. In our data, we identified 87 challenges (Table 5) that digital start-ups face when attempting to align their digital artifacts with incumbents' business models and digital strategies.

Hardship	Type	Count
Technological change is very slow	Relative Advantage	79
Conservative mindset	Complexity	43
Technology has its limits	Relative Advantage	32
Outdated technological infrastructure	Compatibility	26
Reluctance to completely relinquish control to technology	Compatibility	24
Rather trust a human being	Relative Advantage	20
Lack of interoperability	Complexity	18
Need for holistic solutions	Compatibility	18
Older people's technological challenges	Compatibility	17
Do nothing mentality	Complexity	15

Source(s): Authors' own work

Table 5. Digital implementation hardships

Notably, these hardships range across the factors mentioned in Section 2.2.1. Some types of opposition to DI are objective (e.g. technology cannot solve all challenges), whereas many others are subjective. Some subjective types of opposition emerge from internal forces that may resist change (e.g. silo mentality), while others emerge from limiting infrastructure (e.g. overreliance on paperwork).

Therefore, at this stage, where the entrepreneurs formally create(d) a formal business out of their entrepreneurial ideation, they continue to conduct market analyses. They answer important initial questions, such as where to physically start their venture. They usually look for prime locations where there is a fundamentally sound digital entrepreneurial ecosystem, the type that increases their chances of raising funds and obtaining access to potential partnerships (e.g. with other relevant digital start-ups).

Such an ecosystem also enables the formation of salient strategic partnerships, especially for experimenting digital start-ups seeking design partners. Value co-creation assists in bridging many of the aforementioned hardships—especially the subjective ones that are far more challenging according to our data. Such strategic partnerships and knowledge sharing with incumbents and fellow digital start-ups enable constant learning, which is a fundamental pillar of the lean start-up methodology.

Digital start-ups must be both efficient and flexible to implement the lessons learned and modify their artifacts. Being efficient allows digital start-ups to succeed in the pilots started with their design partners while simultaneously maintaining a manageable risk level and not running out of financial resources. For example, our data indicate that to bridge the hardship of older people's challenges in understanding and using sophisticated digital technologies, digital start-ups must work hard to simplify their business models (e.g. using commonly accepted models in the market) and the output of their artifacts.

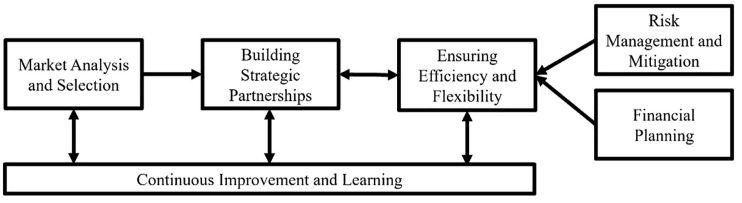
Figure 4 summarizes our findings in this section by depicting digital start-ups' approach to an effective DI.

4.3 Transforming

Upon successfully attaining a proof-of-concept, digital start-ups leverage the replicability potential of digital technologies to foster growth. This involves digitally implementing their artifacts on a larger scale and continually penetrating new markets.

Our findings indicate that at this stage, digital start-ups further develop DC to transform their leaders' roles from venture creators (and other professional managers that were brought in to complement such leaders' weaknesses; Shepherd and Patzelt, 2022) to digital entrepreneurial leaders. Commercial capabilities, such as appropriately engaging with customers, further evolve to capabilities such as achieving a customer-centric mindset, and market focus and branding, as well as operational capabilities such as mitigating risks to financial management.

Since digital entrepreneurial leaders are essentially strategic leaders, they must also develop a strategic vision for the digital start-up's further growth. Furthermore, digital start-



Source(s): Authors' own work

Figure 4.
Digital start-ups' approach to successful digital implementation

ups continue to develop their strategic networks for that purpose. One important finding is that due to the current information overload and lack of interoperability, customers seek holistic solutions rather than more niche ones. As a result, digital start-ups continue improving their solutions through innovation to present customers with new options. This essentially involves moving from the role of a specialist or generalist to the role of a system-of-systems creator (Berman *et al.*, 2023a). Alternatively, they bundle their niche solutions with strategic partners' or competitors' products, if possible.

Finally, since moving to new markets and adding more features to solve additional incumbents' challenges requires a great deal of adaptability and flexibility, which are basic entrepreneurial traits, digital start-ups are making efforts to maintain the entrepreneurial DNA and identity for as long as possible.

5. Discussion

Previous research has shown that digital start-ups strive to achieve many goals (e.g. customer satisfaction and internationalization; Felicetti *et al.*, 2023). However, two main goals have recently emerged and become very significant for such organizations: raising financial funds and augmenting sales revenue (e.g. Berman *et al.*, 2023b). Since DI serves as an engine for digital start-ups to successfully replicate digital business models at scale, it is mainly concerned with the latter goal. Consequently, as our analysis has shown, it can be considered a driver of digital entrepreneurship success.

Due to the aforementioned gap in the literature (Leso *et al.*, 2023), similar to our study, previous research has investigated how digital entrepreneurial firms evolve various DC (e.g. efficiency; Balboni *et al.*, 2019). Notwithstanding, our study investigated the topic in a holistic (i.e. presenting as many DC as the experts shared with us that are reflected in the entire entrepreneurial journey) and contextualized (i.e. the relationship between B2B digital start-ups and industry incumbents) manner. Using such an inclusive approach, we identified a reciprocal relationship between successful DI and DC development in digital start-ups. This finding suggests that they create much-needed DC during the sensing and seizing stages. Notably, these DC further improve and evolve throughout their journeys. This implies that certain DC help digital start-ups achieve successful DI, while successful DI helps digital start-ups with developing and evolving DC. As summarized in Table 6, this type of cycle helps

Sensing	Seizing	Transforming
Conducting a market and industry analysis	Conducting a market analysis and selection	Striving for market focus and branding
–	Building strategic partnerships	Building strategic networks
–	Engaging well with customers	Achieving a customer-centric mindset
–	Ensuring efficiency and flexibility	Achieving operational excellence
–		Maintaining entrepreneurial identity
–	Effective financial planning	Effective financial management
–	Effective risk management and mitigation	
Bring about the entrepreneurial mindset	Exploiting entrepreneurial and business opportunities	Constant innovation and technological development
Communicating the VP well		

Source(s): Authors' own work

Table 6. Evolution of digital start-ups dynamic capabilities

digital start-ups successfully grow in scale. For example, to start building their MVP version of an artifact, digital entrepreneurs must successfully engage with customers. Using the salient dynamic capability of continuous improvement and learning, they educate themselves about their customers' needs and implementation hardships to ultimately commence successful pilots. Thereafter, when they start their commercial relationships with customers, this dynamic capability evolves into a customer-centric mindset. This finding improves our understanding of the evolution of digital start-ups during the DI process (Giglio *et al.*, 2023) and how they can utilize such successful processes to further scale up (Shepherd and Patzelt, 2022).

Moreover, since we mentioned the importance of continuous improvement and learning, it is apparent from our findings that digital start-ups engage in a hybrid interplay of both causation and effectuation logic during their strategic decision-making processes when engaged in DI. Notably, this observation is congruent with scholarly understandings (e.g. Galkina *et al.*, 2022). Successfully implementing digital artifacts involves setting goals and adhering to them (e.g. growth via the value capture component). In our case, the causation logic is reflected in staying focused and not changing the course of action too often, for example. Nevertheless, as a dynamic challenge, DI requires entrepreneurial traits such as creative thinking, flexibility, and adaptability; for example, developing and implementing an artifact in stages is a form of experimentation that involves utilizing effectuation logic (Khurana *et al.*, 2022; Sarasvathy, 2001). In summary, existing research indicates that utilizing both logics in parallel should result in successful outcomes (Reymen *et al.*, 2015). As such, we were able to empirically present this in the current study.

6. Conclusion

6.1 Theoretical contributions

Our paper answered three calls for improving digital entrepreneurship research. First, we integrated the fields of entrepreneurship and information systems (Steininger, 2019) by incorporating digital start-ups and illustrating their roles in(to) the holistic digitalization theory. Secondly, we presented an explicit digital economy-related driver (i.e. DI) for digital entrepreneurship success using a highly ranked country on the GEI (Acs and Szerb, 2009) as a research setting (Berman *et al.*, 2023). Lastly, we used digital start-ups as the unit of analysis, unlike previous research that primarily concentrated on the individual level and picked digital entrepreneurs as their unit of analysis (Berman *et al.*, 2023; Dana and Dumez, 2015).

In this study, we showed how using a lean start-up methodology related DC (e.g. continuous improvement and learning) digital entrepreneurs can develop, improve, and evolve other DC [e.g. from market research (sensing) to market selection (seizing), to market focus (transforming)]. Moreover, we provided empirical evidence of how digital start-ups are combining causation and effectuation logic throughout their DI journeys.

6.2 Practical implications

Our research has certain practical implications for policymakers and digital entrepreneurs. First, we demonstrated why and how DI is a driver of digital entrepreneurship success. This is essential because policymakers have recently realized that it is not enough to increase entrepreneurial engagement. Instead, the goal should be to increase the success rate of newly established digital ventures (Shane, 2009). Furthermore, by reading this paper, digital entrepreneurs will learn a practical and effective approach to successful DI that can increase their likelihood of capturing value and ultimately becoming (more) successful.

6.3 Limitations and future research directions

As with all research, this study is not free of certain limitations. First, some of our interviews were conducted 3 years ago. Although we made sure this data remains relevant with the assistance of digital data investigations, future research would still need to validate these. Second, case studies customarily present a challenge with generalizing their findings. Thus, to minimize this inherent limitation, we opted for a multi-case study that is quite rigorous (Eisenhardt, 1989). Nevertheless, the study's context was limited to Israel. However, as explained, this context is an appropriate fit for studying DI. To promote better generalization of the findings, future research should involve other geographical settings, especially those that represent highly ranked GEI countries (Berman *et al.*, 2023). Third, due to the aforementioned scrutiny, it is advised that case studies be empirically tested. However, case studies that achieve this goal are quite extraordinary (Tsang, 2013). Due to time constraints, we could not adhere to this recommendation. Therefore, future research would greatly assist with testing our model using a deductive approach. Lastly, we looked at DI as a generic construct based on past research that categorized it as such (e.g. Schallmo *et al.*, 2022). However, it is quite clear that various digital technologies offer distinctive implementation challenges for both digital start-ups and incumbents. Consequently, this study is merely a stepping stone for much-needed future research. As such, scholars should use our findings to investigate digital start-ups' specific implementations of popular digital technologies (e.g. artificial intelligence).

Aside from future research that can overcome our study's limitations, more general avenues for future research exist. First, we articulated the saliency of continuous learning and improvement. Since this DC is at the heart of our study, future research can use multiple approaches from many management-related fields to improve our understanding of how digital entrepreneurs and start-ups specifically develop it. Such research should rely on theories such as knowledge spillover and absorptive capacity as a backbone (Kirschning and Mrożewski, 2023). Furthermore, there has been a recent rise in the use of sustainable practices that drive entrepreneurial actions in digital ventures (e.g. Almansour, 2024). Consequently, in light of Guimarães *et al.*'s (2023) observation, future similar research focusing on the topic of sustainable DC would help further promote this growing field of study while prompting even more interdisciplinarity.

References

Acs, Z.J. and Szerb, L. (2009), "The global entrepreneurship index (GEINDEX)", *Foundations and Trends® in Entrepreneurship*, Vol. 5 No. 5, pp. 341-435, doi: 10.1561/0300000027.

Aguilera, R.V., De Massis, A., Fini, R. and Vismara, S. (2023), "Organizational goals, outcomes, and the assessment of performance: reconceptualizing success in management studies", *Journal of Management Studies*, Vol. 61 No. 1, pp. 1-36, doi: 10.1111/joms.12994.

Allataifeh, H., Moghavvemi, S. and Peerally, J.A. (2021), "How does the digital innovation process unfold in practice? A novel third-generation and empirical-based need–solution pairing model", *European Journal of Innovation Management*, Vol. 26 No. 3, pp. 730-754, doi: 10.1108/EJIM-05-2021-0270.

Almansour, M. (2024), "How do green intellectual and co-creational capitals drive artificial intelligence innovation and green innovation in start-ups?", *European Journal of Innovation Management*, doi: 10.1108/EJIM-09-2023-0791.

Aloulou, W., Ayadi, F., Ramadani, V. and Dana, L.-P. (2023), "Dreaming digital or chasing new real pathways? Unveiling the determinants shaping Saudi youth's digital entrepreneurial intention", *International Journal of Entrepreneurial Behavior and Research*, Vol. 30 Nos 2/3, pp. 709-734, doi: 10.1108/IJEBR-10-2022-0942.

Alvarez, S.A. and Barney, J.B. (2007), "Discovery and creation: alternative theories of entrepreneurial action", *Strategic Entrepreneurship Journal*, Vol. 1 Nos 1-2, pp. 11-26, doi: 10.1002/sej.4.

Amit, R. and Zott, C. (2012), "Creating value through business model innovation", *MIT Sloan Management Review*, Vol. 53 No. 3, pp. 36-44.

Ammirato, S., Sofo, F., Felicetti, A.M. and Raso, C. (2018), "A methodology to support the adoption of IoT innovation and its application to the Italian bank branch security context", *European Journal of Innovation Management*, Vol. 22 No. 1, pp. 146-174, doi: 10.1108/EJIM-03-2018-0058.

Awuzie, B. and McDermott, P. (2017), "An abductive approach to qualitative built environment research: a viable system methodological exposé", *Qualitative Research Journal*, Vol. 17 No. 4, pp. 356-372, doi: 10.1108/QRJ-08-2016-0048.

Balboni, B., Bortoluzzi, G., Pugliese, R. and Tracogna, A. (2019), "Business model evolution, contextual ambidexterity and the growth performance of high-tech start-ups", *Journal of Business Research*, Vol. 99, pp. 115-124, doi: 10.1016/j.jbusres.2019.02.029.

Balicer, R.D. and Afek, A. (2017), "Digital health nation: israel's global big data innovation hub", *The Lancet*, Vol. 389, 10088, pp. 2451-2453, doi: 10.1016/S0140-6736(17)30876-0.

Baron, R.A. (2006), "Opportunity recognition as pattern recognition: how entrepreneurs 'connect the dots' to identify new business opportunities", *Academy of Management Perspectives*, Vol. 20 No. 1, pp. 104-119, doi: 10.5465/amp.2006.19873412.

Baskerville, R. and Dulipovici, A. (2006), "The theoretical foundations of knowledge management", *Knowledge Management Research and Practice*, Vol. 4 No. 2, pp. 83-105, doi: 10.1057/palgrave.kmrp.8500090.

Berman, T., Stuckler, D., Schallmo, D. and Kraus, S. (2023), "Drivers and success factors of digital entrepreneurship: a systematic literature review and future research agenda", *Journal of Small Business Management*, pp. 1-29, doi: 10.1080/00472778.2023.2238791.

Berman, T., Schallmo, D. and Williams, C.A. (2023a), "Digital entrepreneurial opportunities in a 4.0 world: a roadmap for data-driven entrepreneurs", in Schallmo, D., Pätzmann, J. and Clauß, T. (Eds), *Entrepreneurship in the Digital Era: Case Studies, Approaches, and Tools for Ecosystems, Business Models, and Technologies*, Springer International Publishing, Cham, pp. 37-51, doi: 10.1007/978-3-031-43188-3_3.

Berman, T., Schallmo, D. and Williams, C.A. (2023b), "Digital leadership as a driver of successful digital entrepreneurship", *ISPIM Connects, presented at the The Sound of Innovation*, Salzburg, Austria.

Blank, S. and Eckhardt, J.T. (2023), "The lean startup as an actionable theory of entrepreneurship", *Journal of Management*, doi: 10.1177/01492063231168095.

Bodolica, V., Spraggon, M. and Zaidi, S. (2015), "Boundary management strategies for governing family firms: a UAE-based case study", *Journal of Business Research*, Vol. 68 No. 3, pp. 684-693, doi: 10.1016/j.jbusres.2014.08.003.

Bohn, N. and Kundisch, D. (2020), "What are we talking about when we talk about technology pivots? – a Delphi study", *Information and Management*, Vol. 57 No. 6, 103319, doi: 10.1016/j.im.2020.103319.

Bonnet, D. and Westerman, G. (2020), "The new elements of digital transformation", *MIT Sloan Management Review*, Vol. 62 No. 2, pp. 82-89.

Borges, A.F.S., Laurindo, F.J.B., Spínola, M.M., Gonçalves, R.F. and Mattos, C.A. (2021), "The strategic use of artificial intelligence in the digital era: systematic literature review and future research directions", *International Journal of Information Management*, Vol. 57, 102225, doi: 10.1016/j.ijinfomgt.2020.102225.

Braun, V. and Clarke, V. (2006), "Using thematic analysis in psychology", *Qualitative Research in Psychology*, Vol. 3 No. 2, pp. 77-101, doi: 10.1191/1478088706qp063oa.

Burström, T., Lahti, T., Parida, V., Wartiovaara, M. and Wincent, J. (2023), "A definition, review, and extension of global ecosystems theory: trends, architecture and orchestration of global VCs and mechanisms behind unicorns", *Journal of Business Research*, Vol. 157, 113605, doi: 10.1016/j.jbusres.2022.113605.

Castellano, S., Khelladi, I. and Aouina Mejri, C. (2021), "Communicating customer value proposition in the French pharmaceutical industry. The case of OTC drugs", *Journal of Business and Industrial Marketing*, Vol. 37 No. 8, pp. 1675-1687, doi: 10.1108/JBIM-07-2020-0373.

Champenois, C., Lefebvre, V. and Ronteau, S. (2020), "Entrepreneurship as practice: systematic literature review of a nascent field", *Entrepreneurship and Regional Development*, Vol. 32 Nos 3-4, pp. 281-312, doi: 10.1080/08985626.2019.1641975.

Chen, P.-C., Chan, W.-C., Hung, S.-W. and Lin, D.-Z. (2020), "How entrepreneurs recognise entrepreneurial opportunity and its gaps: a cognitive theory perspective", *Technology Analysis and Strategic Management*, Vol. 32 No. 2, pp. 223-238, doi: 10.1080/09537325.2019.1648790.

Chengbin, W., Hongbin, W., Min, D. and Yongyan, F. (2022), "Lean startup approaches(LSAs): convergence, integration and improvement", *Technological Forecasting and Social Change*, Vol. 179, 121640, doi: 10.1016/j.techfore.2022.121640.

Cozzolino, A., Corbo, L. and Aversa, P. (2021), "Digital platform-based ecosystems: the evolution of collaboration and competition between incumbent producers and entrant platforms", *Journal of Business Research*, Vol. 126, pp. 385-400, doi: 10.1016/j.jbusres.2020.12.058.

Dana, L.-P. and Dumez, H. (2015), "Qualitative research revisited: epistemology of a comprehensive approach", *International Journal of Entrepreneurship and Small Business*, Vol. 26 No. 2, pp. 154-170, doi: 10.1504/IJESB.2015.071822.

Davidson, E. and Vaast, E. (2010), "Digital entrepreneurship and its sociomaterial enactment", *2010 43rd Hawaii International Conference on System Sciences, presented at the 2010 43rd Hawaii International Conference on System Sciences*, pp. 1-10, doi: 10.1109/HICSS.2010.150.

de Jong, A., Donelle, L. and Kerr, M. (2020), "Nurses' use of personal smartphone technology in the workplace: scoping review", *JMIR mHealth and uHealth*, Vol. 8 No. 11, e18774, doi: 10.2196/18774.

Dong, J.Q. (2019), "Moving a mountain with a teaspoon: toward a theory of digital entrepreneurship in the regulatory environment", *Technological Forecasting and Social Change*, Vol. 146, pp. 923-930, doi: 10.1016/j.techfore.2018.07.050.

Efrat, K. and Asseraf, Y. (2019), "A shift in perspective? The role of emotional branding in shaping born globals' performance", *International Business Review*, Vol. 28 No. 6, 101589, doi: 10.1016/j.ibusrev.2019.101589.

Eisenhardt, K.M. (1989), "Building theories from case study research", *Academy of Management Review*, Vol. 14 No. 4, pp. 532-550, doi: 10.5465/amr.1989.4308385.

Eisenhardt, K.M. and Graebner, M.E. (2007), "Theory building from cases: opportunities and challenges", *Academy of Management Journal*, Vol. 50 No. 1, pp. 25-32, doi: 10.5465/amj.2007.24160888.

Feldman, M., Fleming, L., Heaton, S., Desai, S. and Teece, D. (2022), "Uncommon methods and metrics for local entrepreneurial ecosystems", *Research Policy*, Vol. 51 No. 9, 104583, doi: 10.1016/j.respol.2022.104583.

Felicetti, A.M., Corvello, V. and Ammirato, S. (2023), "Digital innovation in entrepreneurial firms: a systematic literature review", *Review of Managerial Science*, Vol. 18 No. 2, pp. 315-362, doi: 10.1007/s11846-023-00638-9.

Ferrigno, G., Di Paola, N., Oguntegbe, K.F. and Kraus, S. (2023), "Value creation in the metaverse age: a thematic analysis of press releases", *International Journal of Entrepreneurial Behavior and Research*, Vol. 29 No. 11, pp. 337-363, doi: 10.1108/IJEBR-01-2023-0039.

Foss, N.J. and Klein, P.G. (2020), "Entrepreneurial opportunities: who needs them?", *Academy of Management Perspectives*, Vol. 34 No. 3, pp. 366-377, doi: 10.5465/amp.2017.0181.

Fuster, A., Plosser, M., Schnabl, P. and Vickery, J. (2019), "The role of technology in mortgage lending", *The Review of Financial Studies*, Vol. 32 No. 5, pp. 1854-1899, doi: 10.1093/rfs/hhz018.

Galindo-Martín, M.-Á., Castaño-Martínez, M.-S. and Méndez-Picazo, M.-T. (2023), "Digitalization, entrepreneurship and competitiveness: an analysis from 19 European countries", *Review of Managerial Science*, Vol. 17 No. 5, pp. 1809-1826, doi: 10.1007/s11846-023-00640-1.

Galkina, T., Atkova, I. and Yang, M. (2022), "From tensions to synergy: causation and effectuation in the process of venture creation", *Strategic Entrepreneurship Journal*, Vol. 16 No. 3, pp. 573-601, doi: 10.1002/sej.1413.

Garcia Martin, P.C., Sjödin, D., Nair, S. and Parida, V. (2023), "Managing start-up – incumbent digital solution co-creation: a four-phase process for intermediation in innovative contexts", *Industry and Innovation*, pp. 1-27, doi: 10.1080/13662716.2023.2189091.

Gartner, J., Maresch, D. and Tierney, R. (2022), "The key to scaling in the digital era: simultaneous automation, individualization and interdisciplinarity", *Journal of Small Business Management*, Vol. 62 No. 2, pp. 1-28, doi: 10.1080/00472778.2022.2073361.

Giglio, C., Corvello, V., Coniglio, I.M., Kraus, S. and Gast, J. (2023), "Cooperation between large companies and start-ups: an overview of the current state of research", *European Management Journal*, doi: 10.1016/j.emj.2023.08.002.

Gioia, D.A., Corley, K.G. and Hamilton, A.L. (2013), "Seeking qualitative rigor in inductive research: notes on the Gioia methodology", *Organizational Research Methods*, Vol. 16 No. 1, pp. 15-31, doi: 10.1177/1094428112452151.

Gittins, P. (2022), *British Farmers Are Being Offered a Lump Sum Payment to Leave the Industry – but at what Cost to Agriculture?*, Leeds University Business School, available at: https://business.leeds.ac.uk/cees/dir-record/research-blog/2000/british-farmers-are-being-offered-a-lump-sum-payment-to-leave-the-industry-but-at-what-cost-to-agriculture (accessed 1 December 2023).

Gölgeci, I., Arslan, A., Khan, Z. and Kontkanen, M. (2021), "Foreign firm operations and skills development of local employees in violence-hit countries", *Technological Forecasting and Social Change*, Vol. 162, 120376, doi: 10.1016/j.techfore.2020.120376.

Guimarães, J.da S., Fernandes, C., Veiga, P.M. and Ramadani, V. (2023), "The relationship between entrepreneurial ecosystems and digital transformation", *FIIB Business Review*, doi: 10.1177/23197145231173850.

Haftor, D.M. and Costa, R.C. (2023), "Five dimensions of business model innovation: a multi-case exploration of industrial incumbent firm's business model transformations", *Journal of Business Research*, Vol. 154, 113352, doi: 10.1016/j.jbusres.2022.113352.

Hanelt, A., Bohnsack, R., Marz, D. and 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*, Vol. 58 No. 5, pp. 1159-1197, doi: 10.1111/joms.12639.

Harrell, M.C. and Bradley, M.A. (2009), *Data Collection Methods. Semi-structured Interviews and Focus Groups*, The Defense Technical Information Center (DTIC), RAND National Defense Research Institute, available at: https://apps.dtic.mil/docs/cita tions/ADA512853

Hashai, N. (2015), "Within-industry diversification and firm performance—an S-shaped hypothesis", *Strategic Management Journal*, Vol. 36 No. 9, pp. 1378-1400, doi: 10.1002/smj.2290.

Henry, C. and Foss, L. (2015), "Case sensitive? A review of the literature on the use of case method in entrepreneurship research", *International Journal of Entrepreneurial Behavior and Research*, Vol. 21 No. 3, pp. 389-409, doi: 10.1108/IJEBR-03-2014-0054.

Hochstein, B., Chaker, N.N., Rangarajan, D., Nagel, D. and Hartmann, N.N. (2021), "Proactive value Co-creation via structural ambidexterity: customer success management and the modularization of frontline roles", *Journal of Service Research*, Vol. 24 No. 4, pp. 601-621, doi: 10.1177/1094670521997565.

Hutter, K., Gfrerer, A. and Lindner, B. (2021), "From popular to profitable: incumbents' experiences and challenges with external corporate accelerators", *International Journal of Innovation Management*, Vol. 25 No. 3, 2150035, doi: 10.1142/S1363919621500353.

Ilmudeen, A., Bao, Y., Alharbi, I.M. and Zubair, N. (2020), "Revisiting dynamic capability for organizations' innovation types: does it matter for organizational performance in China?", *European Journal of Innovation Management*, Vol. 24 No. 2, pp. 507-532, doi: 10.1108/EJIM-06-2019-0144.

Khurana, I., Dutta, D.K. and Schenkel, M.T. (2022), "Crisis and arbitrage opportunities: the role of causation, effectuation and entrepreneurial learning", *International Small Business Journal*, Vol. 40 No. 2, pp. 236-272, doi: 10.1177/02662426211061679.

Kimjeon, J. and Davidsson, P. (2022), "External enablers of entrepreneurship: a review and agenda for accumulation of strategically actionable knowledge", *Entrepreneurship Theory and Practice*, Vol. 46 No. 3, pp. 643-687, doi: 10.1177/10422587211010673.

Kirschning, R. and Mrożewski, M. (2023), "The role of entrepreneurial absorptive capacity for knowledge spillover entrepreneurship", *Small Business Economics*, Vol. 60 No. 1, pp. 105-120, doi: 10.1007/s11187-022-00639-0.

Klein, P.G. (2008), "Opportunity discovery, entrepreneurial action, and economic organization", *Strategic Entrepreneurship Journal*, Vol. 2 No. 3, pp. 175-190, doi: 10.1002/sej.50.

Klein, S., Schneider, S. and Spieth, P. (2021), "How to stay on the road? A business model perspective on mission drift in social purpose organizations", *Journal of Business Research*, Vol. 125, pp. 658-671, doi: 10.1016/j.jbusres.2020.01.053.

Köhler, J., Sönnichsen, S.D. and Beske-Jansen, P. (2022), "Towards a collaboration framework for circular economy: the role of dynamic capabilities and open innovation", *Business Strategy and the Environment*, Vol. 31 No. 6, pp. 2700-2713, doi: 10.1002/bse.3000.

Kraus, S., Palmer, C., Kailer, N., Kallinger, F.L. and Spitzer, J. (2018), "Digital entrepreneurship: a research agenda on new business models for the twenty-first century", *International Journal of Entrepreneurial Behavior and Research*, Vol. 25 No. 2, pp. 353-375, doi: 10.1108/IJEBR-06-2018-0425.

Lamine, W., Fayolle, A., Jack, S. and Audretsch, D. (2023), "Impact of digital technologies on entrepreneurship: taking stock and looking forward", *Technovation*, Vol. 126, 102823, doi: 10.1016/j.technovation.2023.102823.

Lammers, T., Rashid, L., Kratzer, J. and Voinov, A. (2022), "An analysis of the sustainability goals of digital technology start-ups in Berlin", *Technological Forecasting and Social Change*, Vol. 185, 122096, doi: 10.1016/j.techfore.2022.122096.

Le, H.V. and Suh, M. (2019), "Changing trends in internet startup value propositions, from the perspective of the customer", *Technological Forecasting and Social Change*, Vol. 146, pp. 853-864, doi: 10.1016/j.techfore.2018.06.021.

Lehmann, J. and Recker, J. (2022), "Offerings that are 'ever-in-the-making'", *Business and Information Systems Engineering*, Vol. 64 No. 1, pp. 69-89, doi: 10.1007/s12599-021-00730-y.

Leonard-Barton, D. and Kraus, W.A. (1985), "Implementing new technology", *Harvard Business Review*, Vol. 63 No. 6, pp. 102-110.

Leso, B.H., Cortimiglia, M.N., Ghezzi, A. and Minatogawa, V. (2023), "Exploring digital transformation capability via a blended perspective of dynamic capabilities and digital maturity: a pattern matching approach", *Review of Managerial Science*, Vol. 18 No. 4, pp. 1149-1187, doi: 10.1007/s11846-023-00692-3.

Lin, J., Carter, L. and Liu, D. (2021), "Privacy concerns and digital government: exploring citizen willingness to adopt the COVIDSafe app", *European Journal of Information Systems*, Vol. 30 No. 4, pp. 389-402, doi: 10.1080/0960085X.2021.1920857.

MacVaugh, J. and Schiavone, F. (2010), "Limits to the diffusion of innovation: a literature review and integrative model", *European Journal of Innovation Management*, Vol. 13 No. 2, pp. 197-221, doi: 10.1108/14601061011040258.

Maia, C. and Claro, J. (2013), "The role of a Proof of Concept Center in a university ecosystem: an exploratory study", *The Journal of Technology Transfer*, Vol. 38 No. 5, pp. 641-650, doi: 10.1007/s10961-012-9246-y.

Martínez-Caro, E., Cegarra-Navarro, J.G. and Alfonso-Ruiz, F.J. (2020), "Digital technologies and firm performance: the role of digital organisational culture", *Technological Forecasting and Social Change*, Vol. 154, 119962, doi: 10.1016/j.techfore.2020.119962.

Matt, C., Hess, T. and Benlian, A. (2015), "Digital transformation strategies", *Business and Information Systems Engineering*, Vol. 57 No. 5, pp. 339-343, doi: 10.1007/s12599-015-0401-5.

Mishra, C.S. and Zachary, R.K. (2015), "The theory of entrepreneurship", *Entrepreneurship Research Journal*, Vol. 5 No. 4, pp. 251-268, doi: 10.1515/erj-2015-0042.

Mithani, M.A. (2023), "Scaling digital and non-digital business models in foreign markets: the case of financial advice industry in the United States", *Journal of World Business*, Vol. 58 No. 4, 101457, doi: 10.1016/j.jwb.2023.101457.

Morgan-Thomas, A. (2016), "Rethinking technology in the SME context: affordances, practices and ICTs", *International Small Business Journal*, Vol. 34 No. 8, pp. 1122-1136, doi: 10.1177/0266242615613839.

Nili, A., Tate, M., Barros, A. and Johnstone, D. (2020), "An approach for selecting and using a method of inter-coder reliability in information management research", *International Journal of Information Management*, Vol. 54, 102154, doi: 10.1016/j.ijinfomgt.2020.102154.

Nobari, N. and Dehkordi, A.M. (2023), "Innovation intelligence in managing co-creation process between tech-enabled corporations and startups", *Technological Forecasting and Social Change*, Vol. 186, 122107, doi: 10.1016/j.techfore.2022.122107.

Olmert, S. (2023), "Generative AI + human touch = the future", *Calcalist*, 24 January, available at: https://www.calcalist.co.il/calcalistech/article/hyqnpbajs (accessed 9 December 2023).

Orlikowski, W.J. (2000), "Using technology and constituting structures: a practice lens for studying technology in organizations", *Organization Science*, Vol. 11 No. 4, pp. 404-428, doi: 10.1287/orsc.11.4.404.14600.

Payne, A., Frow, P., Steinhoff, L. and Eggert, A. (2020), "Toward a comprehensive framework of value proposition development: from strategy to implementation", *Industrial Marketing Management*, Vol. 87, pp. 244-255, doi: 10.1016/j.indmarman.2020.02.015.

Planko, J., Cramer, J., Hekkert, M.P. and Chappin, M.M.H. (2017), "Combining the technological innovation systems framework with the entrepreneurs' perspective on innovation", *Technology Analysis and Strategic Management*, Vol. 29 No. 6, pp. 614-625, doi: 10.1080/09537325.2016.1220515.

Pollack, J.M., Barr, S. and Hanson, S. (2017), "New venture creation as establishing stakeholder relationships: a trust-based perspective", *Journal of Business Venturing Insights*, Vol. 7, pp. 15-20, doi: 10.1016/j.jbvi.2016.12.003.

Prashantham, S. and Madhok, A. (2023), "Corporate-startup partnering: exploring attention dynamics and relational outcomes in asymmetric settings", *Strategic Entrepreneurship Journal*, Vol. 17 No. 4, pp. 770-801, doi: 10.1002/sej.1475.

Preller, R., Breugst, N., Patzelt, H. and Dibbern, R. (2023), "Team resilience building in response to co-founder exits", *Journal of Business Venturing*, Vol. 38 No. 6, 106328, doi: 10.1016/j.jbusvent.2023.106328.

Pugliese, R., Bortoluzzi, G. and Balzano, M. (2021), "What drives the growth of start-up firms? A tool for mapping the state-of-the-art of the empirical literature", *European Journal of Innovation Management*, Vol. 25 No. 6, pp. 242-272, doi: 10.1108/EJIM-03-2021-0163.

Ramadani, V., Istrefi-Jahja, A., Zeqiri, J. and Ribeiro-Soriano, D. (2023), "COVID-19 and SMEs digital transformation", *IEEE Transactions on Engineering Management*, Vol. 70 No. 8, pp. 2864-2873, doi: 10.1109/TEM.2022.3174628.

Reymen, I.M.M.J., Andries, P., Berends, H., Mauer, R., Stephan, U. and van Burg, E. (2015), "Understanding dynamics of strategic decision making in venture creation: a process study of effectuation and causation", *Strategic Entrepreneurship Journal*, Vol. 9 No. 4, pp. 351-379, doi: 10.1002/sej.1201.

Reynolds, O., O'Dochartaigh, A., Secchi, E., Marshall, D. and Prothero, A. (2023), "Framing innovation success, failure, and transformation: a systematic literature review", *Journal of Product Innovation Management*, doi: 10.1111/jpim.12706.

Richter, C., Kraus, S. and Syrjä, P. (2015), "The Smart City as an opportunity for entrepreneurship", *International Journal of Entrepreneurial Venturing*, Vol. 7 No. 3, pp. 211-226, doi: 10.1504/IJEV.2015.071481.

Rogers, E.M. (2003), *Diffusion of Innovations*, 5th ed., The Free Press of Glencoe, New York.

Sá, T., Ferreira, J.J.M. and Jayantilal, S. (2023), "Open innovation strategy: a systematic literature review", *European Journal of Innovation Management*, doi: 10.1108/EJIM-11-2022-0638.

Sarasvathy, S.D. (2001), "Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency", *Academy of Management Review*, Vol. 26 No. 2, pp. 243-263, doi: 10.5465/amr.2001.4378020.

Sastararuji, D., Hoonsopon, D., Pitchayadol, P. and Chiwamit, P. (2022), "Cloud accounting adoption in Thai SMEs amid the COVID-19 pandemic: an explanatory case study", *Journal of Innovation and Entrepreneurship*, Vol. 11 No. 1, p. 43, doi: 10.1186/s13731-022-00234-3.

Schallmo, D., Williams, C.A. and Tidd, J. (2022), "The art of holistic digitalisation: a meta-view on strategy, transformation, implementation, and maturity", *International Journal of Innovation Management*, Vol. 26 No. 3, 2240007, doi: 10.1142/S1363919622400072.

Shane, S. (2009), "Why encouraging more people to become entrepreneurs is bad public policy", *Small Business Economics*, Vol. 33 No. 2, pp. 141-149, doi: 10.1007/s11187-009-9215-5.

Shane, S. and Venkataraman, S. (2000), "The promise of entrepreneurship as a field of research", *Academy of Management Review*, Vol. 25 No. 1, pp. 217-226, doi: 10.5465/amr.2000.2791611.

Shaw, N., Eschenbrenner, B. and Brand, B.M. (2022), "Towards a Mobile App Diffusion of Innovations model: a multinational study of mobile wallet adoption", *Journal of Retailing and Consumer Services*, Vol. 64, 102768, doi: 10.1016/j.jretconser.2021.102768.

Shepherd, D.A. and Patzelt, H. (2022), "A call for research on the scaling of organizations and the scaling of social impact", *Entrepreneurship Theory and Practice*, Vol. 46 No. 2, pp. 255-268, doi: 10.1177/1042258720950599.

Si, S., Hall, J., Suddaby, R., Ahlstrom, D. and Wei, J. (2023), "Technology, entrepreneurship, innovation and social change in digital economics", *Technovation*, Vol. 119, 102484, doi: 10.1016/j.technovation.2022.102484.

Spender, J.-C., Corvello, V., Grimaldi, M. and Rippa, P. (2017), "Startups and open innovation: a review of the literature", *European Journal of Innovation Management*, Vol. 20 No. 1, pp. 4-30, doi: 10.1108/EJIM-12-2015-0131.

Srivastava, S., Panda, S. and Williams, W.A. (2021), "User-entrepreneurship and innovation: does customer involvement and learning orientation matter?", *Journal of Business and Industrial Marketing*, Vol. 37 No. 6, pp. 1182-1196, doi: 10.1108/JBIM-05-2021-0255.

Stake, R.E. (2005), *Multiple Case Study Analysis*, Illustrated edition, The Guilford Press, New York.

Steininger, D.M. (2019), "Linking information systems and entrepreneurship: a review and agenda for IT-associated and digital entrepreneurship research", *Information Systems Journal*, Vol. 29 No. 2, pp. 363-407, doi: 10.1111/isj.12206.

Tal, A. (2021), "Israeli agriculture—innovation and advancement", in Gulati, A., Zhou, Y., Huang, J., Tal, A. and Juneja, R. (Eds), *From Food Scarcity to Surplus: Innovations in Indian, Chinese and Israeli Agriculture*, Springer, Singapore, pp. 299-358.

Tang, H., Yao, Q., Boadu, F. and Xie, Y. (2022), "Distributed innovation, digital entrepreneurial opportunity, IT-enabled capabilities, and enterprises' digital innovation performance: a moderated mediating model", *European Journal of Innovation Management*, Vol. 26 No. 4, pp. 1106-1128, doi: 10.1108/EJIM-08-2021-0431.

Teece, D.J. (2014), "The foundations of enterprise performance: dynamic and ordinary capabilities in an (economic) theory of firms", *Academy of Management Perspectives*, Vol. 28 No. 4, pp. 328-352, doi: 10.5465/amp.2013.0116.

Teece, D.J. (2018), "Business models and dynamic capabilities", *Long Range Planning*, Vol. 51 No. 1, pp. 40-49, doi: 10.1016/j.lrp.2017.06.007.

Teece, D.J. (2020), "Hand in glove: open innovation and the dynamic capabilities framework", *Strategic Management Review*, Vol. 1 No. 2, pp. 233-253, doi: 10.1561/111.00000010.

Teece, D.J. and Linden, G. (2017), "Business models, value capture, and the digital enterprise", *Journal of Organization Design*, Vol. 6 No. 1, p. 8, doi: 10.1186/s41469-017-0018-x.

Tirado-Morueta, R., Aguaded-Gómez, J.I. and Hernando-Gómez, Á. (2018), "The socio-demographic divide in Internet usage moderated by digital literacy support", *Technology in Society*, Vol. 55, pp. 47-55, doi: 10.1016/j.techsoc.2018.06.001.

Todeschini, B.V., Cortimiglia, M.N., Callegaro-de-Menezes, D. and Ghezzi, A. (2017), "Innovative and sustainable business models in the fashion industry: entrepreneurial drivers, opportunities, and challenges", *Business Horizons*, Vol. 60 No. 6, pp. 759-770, doi: 10.1016/j.bushor.2017.07.003.

Trischler, M.F.G. and Li-Ying, J. (2023), "Digital business model innovation: toward construct clarity and future research directions", *Review of Managerial Science*, Vol. 17 No. 1, pp. 3-32, doi: 10.1007/s11846-021-00508-2.

Tsang, E.W.K. (2013), "Case study methodology: causal explanation, contextualization, and theorizing", *Journal of International Management*, Vol. 19 No. 2, pp. 195-202, doi: 10.1016/j.intman.2012.08.004.

Usman, M. and Vanhaverbeke, W. (2017), "How start-ups successfully organize and manage open innovation with large companies", *European Journal of Innovation Management*, Vol. 20 No. 1, pp. 171-186, doi: 10.1108/EJIM-07-2016-0066.

Van Burg, E., Cornelissen, J., Stam, W. and Jack, S. (2022), "Advancing qualitative entrepreneurship research: leveraging methodological plurality for achieving scholarly impact", *Entrepreneurship Theory and Practice*, Vol. 46 No. 1, pp. 3-20, doi: 10.1177/1042258720943051.

Wamba, S.F., Edwards, A. and Akter, S. (2019), "Social media adoption and use for improved emergency services operations: the case of the NSW SES", *Annals of Operations Research*, Vol. 283 No. 1, pp. 225-245, doi: 10.1007/s10479-017-2545-9.

Wang, Y., Douglas, M. and Hazen, B. (2021), "Diffusion of public bicycle systems: investigating influences of users' perceived risk and switching intention", *Transportation Research Part A: Policy and Practice*, Vol. 143, pp. 1-13, doi: 10.1016/j.tra.2020.11.002.

Wegner, D., da Silveira, A.B., Marconatto, D. and Mitrega, M. (2023), "A systematic review of collaborative digital platforms: structuring the domain and research agenda", *Review of Managerial Science*, doi: 10.1007/s11846-023-00695-0.

Welter, F., Baker, T. and Wirsching, K. (2019), "Three waves and counting: the rising tide of contextualization in entrepreneurship research", *Small Business Economics*, Vol. 52 No. 2, pp. 319-330, doi: 10.1007/s11187-018-0094-5.

Xu, Y. and Koivumäki, T. (2019), "Digital business model effectuation: an agile approach", *Computers in Human Behavior*, Vol. 95, pp. 307-314, doi: 10.1016/j.chb.2018.10.021.

Yi, Y., Wang, Y. and Shu, C. (2020), "Business model innovations in China: a focus on value propositions", *Business Horizons*, Vol. 63 No. 6, pp. 787-799, doi: 10.1016/j.bushor.2020.07.002.

Yin, R. (2018), *Case Study Research and Applications: Design and Methods*, 6th ed., Sage, Los Angeles, CA.

Zaheer, H., Breyer, Y. and Dumay, J. (2019a), "Digital entrepreneurship: an interdisciplinary structured literature review and research agenda", *Technological Forecasting and Social Change*, Vol. 148, 119735, doi: 10.1016/j.techfore.2019.119735.

Zaheer, H., Breyer, Y., Dumay, J. and Enjeti, M. (2019b), "Straight from the horse's mouth: founders' perspectives on achieving 'traction' in digital start-ups", *Computers in Human Behavior*, Vol. 95, pp. 262-274, doi: 10.1016/j.chb.2018.03.002.

Zahra, S.A., Li, Y., Agarwal, R., Barney, J.B., Dushnitsky, G., Graebner, M.E., Klein, P.G. and Sarasvathy, S. (2023), "Developing theoretical insights in entrepreneurship research", *Strategic Entrepreneurship Journal*, Vol. 18 No. 1, pp. 3-20, doi: 10.1002/sej.1486.

Zerbinati, S. and Souitaris, V. (2005), "Entrepreneurship in the public sector: a framework of analysis in European local governments", *Entrepreneurship and Regional Development*, Vol. 17 No. 1, pp. 43-64, doi: 10.1080/0898562042000310723.

Zutshi, A., Grilo, A. and Nodehi, T. (2021), "The value proposition of blockchain technologies and its impact on Digital Platforms", *Computers and Industrial Engineering*, Vol. 155, 107187, doi: 10.1016/j.cie.2021.107187.

Corresponding author
Sascha Kraus can be contacted at: sascha.kraus@zfke.de