

Business modeling under adversity: Resilience in international firms

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Abstract

Research Summary: This study employs resilience theory and examines the dynamics of business modeling in international firms that enable them to resist environmental shocks under the adverse conditions of a global pandemic. Our multiple-case study shows that firms develop various dynamic states of their business models (BMs) during the resilience process; each state differs in terms of the scope of BM change and the concurrent degree of BM innovativeness. Shifts in dynamic states result from attaining certain resilience capabilities. We contribute to the dynamic view on BMs, and the process perspective on organizational resilience; we also advance BM research in the context of internationalization.

Managerial Summary: Under conditions of extreme disruptions that take the form of long-lasting adversity, international firms need to continuously adjust their BMs to brave *force majeure* and remain resilient. This study takes a dynamic perspective on business modeling and examines how international firms develop different dynamic states of their BMs to stay resilient under extreme uncertainty; each state differs in terms of the scope of BM change, concurrent degree of BM innovativeness and the attained resilience capabilities. We show that business modeling is a continuous task of international firms that allows them not only to resist adversity but also to open new markets.

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KEYWORDS

adversity, business model, case study, internationalization, resilience

1 | INTRODUCTION

The global business environment unavoidably bears the hallmark of various disruptions, where extreme uncertainty and disorder do not necessarily stem from market changes (Delios et al., 2021; Hitt et al., 2021). These may result from non-business contexts, uncontrollable events, and contingencies that take the form of long-lasting adversity (Agarwal & Audretsch, 2020; Alvarez & Barney, 2020). While many businesses languish and die under these disruptive conditions, others are able to brave *force majeure* and remain viable (Iborra et al., 2020; Salvato et al., 2020; Wenzel et al., 2020; Williams & Shepherd, 2021). To resist exogenous shocks, firms make different decisions than they would under normal circumstances (Aagard & Nielsen, 2021) and continuously adjust their business models (BMs) (Amankwah-Amoah et al., 2021; Andries et al., 2020; Liu et al., 2021). However, the burgeoning literature on BM adaptation and BM change predominantly deals with technological transitions and regulatory shifts as the main sources of uncertainty and environmental disruptions (Martins et al., 2015). For instance, recent studies by Nambisan et al. (2018, 2019) explore changes in BM logic triggered by platform technologies, while Ahokangas et al. (2021) examine the impact on platform BMs of 5G mobile communications technologies and associated regulatory shifts. In practice, however, the palette of exogenous shocks to which firms must respond is rather more diverse, and the extent of environmental disruptions can reach extremes and culminate in drastic adversity (Rauch & Hulsink, 2021; Williams & Gregoire, 2015).

Moreover, these disorders also spread globally, disrupting the operations of international businesses (Välilikangas & Li, 2020); such firms' responses to adversity appear to be more complex than in domestic environments because conducting business across borders adds manifold layers of market and institutional uncertainty (Ghauri et al., 2021; Zahra, 2021). Hence, firms' resilience in an international context demands a higher adaptability of their BMs, greater endurance, and a more concerted coordination of foreign operations (Eriksson et al., 2022). This renders the international business context particularly suitable to inquiring into BM dynamics (Rissanen et al., 2020); however, studies at the interface of internationalization research and BMs are only now emerging (Bohnsack et al., 2020; Hennart et al., 2021; Onetti et al., 2012). Generally, although international BMs are common in practice, they remain a rare topic in academic research (Dunford et al., 2010), which lacks an understanding of both how international firms resist these radical challenges and the types of BM dynamics they undergo in order to adjust to, and recover from, these shocks (Chandra, 2018; Davidsson, 2020). The existing literature on entrepreneurship under crisis (Bartz & Winkler, 2016; Davidsson & Gordon, 2016) and research on firms' strategic responses to environmental shocks (Wenzel et al., 2020) do not specifically concentrate on either BM dynamic adjustments or international contexts. Therefore, there have been calls for new perspectives to examine BM processes under conditions of global disruption (Massa et al., 2017; SEJ, 2022).

In response, we suggest that organizational resilience theory—and especially its process view (Duchek, 2020; Meyer, 1982; Williams et al., 2017)—can equip scholars with the necessary tools to understand how international firms reconfigure their BMs to resist extreme environmental contingencies. Hence, the aim of this study is to examine the BM dynamics of international firms that allow them to remain resilient to environmental shocks. We conduct a multiple-case longitudinal study of six firms from Finland, which we followed from the beginning of the Covid-19 outbreak. We employ two rounds of interviews, electronic diaries, and secondary data.

Our study makes several contributions. *First*, it introduces resilience theory into BM research. Here, this theory from outside the field of business studies offers a novel understanding of how international firms develop resilience capabilities through continuous alterations of their BMs under conditions of the long-lasting adversity and radical



uncertainty that results from non-market disruptions. We adapt the resilience-as-process perspective, which is especially relevant for advancing the hitherto neglected dynamic view on BMs (Amit & Zott, 2015; Demil et al., 2015). We follow process thinking (Langley, 1999) and shift the focus from a static understanding of business models to the dynamics of business modeling in their real-time embodiment, which is attained through using the diary method. We adhere to the reasoning that business modeling is “a job never quite finished” (McGrath, 2010: 248); therefore, we view BMs as *dynamic states* that constantly develop through interactions with their environment (Levie & Lichtenstein, 2010; Sternad & Mödritscher, 2022). Hence, we build on understanding BMs as purposefully designed systems (Amit & Zott, 2001; Teece, 2010) that change “as a result of exogenous shocks that shift the objective interdependencies among firms and, therefore, require managers to make new design choices that optimize the BM to the new conditions” (Martins et al., 2015: 101). *Second*, understanding firms' resilience through business modeling offers insights into the process view on organizational resilience and how it is continuously accomplished, which remains a largely understudied stream of research (Duchek, 2020; Kantabutra & Ketrapakorn, 2021). Here, our study shows the nuanced components and designed processes of how international firms' resilience works and the means by which it is attained. *Third*, we contribute to the scarce research on BMs in international contexts (Bohnsack et al., 2020; Child et al., 2017; Hennart et al., 2021), thereby informing international entrepreneurship research and responding to the call to create “business modeling approaches for internationally-oriented entrepreneurial processes” (Onetti et al., 2012: 363) and obtain more knowledge on the specific characteristics of international BMs (Hennart, 2014; Rissanen et al., 2020; Prescott & Filatotchev, 2021). We also respond to the need to study the dynamics through which international BMs are “discovered, adjusted and fine-tuned by doing” in foreign markets (Winter & Szulanski, 2001: 731; Dunford et al., 2010; Cao et al., 2018).

2 | THEORETICAL BACKGROUND

2.1 | Business model research in international contexts

The BM concept has gradually shifted from being a popular buzzword that emerged from business jargon rooted in the dot-com boom of the 1990s (Amit & Zott, 2015; George & Bock, 2011; Massa et al., 2017), towards a credible tool for understanding the design and invention of businesses (Timmers, 1998; Wirtz et al., 2015). After more than 20 years of research and the production of over a thousand peer-reviewed academic articles on the topic (Baden-Fuller & Morgan, 2010; Zott et al., 2011), BM scholarship has come to be regarded as a promising research field (Demil et al., 2015; Rietveld, 2017; Zott & Amit, 2008). Although the definition of the BM concept remains a topic for heated debate,¹ BMs are increasingly approached as a novel boundary-spanning unit of analysis that explains the logic of the value-related processes in a firm and its ecosystem (Zott et al., 2011). In this approach, BMs depict “the design of transaction content, structure, and governance so as to create value through the exploitation of business opportunities” (Amit & Zott, 2001: 493). Recent BM research has predominantly focused on BM definitions (Ritter & Lettl, 2018), BM typologies (Timmers, 1998), and their main components (Osterwalder & Pigneur, 2010). However, BM dynamics have received far less attention (Foss & Saebi, 2017). Several authors indicate that static ‘snapshot’ BMs are unlikely to result in sustainable competitive advantages, due to changes that occur both inside and outside firms. It follows that a firm's advantage lies in its ability to adjust its BM as necessary (Amit & Zott, 2012; Teece, 2010). Nevertheless, scholars still know little about the actual functioning of the dynamic mechanisms in BMs (Ojala, 2016; Shepherd et al., 2023). The emerging literature on understanding BM processes adopts two main approaches. First, the rational positioning view advocates that fundamental BM changes are necessary to calibrate BMs to new interdependencies created by exogenous shocks, stating that these changes are reactive responses to external challenges (Martins et al., 2015). Second, the evolutionary view promotes a proactive approach through continuous and incremental changes, seeing “business model development as an initial experiment followed by constant fine-tuning based on trial-and-error learning” (Sosna et al., 2010: 384). Similarly, the literature

on entrepreneurship under conditions of crisis differentiates between various strategic responses to crisis, such as retrenchment, persevering, innovating, and exit (Wenzel et al., 2020), without, however, either specifying the implications of these responses for a firm's BM nor explaining how strategic decisions translate into BM change. Overall, despite these advancements extant research on BMs has not revealed the nuances of both reactive and proactive dynamics in BMs.

Beyond this, despite an intensifying interest towards BM in international contexts, research that integrates BMs and internationalization remains fragmentary (Bohnsack et al., 2020; Child et al., 2017; Dunford et al., 2010; Nielsen et al., 2021). In this respect, work by Onetti et al. (2012) is notable for representing an early attempt at integrating the activities of an internationalizing company with value-associated processes in their BM design, thereby allowing the transformation of strategic decisions into effective and efficient value processes. Importantly, these authors introduced the crucial notion of *locus* into our understanding of international BMs. Together with *focus* (the core value-generating activities of a company) and *modus* (the modus operandi of a business, which relates to internal organization, relationships with other players, and organizational boundaries), *locus* describes the location of activities in connection to space, crossing national borders, and local embeddedness, among other things. Following this categorization, our paper understands BM dynamics as changes in BM focus, modus, and locus. Taking this idea forward, Bohnsack et al. (2020) suggested that international companies have a particular type of firm-specific advantage, namely BM-specific advantages. These can be location-bound or non-location-bound. In this thinking, BM-specific components (value creation, delivery, and capture) that are location-bound need to be recombined and modified for the host country, whereas non-location-bound components can be transferred internationally without major adjustments. This insight has been borne out by further studies that confirm the need to readjust and calibrate BMs to foreign markets (Cao et al., 2018; Casadesus-Masanell & Zhu, 2012).

The importance of understanding the BMs of international entrepreneurial firms has also been signified by Hennart (2014) and Hennart et al. (2021), who argue that the rapid internationalization of international new ventures is not necessarily subject to knowledge-intensive products or founders' network relations and international experience. Rather, it is the form of BMs used by these firms, the products they sell, and the manner in which products are sold and to whom. In their effort to understand what factors predict the international BMs that small firms follow, Child et al. (2017) found that international BM dynamics depend on the industry (innovative vs. traditional), level of home economy development (developing or developed economy), and decision-makers' international experience.² Generally speaking, BM research on the international context is gaining ground (Eriksson et al., 2022; Prescott & Filatotchev, 2021), even if the dynamics of shaping and carving BMs to align with foreign market potential and remain viable under conditions of extreme environmental disruptions and radical uncertainty are yet to be examined. Here, we believe that resilience theory, with its origins in positive psychology and social work, is the key to filling this gap, and we now proceed to address this theory in organizational context.

2.2 | Resilience theory

Originating from positive psychology and social work, resilience theory came to encompass not only individuals but also organizations, and has since spread to different business disciplines to explain organizational resilience (Duchek, 2020; Meyer, 1982; Williams et al., 2017). Findings show that in the face of adversity and vulnerability, organizations can exhibit little deterioration in their functioning. Moreover, they can even achieve growth and gain higher levels of adaptation under disastrous conditions (Branzei & Abdelnour, 2010; Dewald & Bowen, 2010; Iborra et al., 2020).

Two main views exist on organizational resilience: (1) resilience as a predisposed attribute, and (2) resilience as a developmental process. The *first* perspective largely views resilience as a given function of specific organizational traits that become sources of resilience. Here, the most frequently mentioned characteristics are available resources and their redundancy, and reliable network relations (see e.g., Kendra & Wachtendorf, 2003; Välikangas & Romme,



2013; Fath et al., 2021). Also, effective types of collective behavior are recognized as essential traits of organizational resilience. For example, Weick (1993) posits that improvisation and bricolage, virtual role systems, an attitude of wisdom, and respectful interaction constitute collective sense-making and, thus, facilitate resilience in organizations. In an international context, Eriksson et al. (2022) regard internationalization as a source of firms' resilience, specifically identifying digitalization, strategic collaboration, customer intimacy, the agile use of resources and/or expertise, and an improved revenue model as vital for internationalizing firms. Overall, this perspective conceptualizes resilience predominantly as an *outcome* of adaptation responses *after* a crisis or adverse events have occurred; here, resilience relates to a state of bouncing back to a pre-trauma level of functioning (Bonanno et al., 2006; Hoffer Gittel et al., 2006). This approach fits well in the context of short-term adversity, such as flash-like disasters (e.g., earthquakes, terrorist attacks, scandals) that have a clear beginning and end in terms of disruption, as well as to such adversity's aftermath (Salvato et al., 2020; Williams & Shepherd, 2021). Scholars argue that this view is rather static and merely builds around positive outcomes in the face of adversity, neglecting either to explain how these outcomes are attained or how firms' resilience actually functions through designed processes (Duchek, 2020).

In this regard, the *second* processual perspective enriches our understanding of organizational resilience by regarding resilience not as a trait given from the outset but a capability developed over time as a transactional process between an agent and the environment (Kantabutra & Ketprapakorn, 2021; Vogus & Sutcliffe, 2007). From this perspective, resilience is “the *process* by which an actor (individual, organization, or community) builds and uses its *capability* endowments to interact with the environment in a way that positively adjusts and maintains functioning prior to, during, and following adversity” (Williams et al., 2017: 742, italics added). Here, adversity is a continuous condition and can present cascading risk factors and accumulating strains (Rao & Greve, 2018). The process perspective encompasses resilience as a multidimensional and uneven form of functioning that does not follow regular pattern. Thus, the course of recovery responses and the levels of resilience can differ depending on interpretations of adversity-induced voids, organizational processes, group relations, and networks (Barton & Khan, 2018; Williams & Shepherd, 2021). Overall, organizational resilience can be weaker or stronger as a result of the asymmetric interplay of risk and protective factors. Here, risk factors refer to characteristics or situations likely to result in negative adaptation in the face of adversity; the protective factors moderate the impact of adversity and facilitate positive adaptation (Thompson & Ravlin, 2017). In addition, Khan et al. (2018) develop the notion that resilient domains within an organization can be distributed unevenly, hence displaying positive adjustment in one domain while others may remain negative; they argue that an adversity affects, and is acted upon, not by the whole organization but by its parts (e.g., groups, teams, and departments). Hence, strains diminish organizational capabilities in certain locations, whereas some parts remain unaffected. In a similar vein, Kantabutra and Ketprapakorn (2021) show that different organizational components need to interact dynamically so as to ensure overall organizational resilience.

In addition, the process perspective emphasizes the strong agency of a firm that purposefully builds processes and capabilities so as to withstand adversities (Duchek, 2020). Lengnick-Hall et al. (2011: 245) argue that a firm's resilience capacity “is derived from a set of specific organizational capabilities, routines, practices, and processes by which a firm conceptually orients itself, acts to move forward, and creates a setting of diversity and adjustable integration.” This capacity can consist of cognitive, behavioral, and contextual elements, and results from mobilizing different organizational routines in dealing with uncertainty and complexity (Lengnick-Hall & Beck, 2005). Parker and Ameen (2017) find that a firm's ability to reconfigure its resources is recognized as an essential resilience capability. Additionally, businesses can gain experience in responding to continuous adversity. Thus, with every repeated disruption, they become more resilient—and this experience is recognized as a protective factor (Linnenluecke & Griffiths, 2010). While studies in this direction succeed in providing a number of insights into how firms can attain resilience, research here remains overly heterogenous in terms of contexts and methods and does not directly connect different resilience capabilities with the uneven progression of the resilience process itself.

Only few studies have sought to examine the stages of the resilience process in detail. For example, McManus et al. (2008) propose three elements inherent to the resilience management process: building situational awareness, managing keystone vulnerabilities, and increasing adaptive capacity. Further, a study by Linnenluecke et al. (2012)

presents a framework of organizational adaptation and resilience that consists of five stages: anticipatory adaptation, exposure, recovery and restoration, the post-impact determination of the organization's overall resilience, and future adaptation. In this understanding, resilience is merely one part of organizational recovery. Burnard and Bhamra (2011) understand resilience as adaptation, which is characterized by the three phases of detection and activation, response, and organizational learning; however, their study does not specify the nature of disruption. In general, while process studies on organizational resilience establish an important link between resilience inputs and outcomes and acknowledge the dynamic nature of resilience, they remain rare and largely fragmented; hence, the internal, nuanced workings of resilience stages and states require more attention (Duchek, 2020). In this study, we address this deficiency and specifically examine the resilience process from the perspective of firms' BMs (Liu et al., 2021; Niemimaa et al., 2019). Also, we find the process view on firm resilience more pertinent for our study, due to its longitudinal nature and the context of the Covid-19 pandemic, which has taken the form of an on-going, time-delimited adversity. In the following, we present the empirical data that underlie our study.

3 | METHODOLOGY

3.1 | A longitudinal multiple-case study

We followed a qualitative case study strategy to elucidate the dynamics of internationalizing firms' BMs that allow them to remain resilient to environmental shocks. We took an exploratory and longitudinal approach to our case study, which suits our purpose of elaborating existing concepts and interpretive theory building. Longitudinal qualitative methods are especially relevant to capturing the mechanisms of change within a specific context (Cassell & Symon, 1994; Stake, 1995); hence, this approach fits our purpose well, and enables us to unveil BM dynamics. Additionally, the adaptive design of the case study strategy allows for iterative theoretical and empirical choices (Denzin & Lincoln, 2011), which is highly appropriate for the relatively undeveloped status of BM research in IE, as well as for our application of resilience theory (Edmondson & McManus, 2007).

3.2 | Case selection

We applied the purposeful sampling approach (Gartner & Birley, 2002), which implies that the cases are selected for the specific purpose of the study and are seen to fulfill several criteria. First, the firms needed to have international operations in at least one foreign market in addition to their domestic market (Finland). Second, to ensure the homogeneity of our sample and further comparability of the data, we selected firms operating in a single sector and with similar BMs. Specifically, all firms represent business-to-customer digital platform marketplaces that operate on the basis of smartphone applications. Beyond this, platform businesses are particularly intriguing as they bring together supply and demand sides, represented by firms like Uber and Airbnb. These firms are rapidly gaining market shares and transforming global competition; yet, we know little about their internationalization (Alstyne et al., 2016). Given these criteria, we searched for suitable companies on the Internet, and initially approached 10 firms via e-mail or telephone. In the end, six firms agreed to participate in the study (see Table 1).

3.3 | Data collection

This study incorporated several qualitative techniques for data collection. *First*, we conducted two rounds of interviews, the first of which took place during the initial months of the Covid-19 outbreak; the second round was

TABLE 1 Information about the case firms and the primary data collection (names of case firms are anonymized).

Company, year of inception, core business	First international market entry and international markets	1st round of interviews Interviewee, date, duration	2nd round of interviews Interviewee, date, duration	Electronic diary entries
A (2011): B2C platform that connects individual consumers and merchants, and allows consumers to collect cashback from different purchases	2012 Russia, Sweden, Turkey, Singapore, India, Malaysia, Poland, Estonia, Latvia, Lithuania, United States, Hungary, Romania, Czech Republic, the Netherlands	CEO, December 20, 2019; 80 min. CTO, December 21, 2019; 35 min. Co-founder, January 20, 2020; 32 min.	CEO, December 17, 2020; 73 min. Co-founder, December 18, 2020; 42 min.	CEO: February 27, 2020; April 20, 2020; August 15, 2020; October 30, 2020 Co-founder: February 30, 2020; May 4, 2020; September 15, 2020
B (2013): B2C digital marketplace bringing together individual consumers and sustainable product brands	2013 United States, Sweden, United Kingdom, Germany	CEO/Co-founder, December 22, 2019; 70 min. Co-founder, January 29, 2020; 25 min.	CEO/Co-founder, March 26, 2021; 63 min. Co-founder, March 30, 2021; 37 min.	CEO/Co-founder: January 29, 2020; March 3, 2020; June 12, 2020; October 10, 2020; January 30, 2021 Co-founder: February 15, 2020; June 12, 2020; October 10, 2021
C (2013): online B2C booking service platform bringing together venue providers and people/organizations in need of event spaces	2015 Sweden, Denmark, Poland, Estonia, Germany, Spain, Italy, United Kingdom	Co-founder 1, January 21, 2020; 51 min. Co-founder 2, January 15, 2020; 75 min. Co-founder 3, January 20, 2020; 65 min. CEO/Co-founder, January 30, 2020; 67 min.	CEO/Co-founder, December 9, 2020; 71 min. Head of Expansion, January 7, 2021; 69 min.	CEO/Co-founder: March 15, 2020; June 20, 2020; December 10, 2020 Head of Expansion: March 16, 2020; June 21, 2020; November 10, 2020
D (2014): food delivery B2C service that operates as an online platform bringing together restaurants, delivery couriers, and food consumers	2016 Sweden, Estonia, Denmark, Latvia, Lithuania, Croatia, Czech Republic, Norway, Hungary, Georgia, Israel, Poland, Serbia, Greece, Azerbaijan, Slovakia, Slovenia, Kazakhstan, Cyprus, Malta, Japan, Germany	CEO, February 27, 2020; 60 min. Director of New Markets, March 14, 2020; 53 min. Head of Expansion, March 20, 2020; 78 min.	Head of Expansion, December 18, 2020; 45 min. Director of New Markets, February 3, 2021; 65 min.	Head of Expansion: May 20, 2020; August 22, 2020; October 2, 2020; February 2, 2021 Director of New Markets: May 31, 2020; August 17, 2020; October 11, 2020; January 27, 2021
E (2015): online B2C marketplace platform that brings together sellers and buyers of second-hand clothing and accessories	2018 Denmark, Germany	CEO/Co-founder, February 23, 2020; 64 min.	CEO/Co-founder, January 27, 2021; 76 min.	CEO/Co-founder: May 10, 2020; August 31, 2020; November 3, 2020

(Continues)

TABLE 1 (Continued)

Company, year of inception, core business	First international market entry and international markets	1st round of interviews Interviewee, date, duration	2nd round of interviews Interviewee, date, duration	Electronic diary entries
F (2015): end-to-end online platform that enables scalable reselling of refurbished mobile phones	2017 Belgium, Denmark, Estonia, Hungary, Latvia, Malta, Austria, Slovakia, Sweden, Croatia, Germany, France, Ireland, Lithuania, the Netherlands, Poland, Slovenia, Czech Republic, Spain, Greece, Italy, Luxembourg, Norway, Portugal	CEO/Co-founder, May 20, 2020; 45 min CEO/Co-founder, May 26, 2020; 57 min. Co-founder, May 26, 2020; 55 min.	CEO/Co-founder, June 3, 2021; 58 min. Co-founder, June 4, 2021; 55 min.	CEO/Co-founder: August 13, 2020; November 14, 2020; February 4, 2021; April 16, 2021 Co-founder: August 13, 2020; October 23, 2020; February 1, 2021

conducted after about 1 year (see Table 1). The interviews were semi-structured to reveal the context and respondents' subjective opinions on BM dynamics as well as resilience trajectories of developing opportunities in foreign markets (Gummesson, 2000; Stake, 1995). This method also provides space for further topics to emerge during conversation (Patton, 2015). Depending on the pandemic-related restrictions on personal meetings and our informants' preferences, we conducted both face-to-face interview meetings, and online sessions via Skype, Teams, or Zoom. The interview guides used in this study (see Appendixes A and B) comprised open-ended questions, as they permit informants to use their own terms (Patton, 2015). In total, we conducted 27 interviews with 17 key decision-makers (such as CEOs, co-founders, managers responsible for foreign expansion, etc.); each interview lasted 25–78 min and was recorded and subsequently transcribed verbatim. Informants were made aware of the fact that they were being recorded. In order to achieve methodological rigor and ensure the adequacy of our research procedures, we documented the entire data collection process in a research diary, where we took notes on important issues (e.g., interview setting, general atmosphere of the conversation, post-interview discussions). Furthermore, to ensure the accuracy of our transcripts, we returned them to the interviewees for verification and follow-up questions; a number of such follow-up conversations were handled via the WhatsApp or WeChat mobile applications, in form of text or voice-recorded messages.

Second, we incorporated a diary method to ensure the longitudinal approach and grasp the BM dynamics and resilience development. A diary can be understood as an annotated chronological journal that allows a research participant to reflect on their own actions, experiences, and behaviors (Nezlek, 2012; Zimmerman & Wieder, 1977). The diary method has several fundamental benefits over more traditional designs that renders it particularly suitable for the purposes of this research. It allows researchers to overcome the problems of direct observation and obtaining an in situ journaling-type of record of the processes in question (such as, in this study, opportunity development in foreign markets and concomitant BM dynamics). Also, this method recognizes the importance of natural and spontaneous contextual details, as well as the mundane and seemingly unimportant aspects that provide additional insight into the studied processes (Wheeler & Reis, 1991). Finally, it also enables a dramatic reduction in the likelihood of retrospection, as time elapsed between an event and its record remains relatively short, thereby increasing research reliability (Bolger et al., 2003).

For the purposes of this research, the diary was administered in digital format using the Webropol tool; a link to the diary was distributed among our interviewees. A total 11 out of 17 informants whom we interviewed also filled in the diaries. They were asked to use the diary to describe, in a free format, their current international activities, key decisions on foreign markets, and respective transformations of their firm's BM (see Appendix C). Diary



entries were made by them every 2- to 3-months; and to ensure entry regularity, we sent a reminder to our informants when it was time for a new entry. All entries were made during the time between the first and second interview rounds. Each diary consisted of 3–5 entries, and we received 39 entries in total. On average, each entry was about half a page in length; together, the diaries produced 61 pages of written text (Times New Roman font, 12-point, line-spacing 1.15). These data supplemented the interviews and served as material with which to prepare for the second round.

Third, besides the primary data sources, we incorporated secondary data from websites (such as firm stories and news updates), and blogs and podcasts about the interviewees, their firms, products, main clients, and so on. While not treated as primary data, these additional sources were consistently used to prepare for interviews and verify the information obtained in the interviews (Cassell & Symon, 1994). For instance, many interviews contained stories about how the informants established and internationalized their ventures, and whenever possible we compared this information with that available online. Overall, combining the interviews, diaries, and secondary data served as the data-source triangulation (Denzin, 2012) and strengthened the validity and reliability of our research (see Tables 1 and 2).

3.4 | Data analysis

The unit of analysis in this study is a firm's BM. Our data analysis encompassed two stages. First, we did not immediately start by developing new emergent concepts, but instead connected our data to concepts identified in the literature. Here, we followed an a priori coding strategy where codes are developed from the theory before examining the data (Lichtman, 2013; Saldana, 2016). Thus, we assigned to our data the codes related to existing conceptualizations of the concepts of BMs, for instance to identify BM elements such as focus, modus, and locus (Onetti et al., 2012); we also used the codes 'risk factors' and 'protective factors', derived from resilience theory (Thompson & Ravlin, 2017). To enhance the consistency of our interpretations, we developed a code manual (or a "dictionary") containing the exact definitions of the codes taken from the literature. In addition, as suggested by Miles et al. (2014), we used manual techniques such as matrices, tables, and mind maps to arrange and condense our data, thereby identifying systematic patterns and interrelationships within the data. Also, we employed electronic analysis using NVivo 11 to classify and organize our voluminous semi-structured data into themes such as, for example, "BM focus", "BM modus", and "BM locus". While the main thrust of our analysis was data driven, this initial stage was important for recognizing focal concepts in the data and navigating the empirical materials; it formed an essential basis for the further inductive work that prevailed in our study.

Second, our analysis continued with data-driven theorizing and the identification of emerging informant-centric themes. We focused on inductively³ uncovering the firms' BM dynamics that allowed for generating capabilities to withstand adversities and maintain functioning in international markets. We adopted the so-called Gioia approach (Corley & Gioia, 2011; Gioia et al., 2013) and started by performing "initial data coding, maintaining the integrity of 1st-order (informant-centric) terms" (Gioia et al., 2013: 26). Our data in textual format were analyzed by employing an open-coding technique (Glaser, 2016), meaning that the way in which we defined, labeled, and categorized our codes was not to be driven by prior theoretical knowledge—instead, we let the data 'speak' and strived to retain the specific words and phrases used by our informants (see Table 3). Next, we moved from the raw data excerpts and codes towards categorizing first-order concepts and clustering them into more general second-order themes, which were then distilled into overarching aggregate theoretical dimensions. In this iterative process we repeatedly moved back and forth between the data and the themes, thereby enabling the development of emerging themes related to the dynamic states of firms' BMs; these themes are presented in our data structure (Figure 1). Notably, all the authors of this paper were involved in the data analysis to avoid ambiguity in our interpretations.

TABLE 2 Data sources.

	Interviews (primary)	Electronic diary entries (primary)	Company blogs and vlogs (secondary)	Company stories from their web pages (secondary)
Data item	27	39	35	6
Pages of transcribed text	262	61	198	12
Description of the data and type of information obtained	Informants shared their opinions and stories on how their company changed its BM in order to remain resilient and develop international market opportunities under adverse conditions; retrospective interviews	Informants wrote their own thoughts and current reflections on the firm's activities and main decisions; real-time journaling-type data	Company representatives shared the stories of their firm as part of a business or educational event; they gave their speeches in light of the event themes and/or according to the questions asked by moderators; users shared their experiences of using the studied firms' digital platforms; real-time data	Companies presented the stories of their development, describing events, key decision makers, and milestones (e.g., how a firm was founded, by whom, markets entered by year); retrospective data
Advantages	Primary in-depth insider information from decision-makers; two rounds of interviews allowed researchers to grasp dynamics of change	Primary real-time data; understanding the phenomenon in question across time	Insider information from decision-makers, against which the primary data can be verified and amended	Official information against which the primary data can be verified and amended
Limitations	Retrospection; the accuracy of information obtained may be affected by post-hoc rationalization	Time-consuming method for informants; requires continuous reminders to fill in the diaries	Information provided may not fully correspond with the research aim of the study; analysis of social media information excluded	Information is condensed into a short story that does not open up key decisions about the studied period and reasons for them

To grasp the dynamism of BMs during phases of adversity and the concurrent development of international firms' resilience capabilities, we followed the dynamic-states approach (Levie & Lichtenstein, 2010), which is a powerful alternative to the much-criticized stage view on business processes. It has been shown that the dynamic-states approach is specifically consistent with the BM concept and BMs' non-linear dynamics; hence, dynamic states represent "the best perceived match between a business model and the market potential" (Levie & Lichtenstein, 2010: 333). This is because BMs contain the inherent feature of being both stable and dynamic at the same time, in order to maintain themselves as a whole and remain sustainable and viable in face of external changes (Sternad & Mödrtscher, 2022). Moreover, Levie and Lichtenstein (2010: 334) stipulate that shifts from one dynamic state to another occur due to significant changes in

TABLE 3 Additional evidence from the data.

Theme	Representative quotations
<i>Continuous adversity</i>	<p>CEO, <i>Company A</i>, 2nd round: "Covid has affected the absolute basics of our business. More than a third of it was travel-related, and booking sites such as hotels.com and booking.com have pretty much died. The total impact for us has been negative... Dozens of merchants froze their marketing budgets, put their partnership with us on hold. They were unsure about what was going to happen, so no longer wanted to accept and pay for sales from us."</p> <p>CEO, <i>Company C</i>, 2nd round: "[B]ack then we just did not know whether the company was going to survive or if we were running out of cash. We did not know anything, except for sure that we were not going to generate any sales... The situation is now repeating itself. Mass meetings are forbidden. The whole business is on hold."</p> <p>Co-founder, <i>Company B</i>, diary entry June 12, 2020: "In Sweden we lost 50% of our revenues, and they never returned to their pre-pandemic state. Things just stagnated at the same low level. It has not really ever recovered from that."</p> <p>CEO, <i>Company E</i>, diary entry August 31, 2020: "Thanks to Covid, we can barely plan anything because the next day a local government decision can turn things completely on their head. Quite disastrous...."</p> <p>Head of Expansion, <i>Company D</i>, 2nd round: "We were in Japan and started reading that countries were closing their borders, and Japan was planning to close theirs. So, we were thinking 'Do we stay here? Do we go back?' And then we left on more or less the last flight. We could not go to Germany at all."</p>
<i>Maintaining the status quo state</i>	
Surviving	<p>CEO, <i>Company C</i>, 2nd round: "[T]he only rationale, the only action to be taken was to go into survival mode."</p> <p>Head of Global Operations, <i>Company B</i>, 2nd round: "We had to postpone our international growth. Our staff were laid off, myself included. I was away for 3 months and we just focused on survival mode... We constantly needed to check and be aware of when, if things did not change, we'd have burned all of our resources."</p> <p>CEO, <i>Company A</i>, 2nd round: "March to April 2020 was a very critical period. We needed to try and understand how long Covid would last, how it affects our business, and what's the worst-case scenario. We introduced a part-time lay-off model where we started working 3 days a week. Our main target is just to ensure that the company survives. Then, we cut some costs related to the services we were using, for example, how often the cleaning people visit the offices and things like that."</p>
Bouncing back	<p>Co-founder, <i>Company A</i>, diary entry May 4, 2020: "The steps to get back to normal were first of all the layoffs. These are hard decisions because they touch people's income and feelings of security."</p> <p>CEO, <i>Company B</i>, 1st round: "When Covid hit, our BM was far from able to react to all the harsh changes. We just tried to return step by step to the previous levels."</p> <p>CEO, <i>Company B</i>, March 3, 2020: "The first thing to start the recovery is to see where we are now in relation to pre-Covid times and try to get back at least to those levels."</p>
Immobilizing the development of foreign markets	<p>CEO, <i>Company A</i>, 2nd round: "We postponed many decisions. A lot of planned recruitment was put on hold, marketing campaigns were canceled or postponed. But it helped us keep up."</p> <p>Head of Global Operations, <i>Company A</i>, 2nd round: "We prepared everything for this opportunity, but now we have to postpone our launch in the Spanish market. We also put hiring the team in Poland on hold."</p> <p>CEO, <i>Company E</i>, diary entry August 30, 2020: "In terms of internationalization, it's not a very smart move to push capital into new markets at the moment... Certain types of decision were just delayed ... like entering new markets."</p>

(Continues)

TABLE 3 (Continued)

Theme	Representative quotations
<i>Compensating state</i>	
Getting rid of the irrelevant	<p>CEO, <i>Company A</i>, 1st round: "Of course we lost many deals on the travel side. But now we are compensating by putting more effort into other deals. We need to cut everything that's not so relevant."</p> <p>CEO, <i>Company A</i>, 2nd round: "We had to change the support operations but the core of the business stayed the same. We could not work with travel offers any more, but instead we started to promote pharmacy and grocery offers we also had. We focused on them. The content stayed the same. We were not investing in other development initiatives. We strengthened our existing consumers and merchants; our operations stayed the same."</p>
Focusing	<p>CEO, <i>Company A</i>, diary entry April 20, 2020: "[N]ow we have focused more on our existing things and trying to improve them."</p> <p>CEO, <i>Company C</i>, diary entry March 15, 2020: "Because events aren't possible now and venues are closed, we are focusing on product development."</p> <p>CEO, <i>Company F</i>, second round: "Under these conditions, we need to concentrate on the core value and not to spread our efforts elsewhere."</p> <p>Head of Global Operations, <i>Company C</i>, 2nd round: "[N]ow when bookings aren't possible, we are focusing on online visibility and branding. So, we have had to constantly adapt to the situation."</p>
Balancing	<p>CEO, <i>Company B</i>, diary entry June 12, 2020: "Our response to this shock was that we just tried to increase sales in other markets through marketing campaigns."</p> <p>Co-founder, <i>Company A</i>, diary entry May 4, 2020: "Our strength is that we are in 17 different countries and our revenue comes from very different types of sources. So even if one partner goes away, if one country is hit more by Covid than another, the combined effect is balanced."</p>
<i>Extension state</i>	
Finding supplementary offers	<p>CEO, <i>Company A</i>, diary entry October 30, 2020: "The new extended product categories have brought in new cash flow that we did not have before. And with that money we can still fund our regular operations, which currently aren't bringing in any money."</p> <p>CEO, <i>Company B</i>, 2nd round: "What's improved our resilience is that we now have these different revenue streams. Also, we are not dependent on one company or one market. Now for example we have added home decor items to our platform. So we do not concentrate specifically on one brand, one niche or one market segment."</p>
Integrating	<p>Head of Global Operations, <i>Company C</i>, 2nd round: "Covid gave us new opportunities to develop and integrate new product categories, not only venues but also catering, bands, all kinds of other services... Most likely we would not have expanded into bands, agencies, and different performers without it."</p>
<i>Proactiveness state</i>	
Reviving	<p>CEO, <i>Company A</i>, 2nd round: "We're trying to act even before the regulations come, to anticipate them ... so that we do not wait for somebody to tell us what to do. This has been a good strategy, being active there and like proactive."</p> <p>Head of Global Operations, <i>Company C</i>, 2nd round: "Covid is giving us a unique opportunity to be constantly learning and acquiring new competencies as we go, before we spend too much money. So, I think every month we change something in our processes, in our sales approach, in our pitch, to adapt to the situation. We have to build a new narrative for our venue providers."</p> <p>CEO, <i>Company B</i>, diary entry January 30, 2021: "We're definitely seeing opportunities in this current Covid situation. We want to improve the service side, to make the products last longer, to add circular economy elements, we anticipate the new demand... We want to take our services to the next level, renew them."</p>

TABLE 3 (Continued)

Theme	Representative quotations
Redesigning	<p>CEO, <i>Company A</i>, 2nd round: “We changed our model so that when we reached a certain revenue level we were able to get back to working 5 days a week. We had to develop new tools and kind of crisis competences that had an impact on our profitability. When we did this deeply enough, it gave us the confidence that even if this crisis lasts a long time, we have certain tools available to get us through. These were often quick decisions. But after that we just followed the model that we have created and how we redesigned our business.”</p> <p>Director of New Markets, <i>Company D</i>, 2nd round: “Our business has been fueled by Covid. We developed so many new things because of it.”</p> <p>CEO, <i>Company B</i>, 2nd round: “Covid gave us the opportunity to redesign our business model. We're trying to keep the mindset that if we have to change the way of doing things because of some external impact, then we'll do it.”</p>
Accumulating potential	<p>Head of Global Operations, <i>Company C</i>, 2nd round: “Because of Covid, we changed our operations. Now we build the supply infrastructure first before investing in marketing. I think this was enforced or strengthened during Covid.”</p> <p>CEO, <i>Company B</i>, 2nd round: “The event industry has changed a lot because of Covid, there are things that we have not seen before... Like virtual event players are popping up nowadays... All those virtual event providers can be part of our inventory, part of our selection. But we also need to find the new types of users.”</p> <p>CEO, <i>Company A</i>, 1st round: “We try to think from the perspective of a proactive player. One of our big projects is to acquire as many competitors as possible.”</p> <p>Co-founder, <i>Company A</i>, 2nd round: “We've started to do many new things, now we offer gift-card and coupon deals and that's how we got our biggest merchant [name of the company] back. Now we are trying to start working with [name of the company] and [name of the company] that way. We're constantly trying to redesign our business model, to find different ways of working with banks, with package delivery companies, with payment operators, to expand our data platform... Covid made us think in a different way... We even look for them in areas we did not think about before. We've started to contact other players. Yes, it pushed us to develop ourselves.”</p> <p>Head of Global Operations, <i>Company B</i>, diary entry November 10, 2020: “I see only positive effects. Because of Covid, we refined our strategy. We refined our objectives and we are more ready to get started. I'm more confident about our business than ever. We're doing very good things to prepare for the time when Covid's gone.”</p> <p>CEO, <i>Company C</i>, 2nd round: “We can now focus 100% on building for future growth, and the more we focus on building the supply side and the optimization of the website, the more we'll benefit from the massive growth when things get back to normal. So, when the demand comes back, when people start booking once again, then we'll already be there.”</p>

the environment and subsequent “alternations of large parts of the firm's BM and/or a reorganization of the configuration of activities that create value in that business model”; these transformations lead to a new dynamic state.

The dynamic-states approach is also consistent with our understanding of process and the concomitant analysis generated through techniques suggested by Langley (1999; 2007) and Langley et al. (2013). In particular, we combined the interview data from both rounds with the real-time data collected from the diaries, as well as from the secondary data; we also compared these data across all cases. We applied a visual mapping strategy and connected specific events (e.g., lockdowns, governmental safety regulations related to pandemic, etc.) and decisions with the concurrent BM dynamics, in order to identify how they influenced the development of resilience capabilities. The dynamic-states approach is congruent with Langley's (2007) process thinking because both of these support the

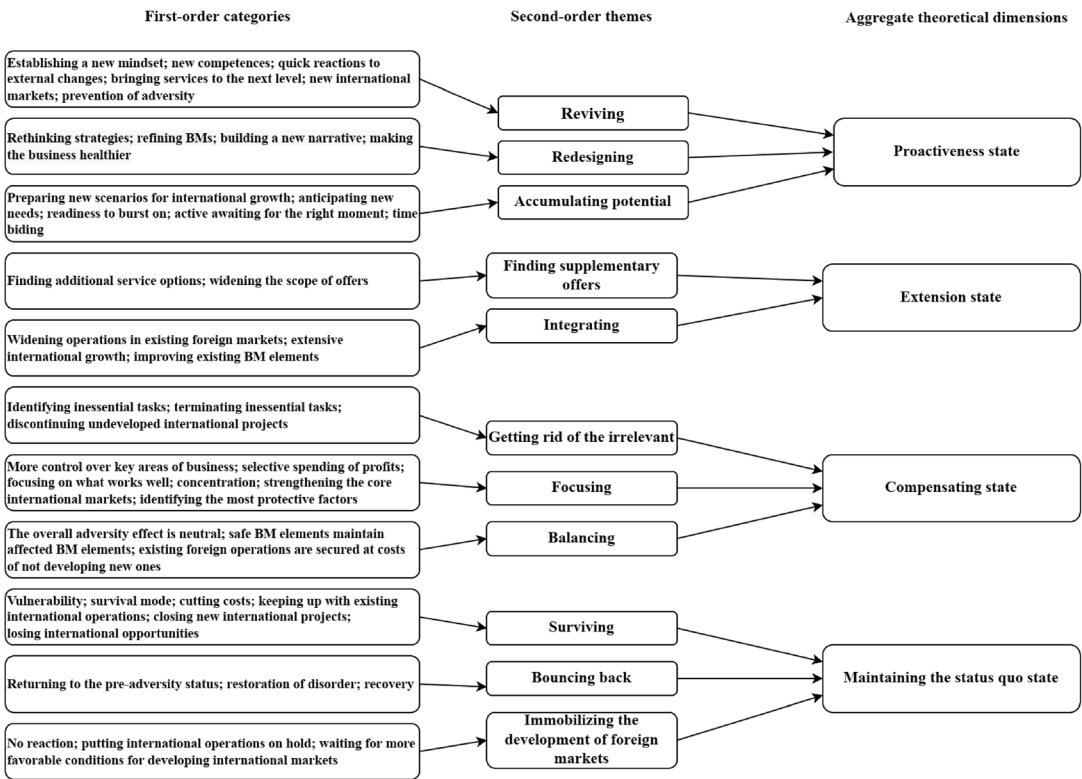


FIGURE 1 Data structure.

notion of “outcomes as inputs”. In this regard, the dynamic state that emerges is an outcome of a firm's interaction with its environment and, simultaneously, the input for the next iteration of this interaction. Furthermore, this is congruent with the visual-mapping strategy (Langley, 1999) as it does not decompose the process into sequential periods that progress according to some developmental pattern. In this vein, we mapped events and subsequent decisions/BM activities as the inputs and outputs along the path of the resilience process.

4 | FINDINGS

Our findings show that the Covid-19 outbreak represented a true adversity condition for the studied firms.⁴ Nevertheless, all firms coped with the crisis and remained active in business throughout the data collection period, even as their international operations were thoroughly affected by concurrent events in the global business environment. The crisis took the form of a continuous adversity because the pandemic situation was prolonged and unpredictable, and quarantine restrictions were often introduced by governments at just a few hours' notice. Hence, the studied firms often could not estimate whether they could continue operating normally or whether their operations needed to be canceled (logistics operations, international deliveries, and international business meetings). Company C's Head of Global Operations described this as follows: “When the pandemic hit, basically 100% of our demand both in Finland and abroad was wiped out overnight. We weren't sure whether we'd cope and survive.” His colleague, the company's CEO used similarly dramatic vocabulary: “[T]he whole world ended! March to April 2020 was a very tough time for us, we lost about 98% of our international revenues. It was a catastrophe. We lost our revenue streams completely for two months. We had to freeze our internationalization efforts completely. In my view, we'll

TABLE 4 Cross-case comparison of the firms' resilience processes.

Case firm	Resilience processes
A	Maintaining status quo → Compensating → Extension → Proactiveness
B	Maintaining status quo → Extension → Proactiveness
C	Maintaining status quo → Compensating → Extension → Maintaining status quo → Compensating → Extension → Proactiveness
D	Maintaining status quo → Compensating → Extension → Proactiveness
E	Maintaining status quo → Compensating
F	Maintaining status quo → Compensating → Proactiveness

have to start almost from scratch there again.” This adversity and radical uncertainty could paralyze the entire business, or, conversely, force it to make extremely hasty decisions. For example, the CEO of Company E explained that “it was a continuous shock and uncertainty. There were many really rushed decisions when we had to react fast without thinking properly. For example, in Denmark and Germany, when there was a complete lockdown some of our delivery facilities were opened for only a couple of hours...”

Further, our findings indicate that the studied firms adjusted their BMs and responded to this adversity so as to continue functioning in international markets. The development of their resilience followed certain trajectories that were specific to each firm (see Table 4); each trajectory implied a set of BM dynamic states. We identified four distinctive dynamic states, where each state was characterized by specific BM dynamics and subsequent resilience capabilities. Notably, some firms developed only some of these dynamic states, others looped back to a previous state or passed over some states. Next, we provide our findings on each of the states we identified.

4.1 | Maintaining the status quo state

Our data show that when Covid-19 erupted and hit the studied firms, their natural first reaction was shock, followed by the fear of extreme vulnerability because the pandemic could shut down not only their foreign operations but their entire business. To ensure their continued existence, the firms had to engage in self-preservation and switch to what they termed “survival mode”. As the CEO of Company A stated: “When Covid started, our only mission was to maintain our viability as a well-functioning company. We had to shift our focus.” Likewise, Company C's CEO reported that “our only rationale, the only action to be taken was to go into survival mode.” For Companies B and C, survival meant shedding personnel; while this allowed the firms to stay alive and served as a protective factor, such downsizing also carried the risk of losing expertise and the capacity to accomplish work. For other firms this was a less radical process, in that they cut down on costs and halted the hiring of new employees. Generally, all companies strived to retain their existing international operations, even if many of the long anticipated foreign deals were abandoned and potential new deals were lost because firms' international partners were similarly affected by lock-downs, which induced them not to engage in new agreements that suddenly appeared risky. Company A's CEO stated that “I had to say ‘No’ to hundreds of marketing campaigns developed by our country managers in different markets. We had to stop them because they were too risky in these times of crisis. It meant we froze...”

Under these conditions, the primary BM dynamics implied bouncing back to the pre-adversity levels and starting a recovery. Also, it became clear that the pandemic was not a one-off disruptive event but a continuous condition that hindered operations. Hence, the firms were able to gradually change their attitudes and perceptions towards adversity, thus launching the first steps towards recovery. Further, firms would need to restore order and start functioning again. Company D's Head of New Markets reported: “We need to understand how to start functioning again in these crazy conditions. How to get back to what we had? How to ensure delivery times? People are scared to

receive international orders... The recovery will be long.” Our findings show that the studied firms were forced to abandon or postpone many international deals and place the development of projects on hold. Suspending operations served as a protective factor since the pandemic situation changed so often and very unexpectedly—that is, they were forced to wait for more favorable conditions. For example, Company C's Head of Global Operations said that “[W]e have to lower the bar and postpone all our international growth, we just can't react to all these crisis changes.” This capability to secure viable operations, reduce growth, and immobilize the development of new foreign markets allowed firms these initial recovery responses to adversity and enacted the shift to the next state.

4.2 | Compensating state

We identified the compensating state in firms A, C, D, E, and F. In this state, these firms gained the capability to distinguish between the safe and unsafe components of their BMs that were most threatened by adversity. Furthermore, these firms needed to be able to redirect resources from unaffected parts of their businesses to support those that were affected, the former serving as “resource donors” for the latter. To this end, BM dynamics in this state included eliminating operations that became irrelevant or unfeasible during a time of crisis, by identifying and terminating non-essential tasks and withdrawing from undeveloped projects. This capability to prioritize and reorient resources allowed the firms to gain more resilience. Company D's Head of Expansion gave an example:

“Once we understood that Covid would hit not only China but many other countries, we formed a Corona group, which included people from product development, PR, and regional management. We decided on what actions to take. The group pulled in all our resources and innovative thinking. We focused on building no-contact delivery support, and faster payments to restaurants so they had access to cash. The downside was that we had to drop everything else on our roadmap, especially on the product side. We couldn't spread our efforts and work on assignments that were essentially minor.”

Moreover, in this state the firms needed to control the key areas of their business; in terms of BM dynamics this meant focusing on core operations. Under conditions of radical uncertainty firms needed to be cautious about where to disburse their budgets, so as to strengthen their core value and concentrate their efforts on the markets that provided the most stability; securing this basis allowed for absorbing strain and served as a protective factor in the face of adversity. In his diary entry, the CEO of Company C described this as follows: “Now we're focusing more on our existing foreign markets and trying to improve them, on what we have and what we're good at. We're also concentrating more on our product development now, and careful selection of marketing tools... [W]e need to be really very focused and more strategic.”

The compensating state additionally required striking an overall balance between the affected and unaffected parts of firms' BMs, so that the overall impact of adversity remained neutral; the exhaustion of the ‘donor’ part would present a serious risk factor that undermined firms' resilience. The CEO of Company E explained:

“[T]here are aspects that are good, and those that are really bad. But overall the effect is neutral, we try to compensate and strike the right balance. The positive thing is that Covid forced us to learn, to be very quick in certain decisions and apply new solutions. The negative side is that it's hard to find new talent and match them up. The German and Finnish teams have never even met each other.”

Also, remaining in this state enhanced firms' confidence in their ability to cope with adverse conditions, which was an important protective factor. The continual introduction of new restrictions due to the pandemic were no longer perceived as shocks and, instead, became ‘the new normal’. This routinization of adversity effects worked as the protective factor for staying resilient. As Company F's CEO put it: “These lockdowns are kind of expected nowadays. We're getting used to them and learning how to live with them. I won't be surprised if there's a third or fourth wave



[of the pandemic].” Gradual adaptation to the pandemic through developing the capabilities to identify affected and unaffected parts of BMs and redirect resource flows encouraged firms to further their efforts. In other words, the resilience capabilities gained were outputs of BM dynamics in this state which, concomitantly, triggered the shift to the next state and served as its inputs.

4.3 | Extension state

We identified the extension state in firms A, B, C, and D. Firms A, C, and D moved to this state directly from the compensating state, while firm B leap-frogged the compensating state and moved to the extension state after it had been able to maintain the status quo; firms E and F did not have this state. The extension state was pursued in an effort to broaden and improve the existing value propositions. First, its BM dynamics included finding supplementary service options and widening the scope of offerings. The Head of Expansion at Company D reported: “Covid pushed us harder to add new options to the service, like delivering groceries and other goods. It was a perfect match because retailers were looking for alternative sales channels.” While the logic of BM dynamics at this state approximates that of the compensation state, a key difference is that firms did not compensate for the loss of revenues by using BM ‘donor parts’ from within the firm. This was, instead, a more outward-looking process of enriching and extending BMs by finding supplementary value. Company A’s CEO described this extension as follows:

“We started looking for new opportunities abroad and new merchants to work with to compensate the loss of travel offers. Surprisingly, their selection was very broad. We explored opportunities with home decoration stores, pharmacies, pet shops, and of course food and grocery delivery. Now, these deals with home decoration and interior design sellers is a very strong business for us. Taking the longer perspective, these are very good options to expand our BM core.”

This extension state implied extensive horizontal growth and the widening of operations in existing foreign markets. In terms of firms’ BMs, this implied the dynamics of finding new complementary offerings and integrating these into existing BMs in order to enhance market position. The co-founder at Company A explained: “Covid opened up new opportunities for us in different countries. We now have many deals with food delivery companies and also launched a credit card loyalty deal with [name of credit card company]. These are new options that work on the basis of our model. So, we needed to find ways how to integrate them.” By means of these dynamics, the firms developed capabilities for differentiating their operations, obtaining new partnerships, and learning about new business areas and new markets. These new experiences and skills served as protective factors and allowed firms to gain more confidence, mitigate adversity risks, and shift to the next dynamic state.

Interestingly, in the case of Company C, we observed a relapse from this extension state back to the maintaining status quo state, which was caused by a second wave of lock-downs and concurrent rules for social distancing. Even though the company had to halt its operations again, it did not experience this shock as greatly as at the beginning of adversity. Further, the company was able to return to the extension state more rapidly than it had done initially. The CEO of Company C stated: “[T]hen the lockdowns hit again! We felt like we had to survive again. We have just recovered a bit and again we didn’t have any bookings. Again, we were just trying to stay alive. But the second time we recovered much faster because we have gone through it once [already].”

4.4 | Proactiveness state

In our sample, it was only Company E that did not show evidence of reaching this state, which firms A, B, C, D, and F attained by rethinking and implementing an intensive and innovative overhaul of their BMs. Initially this shift implied

changing mindsets and proactively renewing existing services. Although the adverse conditions of the pandemic continued to influence businesses globally, firms recuperated by learning how to react quickly to the external changes. Importantly, instead of resolving problems reactively, they learnt how to be able to prevent them. The Head of Expansion in Company D described this as follows:

“Our especially formed Corona working group was constantly building new capabilities for the firm, not to fight fire with fire but to actively prevent one starting... We always wanted to be on the proactive side, control the narrative and beat the competition. In Germany, for instance, we made the decision in three hours to reshuffle the entire courier recruitment program.” Moreover, in the words of the CEO of Company F: *“We have learnt a lot during this crisis, and it helps us to restore and gradually come back to life.”*

Further, the firms started to redesign and rethink their international strategies and existing BMs, as well as to build a new narrative. Strikingly, Companies D and F succeeded not only in strengthening their position in existing foreign markets, but also in opening up several new ones during the pandemic. Some informants referred to this process as the way to make their business healthier. For example, the CEO of Company B reported:

“We focused on creating the new revenue streams for the new business model. Now we're making the business healthier, conceptualizing and designing new versions of our ‘vehicle’. We updated and implemented the new platform development. It cost a lot because we tried all kinds of new ideas like digital fairs. We also went back to our basic values, to our raison d'être, and reconsidered them.”

By redesigning their BMs, the firms became able to anticipate growth and accumulate potential for the post-adversity era, even though it remained unknown when that might come about. This took the form of reserving resources, bidding time, actively waiting for the right moment to launch into growth, and preparing different scenarios for that growth. Company C's CEO explained:

“The Covid situation is still very uncertain, but we're building a platform to strengthen our supply side and preparing the basis for organic growth. In Poland and Spain, we're constructing the landing pages and making everything ready for when the situation improves. We offer the venue providers a free twelve-month pilot program to hang on in there and we'll see how much traction we get.”

Ultimately, our findings identified four dynamic states within the resilience process through which the firms passed; each dynamic state is characterized by particular BM dynamics that allow for the development of resilience capabilities when faced by adversity and radical uncertainty. We proceed now to discuss our findings in light of theories in the extant literature.

5 | DISCUSSION

We have drawn on organizational resilience theory (Duchek, 2020; Khan et al., 2018; Williams et al., 2017) to show how international firms adjust their BMs to maintain their international operations—and even to enter new foreign markets—under adverse conditions of radical uncertainty and environmental shock (Aagard & Nielsen, 2021). We present four dynamic states of BMs developed by firms, each of which has distinctive BM characteristics that aid firms in building resilience capabilities and, thus, resisting adversity. Importantly, attaining these capabilities allows for the observed shifts in BM states. Following Thompson and Ravlin (2017), for each state we identify both the protective and risk factors that make firms' resilience stronger or weaker. Thus, prevailing protective factors ensure the building of stronger resilience capabilities, whereas a predominance of risk factors constrains these capabilities; this is exemplified in the case of Company E, which survived the crisis yet displayed lower resilience and could make just

TABLE 5 Business model (BM) dynamics and concomitant resilience capabilities.

	BM focus	BM modus	BM locus	Factors affecting resilience capability-building	Obtained resilience capabilities that allow for the shifts of states
Maintaining the status quo state	Focusing on survival; conserving existing operations in foreign markets	Bouncing back; resisting the shock	Retaining existing foreign markets	Protective factors: cutting costs, downsizing, postponing international deals, changing attitudes towards adversity Risk factors: apprehension caused by uncertainty, loss of expertise and work capacity, lost international opportunities	<p>Securing viable operations; reducing growth</p> <p>Identifying (un)safe parts of BMs; prioritizing and redirecting resources</p> <p>Differentiating operations; obtaining new partnerships; learning new business areas; learning new foreign markets</p>
Compensating state	Dispensing with peripheral operations; focusing and improving existing core operations	Balancing and offsetting operations	Stabilizing position in existing foreign markets	Protective factors: efficient focus on core operations, concentrating on stable foreign markets, gaining confidence, routinization of adversity Risk factors: incorrect identification of unprotected parts of BMs, inadequate distribution of resources, exhaustion of the 'donor' parts of BMs	
Extension state	Enriching the core value and extending its boundaries	Finding new service options and product categories; integrating new offerings	Broadening position in existing foreign markets	Protective factors: outward orientation, adequate fit between existing BMs and newly integrated elements Risk factors: incongruency of new business offerings, not gaining sufficient knowledge about new business areas and markets	
Proactiveness state	Exploring new international markets	BM redesign; orientation towards future international growth	Preparing for a new market entry; entering new markets	Protective factors: fast reactions to new waves of adverse conditions, implementing change in BMs, strengthened position in foreign markets, preparing different growth scenarios Risk factors: insufficient amount of accumulated resources for international growth	

one shift to the compensating state. The principal difference between the four states lies in the scope of BM changes and concomitant degree of BM innovativeness. Thus, the maintaining status quo state implies the lowest degree of BM innovativeness, since firms strive to keep their BMs as they were prior to adversity; the proactiveness state, on the other hand, indicates a high degree of BM innovativeness and scope for change. Table 5 connects each state to specific dynamics in BM focus, locus, and modus; it also summarizes each state's protective and risk factors, as well as the resilience capabilities that allow the shifts to higher levels of resilience to take place.

The first state—*maintaining the status quo*—implies very little reactive BM change and the absence of innovation activities. Here, the primary BM dynamics relate merely to reactive coping with the initial shock of adversity and high levels of vulnerability. Firms attempt to gather the pieces of their disrupted business and reassemble them into the entity as a whole, that is, pursue survival activities aimed at bouncing back to pre-adversity levels (Bonanno et al., 2006; Hoffer Gittel et al., 2006). In this state, firms do not develop international markets, at most seeking to save what they already had and retaining existing foreign markets as they had been prior to the disruption; in the worst-case scenario, they terminate existing operations. However, the resilience capability to immobilize the development of international markets and secure viable operations allows for a shift to the next state.

In *the compensating state*, the chief BM dynamics relate to identifying and eliminating inessential tasks, focusing on those BM parts that remain unaffected by adversity, compensating the affected parts of the firm, and striving to reach a balance so that resources in 'healthy' parts of the company are not depleted. Unaffected parts serve as protective factors that moderate the effects of adversity. Also, in line with Khan et al. (2018), we show that not the entire BM is affected by adversity; rather, affected and unaffected parts have different 'locations' in BMs. Thus, disruptions in affected parts are compensated by unaffected parts. The main resilience capability developed at this state relates to the ability to focus on core operations and redirect resource flows, which allows firms to move to the next dynamic state. What is more, firms are able to develop more outward-looking activities and find compensating parts by developing new BM components.

The *extension state* that follows relates to horizontal growth, adding new service options and widening operations within existing international markets. Here, the capability to differentiate operations and integrate new offerings into existing BM is essential. The studied firms began to perceive the changed situation as a newly established norm, which contributed to lowering the perception of uncertainty. In line with the long-term, continuous perspective of adversity (Rao & Greve, 2018; Williams et al., 2017), firms' responses to subsequent pandemic upheavals, and the business disturbances that resulted therefrom, became more routinized and habitual. Also, these firms' BMs became calibrated and better equipped for dealing with external turbulences by developing new partnerships and learning about new areas of business, thus allowing them to shift to the next state.

The *proactiveness state* implies the highest degree of innovativeness and scope for change in BMs. It involves rethinking and redesigning existing BMs so that firms are able to prevent adversity rather than being limited to dealing with problems reactively (Withers & Russell, 1999; Khan et al., 2018; Parker & Ameen, 2017). This ability to anticipate new market needs enables firms to accumulate potential and prepare energetically for more certain times, as well as to be poised for action and enter new foreign markets.

Based on the discussion above, we propose the dynamic model showing the resilience process of firms' recovery responses to adversity (Figure 2). This process contains four states of BMs, each of which has specific BM dynamics. These dynamic states result from the on-going transactions between a firm and its internal and

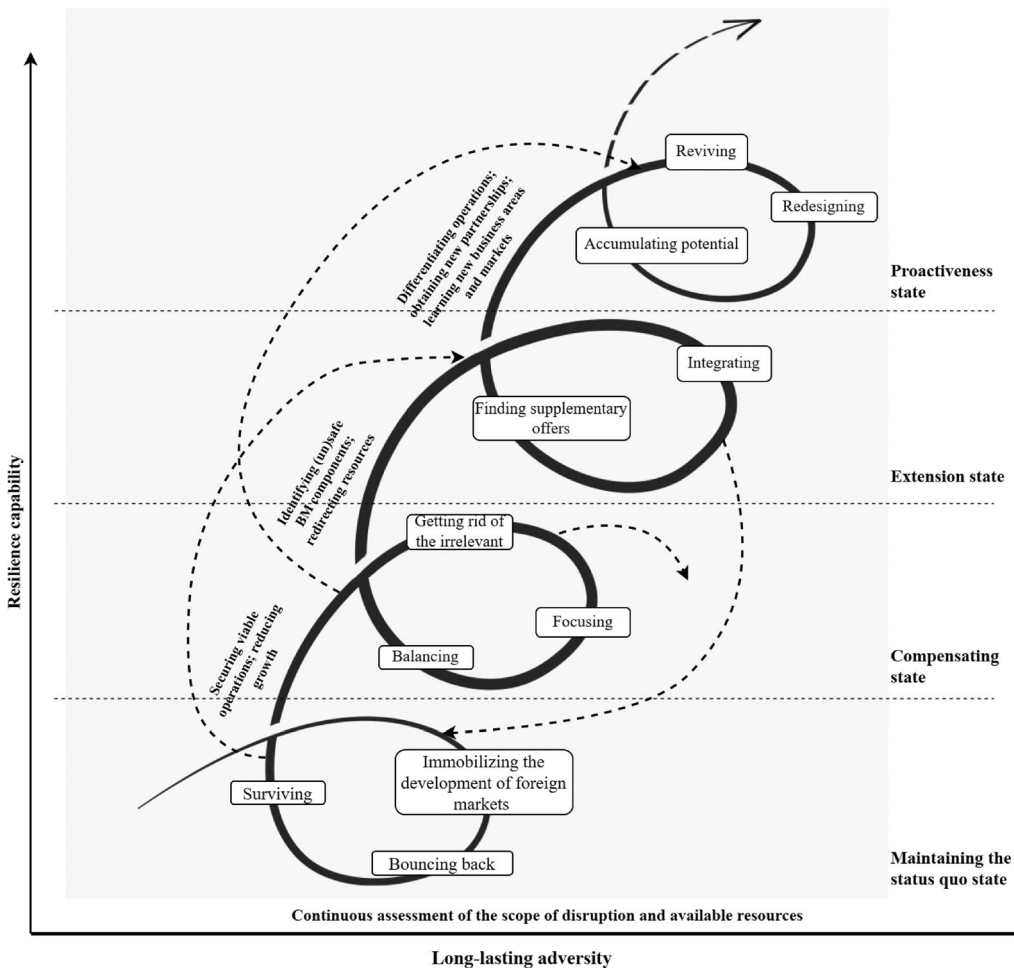


FIGURE 2 Business model (BM) dynamics during the resilience process.



external environments—an insight which is consistent with both the process view on organizational resilience (Williams et al., 2017; Duchek, 2020) and the boundary-spanning nature of the BM concept (Demil et al., 2015; Zott et al., 2011). Moreover, our findings reveal an important mechanism of moving between the identified dynamic states; this move is ensured by the resilience capabilities obtained, the development of which is, in turn, shaped by the respective risk and protective factors. In addition to this, our model reflects our findings and shows that not all firms develop all four states; firms can loop back to return to a previous state and/or leapfrog some of them. This irregular and uneven development reflects the idea that resilience is not a linear and steady process but can also contain reverse dynamics. Besides the leaps and return loops, each state has its own internal micro-dynamics.

6 | CONCLUSIONS

6.1 | Theoretical contributions and directions for future research

The aim of this study was to examine the BM dynamics of internationalizing firms that enable them to remain resilient to radical environmental disruptions and adversity. We have developed a model demonstrating four dynamic states of firms' BMs within the resilience-building process, each of which exhibit distinct BM dynamics. The principal difference between these states lies in the scope of BM changes and concurrent degree of BM innovativeness. This study makes several contributions. *First*, we contribute to BM research by introducing resilience theory as a powerful instrument in its conceptual tool box. This theory, and especially its process-oriented perspective, enriches our understanding of BM dynamics as recovery responses to radical environmental disruptions, as well as inviting a more nuanced processual thinking that embraces actual business modeling as an irregular and uneven progression of these responses. We show that these responses in form of BM dynamics can be both reactive and proactive in nature, depending on the dynamic state at hand; hence, our business modeling approach is particularly beneficial for bringing together the rational positioning view and evolutionary view on BM processes (Cosenz & Noto, 2018). Furthermore, this approach crucially reveals BMs as being in “constant flux” (Andries et al., 2013: 308), thereby showing that businesses sustain their existence by continuously redesigning their BMs. In this regard, the dynamic states perspective employed here (Levie & Lichtenstein, 2010; Sternad & Mödritscher, 2022) serves as a fruitful approach to grasp the changes that firms undergo so as to remain viable under adversity, even as they maintain their structure and functioning. We thereby also respond to calls in the literature to examine BM dynamics not only in young ventures but also in established firms (Demil et al., 2015; Schaltegger et al., 2016). Overall, resilience theory enriches mainstream BM literature and plays a critical role in legitimizing the BM research.

Moreover, given that the notion of capabilities forms an essential part of the definition of resilience as employed in this study (Williams et al., 2017), we uncover precisely these resilience capabilities and illuminate that they are both the outcomes of BM dynamics under adversity and, at the same time, the grounds for further BM changes and shifts in BMs' dynamic states. In this way, we show that BM dynamics and the development of resilience capabilities are interwoven and mutually reinforce each other. Hence, we inform the literature on entrepreneurship under crisis (Bruton et al., 2003; Reymen et al., 2015; Stieglitz et al., 2016), building in particular on Wenzel et al. (2020) in order to reveal how a firm's recovery responses are interconnected, as well as the mechanism by which some adaptation decisions lead to others. Also, following Thompson and Ravlin (2017), we identify both the protective and risk factors as essential determinants influencing the development of resilience capabilities; hence, the predominance of risk factors weakens these capabilities, whereas the prevalence of protective factors allows for stronger resilience. However, as our cases show, lower resilience does not mean that a firm cannot survive adversity; rather, such a firm may continue to function in some way and stay alive yet have different dynamics in its BM and develop different resilience capabilities. By unveiling these resilience capabilities, we build on previous studies that suggest that BM adaptation and change result from firms' dynamic

capabilities (Teece, 2014). We further enrich prior research that has identified critical capabilities for BM development and change in general (e.g., Ahtenhagen et al., 2013); we show that, under conditions of extreme environmental disruption, firms need resilience capabilities in order to change their BMs and, thus, respond to adversities. Hence, we inform the as-yet limited research on the micro-foundations of dynamic capabilities (i.e., the distinct skills, processes, and procedures that enable organizations to shape, adapt, and renew their BMs; see Teece, 2007, 2018), particularly under conditions of extreme environmental disruption. We also enrich the understanding of interconnections between firms' dynamic capabilities and BM change (Ahtenhagen et al., 2013); by specifying the resilience capabilities and how they unfold from firms' risk and protective factors, we unveil the multitude of practices and processes required for moving between the dynamic BM states when international firms face radical adversities. Future research could explore whether resilience capabilities are needed (or, indeed, can be sustained) after the diminishing of adverse conditions, or whether they can be transformed into more traditional dynamic capabilities. Also, while our study takes a firm-level view on resilience, scholars could investigate the types of specific resilience capabilities of individual decision-makers that affect firm resilience in the international environment. In addition, future research could explore geographic sources of firms' resilience capabilities in terms of their home and/or host environments (Dai et al., 2013).

Second, our business-modeling view proffers novel insights into the process perspective on organizational resilience (McManus et al., 2008; Duchek, 2020; Kantabutra & Ketprapakorn, 2021). Our study unveils the detailed BM dynamics in the BM components of focus, modus, and locus, and purposefully built capabilities that lead to international firms' resilience. Also, we follow the dynamic-states approach (Levie & Lichtenstein, 2010), which is new to organizational resilience and allows us to understand the resilience process not as a cumulative progression from one stage to the next but, rather, as a series of shifts or alternations between states. Importantly, building on a dynamic understanding of firms' resilience (Vogus & Sutcliffe, 2007), we show its uneven and pulsating nature; as some of our cases reveal, resilience can be unstable, waxing, or waning during the period of adversity. While we examined firms that had already established their BMs prior to adversity, future studies could examine whether, and how, firms design resilient BMs at early entrepreneurial phases.

Third, our study adds to the research on BMs in international entrepreneurship (Hennart et al., 2021; Nielsen et al., 2021). We show that the BM concept can be used as an appropriate tool and perspective for studying internationalization processes (Ritter & Lettl, 2018). By incorporating resilience theory, our study responds to the suggestion that “future research can usefully combine theoretical concepts to better understand the process of business model change [...] during internationalization” (Rissanen et al., 2020: 271). Our study reveals how various BM dynamics and adjustment responses allow international firms not only to keep their international operations viable, but also to strengthen their positions in foreign markets and even expand into new ones. Here, the BM perspective is especially relevant, as it pays attention to both the firm and its external market environment—a transaction perspective that is also coherent with resilience theory (Williams et al., 2017).

6.2 | Practical implications and limitations

Our study proffers a number of practical implications for international firms that are forced to adjust their BM in order to withstand adversities. First, the study describes a palette of responses that a company can utilize to navigate long-lasting adversity, capitalize on uncertainty, and grow, despite an incomplete understanding of its changing environment. These responses show that in times of high uncertainty and randomness, international firms can obtain resilience capabilities and proactively develop new markets. This implies that, in the context of severe adversity, it is possible not only to resist shocks but also to improve company operations. Second, to respond to these adversities, firms need to map the affected and unaffected elements of their BM, and identify how the latter can help the entire BM to regroup (Khan et al., 2018). In this respect, the BM canvas (Osterwalder & Pigneur, 2010) can serve as a complementary tool, since it divides BMs into concrete blocks and contributes to their mapping.



6.3 | Limitations

A first limitation of this study lies in the fact that all the selected case firms in fact survived the adversity at hand and remained active international businesses within the studied time frame; hence, firms were not selected on the basis of survival. However, to develop more comprehensive insights into BM processes under extreme environmental disruption, we recognize the need for research on the BMs of international firms that failed to remain resilient under adversity. Second, this study follows a qualitative course and aims to provide “local (i.e., realistic and precise) interpretations of a phenomenon, which the researcher then places within a theoretical frame to provide the wherewithal for extension and advancement of the current theory” (Harrison & Corley, 2011: 410). Hence, our interpretations and implications follow the principle of “analytical generalization” (Lincoln & Guba, 2002: 112), which is the opposite to the statistical generalizations drawn from large-sample data. This can be considered as a limitation by scholars adhering to positivist and post-positivist research paradigms. Third, our findings are context-specific to the sector of digital-platform firms and to Finland; hence, we encourage scholars to transfer our model beyond the contextual settings in which it was generated.

ACKNOWLEDGMENTS

We are grateful to the SEJ Action Editor Dr. Chris Bingham and two anonymous reviewers for their supportive and developmental comments. Our special gratitude goes to the Scandinavian Institute for Administrative Research (SIAR), which provided the data-collection grant for this study. We also wish to thank Professor Jean-Francois Hennart and Professor Keith Brouthers, who commented on an earlier version of this paper at the JIBS Paper Development Workshop at the AIB Conference in 2021. Also, we deeply appreciate the help of Steven Parham in proof-reading our text, and graphical designer Zinaida Melnikova's infographics for our work.

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ENDNOTES

- ¹ See Ritter and Lettl (2018) for a review of extant definitions of the BM concept.
- ² Child et al. (2017) derived three types of international BM. First, traditional market-adaptive BMs prevail in developing economies with established industries and imply low risk and innovation; they are used by managers with low international experience. Second, technology-exploiting BMs are likely to be present in developed economies and the software industry, and used by decision makers with some degree of international experience. Third, ambidextrously exploratory BMs are developed by managers with extensive international experience and employed in developed economies and knowledge-intensive industries.
- ³ We adhere to the idea that induction and deduction are not exclusive logics of inference, and no study can genuinely separate them (Parkhe, 1993; Eisenhardt, 1989). Thus, our analysis includes the elements of deduction needed for a priori coding themes identified from the literature; however, induction predominates in our study because our main contribution lies in the theory-building process.
- ⁴ In the main text below, we support our evidence with the most illustrative excerpts from the data. Table 3 offers more evidence on each of the themes.

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How to cite this article: Galkina, T., Atkova, I., & Gabrielsson, P. (2023). Business modeling under adversity: Resilience in international firms. *Strategic Entrepreneurship Journal*, 1–28. <https://doi.org/10.1002/sej.1474>

APPENDIX A: INTERVIEW GUIDE FOR THE FIRST ROUND

Start the interview with a general introduction of the project.

1. Could you please give me some background on your company? How was the business idea developed? What is your role in the company?
2. What about internationalization? When did you start considering it? Was international expansion in the firm's initial business model? What were the first country/countries you targeted? How were international opportunities identified?
3. What parts of the business model, if any, did you have to change/adjust for foreign markets? Any examples? (If yes, ask about marketing, pricing, networking, physical presence, value capture and delivery, technology, user networks). Why did these changes happen?
4. What parts, if any, were not changed?
5. The Covid-19 pandemic is intensifying now. How is it affecting your international business? Do you see any new international opportunities coming from the situation?
6. What are your future plans in terms of internationalization?

Thank you for your time!

APPENDIX B: INTERVIEW GUIDE FOR THE SECOND ROUND

Start the interview by reminding the informant of what the project is about.

1. From the last interview and your diary, I know that (describe the situation/decision)... Can you explain what happened/how the situation evolved (main decisions, difficult moments, results, etc.)?
2. Resilience in the pandemic:
 - a. What have been the main decisions in relation to foreign markets?
 - b. What were the most affected parts of your BM?
 - c. How has the pandemic affected your international operations?
 - d. Any new international opportunities?
3. If the company entered a new market, ask in detail about how the process went (main decisions, difficult moments, results, etc.).
4. What are your future plans in terms of internationalization?

Thank you for your time!

APPENDIX C: QUESTIONS FOR DIARY ENTRIES

1. Please describe the most important decisions/events during the past months relating to international operations.
2. Have you identified any new opportunities in foreign markets?
3. Have you strengthened existing opportunities in foreign markets?
4. Have any opportunities been abandoned by you in any market?
5. Have you changed any part of your business model due to foreign market operations? If so, how?