



Article

The Role of Digitalization on the Internationalization Strategy of Born-Digital Companies

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Abstract: Digital technologies have led to born-digital companies, defined by their highly digitalized value chains, designed at their inception. Born-digital (BD) companies leverage digitalization across their value chains in the internationalization path. However, despite this emergence, very few empirical studies in international business literature have explained the impact of bricolage in conducting value chain activities and exploiting the internationalization strategy of BD companies. The present study responds to these omissions of how the digitalization of the value chain activities and the internationalization strategy enhance companies by allowing them to reach customers (users) and partners with available resources and less time. The results indicate that the digitalization of value chain activities facilitates the re-use and mixing of the resources at hand to overcome challenges, innovate solutions, or create new opportunities for international growth, in line with the bricolage theory. Overall, this study contributes to international business literature regarding, specifically, the behaviors of born-digital companies as they strategically approach internationalization efforts.

Keywords: born-digital; SMEs; value chain; digitalization; internationalization strategy; bricolage; innovation



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1. Introduction

Digital products, processes, and business models can facilitate the “global scaling” of companies [1,2]. To assume internationalization for digital companies would be easy is a misconception (see, e.g., empirical work on the “virtuality paradox” by Sinkovics, Sinkovics, and Ruey-Jer 2013); specific skills and capabilities are needed. Entrepreneurs who understand the implications of and how to leverage analytics and big data, artificial intelligence and automation, and cloud computing enable their companies to connect and collaborate with customers and stakeholders with efficiency and precision, thereby creating new opportunities and staying ahead of competition [3]. One of the common challenges for digital companies is technological uncertainty (due to the need for rapid change and innovation in R&D technology), which is occasionally fueled by a lack of resources [4,5]. Especially today, constraints characterized by a shortage of financial, human, and material resources are felt in almost all industries [6,7].

Faced with challenging environments, uncertainties influence accelerated strategic planning and decision-making processes made by a variety of digital and traditional (enterprises or early-stage) companies, from R&D, supply chain, and product or service creation to marketing and sales and support [5,8–10]. However, the existing literature [4,11–14] does not paint a complete picture of how the liability of being especially young and new and, naturally, with access to limited resources [15,16] influences the internationalization strategy of companies with a highly digital value chain—with *value chain* referring to Porter [17], who defines it as “... a system of interdependent activities” (p. 48). Considering this, it is particularly valuable to conduct an empirical study that is evidence-based, which may add fresh insights to the existing body of literature.

In addition, following the research on bricolage [6,9,18,19], this study posits that the internationalization strategy of born-digital (BD) companies [3,20,21] in dealing with market uncertainties, surviving, and even growing, despite resource constraints, depends on their bricolage capabilities. These companies are defined as any product or services company for which all value chain activities are digitalized at inception or soon after [21], of which some serve international customers shortly after establishment [20] and co-create value with their customers and other stakeholders [3]. Bricolage is about “making do by applying combinations of the resources at hand to new problems and opportunities” (Baker & Nelson, 2005, p. 333) and is fundamentally important to BD companies in their efforts to build their internationalization strategies [22] and run their value chain activities because, when coupled with digitalization, it makes solutions to challenges more achievable by making critical resources more obtainable and reducing costs [23].

The corresponding main research question the present study focuses on is this: What is the impact of bricolage on the relationship between value chain activities and the internationalization strategy of BD companies? Following the nascent research archetype suggested by Edmondson and McManus [24] and Fisher and Aguinis [25] to design this research, a descriptive and exploratory analysis was employed to investigate BD companies based on a qualitative approach using multiple case studies to explore in an inductive manner how BD companies develop and implement their internationalization strategies in a highly uncertain, resource-constrained context.

The remainder of this paper is structured in the following manner. First, the existing literature is discussed, and the objectives of the paper are reflected upon. Second, the method employed for the research is presented. Third, the case studies are discussed. Finally, an analysis is undertaken, and conclusions are drawn.

2. Theoretical Background

A growing number of studies have investigated how the use of web and mobile technologies and internet infrastructure influence the internationalization strategies of companies [12,26,27] and suggest that these aspects increase the speed of internationalization. For example, through innovation, companies can enable low-cost scaling strategies in several, if not all, value chain activities [6,8,10], including creating and producing, marketing and sales, and customer service [28].

2.1. BD Companies

In almost every conceivable environment, uncertainties fundamentally challenge the assumptions companies make regarding business management and adaptation to technology-related changes. In most industry sectors, the need to work and interact with customers remotely requires unprecedented investments in web and mobile technologies and internet infrastructure (e.g., omnichannel commerce, top-speed internet connection, cloud storage and applications, advanced analytics, cyber security, big data processing, artificial intelligence, robotic automation processes).

This research focuses on so-called born-digital companies (e.g., Klarna, HelloFresh), for which all parts of the value chain are highly digitalized at the foundation or soon after. As a detail, it is important to mention that not all BD companies have international activities, even though they could begin to sell to international customers online rather easily from inception [21]. These companies provide their products and services to customers using the internet and other technologies [26,27,29] early in their life cycle. They are distinguished from companies for which the highly digitalized value chain developed later in time (mature digital companies) and both young and mature low-digital companies that have not yet experienced a digital transformation [20,21].

Mature digital companies, in contrast, initiated the process long after inception and have a brick-and-mortar business strategy, combining offline with online activities [20,21]. Still others (e.g., mature low-digital and young low-digital companies) have not finished or have only begun their digital transformation [21]; their value chain activities rely more on

offline functions, and their internationalization processes are slower because their speed of learning is lower [15,30,31].

Value chain activities can be grouped according to various criteria, but in this study, we differentiate them as upstream (creating and producing) and downstream (delivering, marketing and selling, and customer support) [32–34]. Most previous studies have looked at digital value chain activities one side at a time. On one hand, there is upstream activity—research and development based on technology and behavioral data, and online platform/website (browser and/or mobile) development [35–38]. On the other, there is downstream activity—social media-based marketing, analytics, online payment system, online delivery/last-mile delivery service, and online customer support [11,39–41].

Ultimately, some elements of the value chain can be digitalized while others remain tangible. An online presence for digital companies selling physical products (e.g., HelloFresh, which specializes in food delivery, but the core product, food, is not digital) represents a digitalization of the process (the company can be located online; thus, some of their digitalized services can be accessed online) [21,30,42,43]. In this manner, the product has become digitalized in the sense that a digital representation of the product has now become generally global. The marketing channel is digital to a certain extent, whereas the product itself is physical. However, it is also now possible to find, see, and compare the product via interfaces that—all things being equal—denote a digitalization of the product as it is now no longer entirely physical [44–46]. Digitalization determines the design and development of a given enterprise by creating and capturing value and, thus, leads the way in which the enterprise operates [47–51].

Another type of BD company analyzed in the literature is the online platform or digital model (e.g., Spotify, specializing in streaming media). These types of companies are often compared to brick-and-mortar companies—less capital intensive, easier to scale, and more profitable in the long-term—as their earnings model is based on selling services to their user base rather than merely maximizing the sales margin [26,30,52]. Nambisan [26] defines this digital model as “a shared, common set of services and architecture that serves to host complementary offerings” (p. 1032). This technological complexity enables cost-effective and efficient access to resources.

However, to take advantage of the technological momentum in the digitalized environment, BD companies require internal skills and knowledge across value chain activities so that they may leverage their resources and generate value-creating internationalization strategies [53]. Therefore, it may be that some companies do not consider digitalization important for their business, and in some cases, this may be true. Overall, at least most customers search for information online, and naturally, digitalization offers opportunities for companies [11]. As mentioned above, digitalization of the whole value chain shapes the internationalization strategies of BD companies, offering more groundbreaking application areas for their services or products [9,40].

2.2. Internationalization Strategies

BD companies’ internationalization strategy relies heavily on digital technologies to exchange information in a real-time fashion and quickly adapt to customer needs using fewer expenses [13], thanks to behavior metrics and openness towards collaboration [3]. By embedding technology into their international activities, these companies can enhance channel-specific assets through effective information exchange and improved coordination of the internal and external environments [54]. In this manner, the data obtained enables an enriched and customized customer experience through complex algorithms that target consumers based on their behavior [52].

Digital companies do not act alone in building and managing their strategies. They depend on internal resources (e.g., financial, knowledge, skills, human) and external participation of various actors (e.g., users/customers, partners, online communities, freelancers/consultants) [3,11]. Embracing such collaborations helps them to increase value and reduce time and financial resources and to avoid many common pitfalls that tradi-

tional (brick-and-mortar) companies encounter when they begin to undertake digitization efforts [55,56].

In addition, based on existing literature, companies utilize internal and external resources to obtain necessary resources that can maintain or grow the organization [23]. Internal (value chain) activities are pursued for the collaboration between the employees of a company, which generates resources that can steer the organization through market selection and market entry modes and improves their services or product offerings to diminish the resources and time required for international growth [23]. External activities, on the other hand, involve accessing various external channels of potential resources available to a company to increase the performance and overcome the challenges raised by the international markets [10,40].

Being digital and cost-efficient introduces the opportunity to try different strategic approaches. BD companies tend to re-use a variety of existing resources for different applications than those for which they were originally intended [5,57]. They end up building their strategy, dominated not by clear vision and careful planning but by a process of trial-and-error experimentation, utilizing existing resources, pasted-up solutions, and technology components put to unexpected uses [18,58]. Despite the logic of technology, in reality, there is no such thing as flawless processes or rules of thumb on how to embed them effectively in internationalization strategies [59,60]. Therefore, digitalization gives BD companies the tools and adaptability to build improvised marketing strategies to solve problems and exploit opportunities in foreign markets based on their own experience and customer relationships [3,61].

Regarding theory, most of the existing research on traditional companies explains internationalization strategies through the resource-based view theory [62] of network theory [63]. Further, the literature uses a similar algorithm for digitalized companies when explaining internationalization strategies through the network theory [4,11,27,29,39,53,64,65], the resource-based view theory [4,12,39] and other internationalization theories [13,29,36,44,53,66,67]. However, using this single-sided approach, efforts to capture the phenomenon of the internationalization of digitalized companies have mostly resulted in incomplete literature on the topic. However, this research tries to highlight the bricolage approach as an advantage for companies with a highly digitalized value chain as a source of solutions to challenges (e.g., policy, language and culture, product/service adaptation) faced in international development [11–13,39]. In addition, the bricolage approach is considered novel compared to traditional management approaches as it emphasizes the link to various resource constraints generally faced by SMEs [4,57].

2.3. Bricolage Theory

One possible bridge among existing theories to describe the internationalization strategies of BD companies can be built using the notion of bricolage, adapted from the anthropological research of Lévi-Strauss [68]. Baker and Nelson [18] identified the most important aspects of bricolage: the combining and recombining resources to solve problems and the use of resources at hand, “which may be physical artifacts, skills, or ideas that are accumulated” because they may “come in handy” (p. 336). Therefore, bricolage represents a potentially effective alternative method of organizing in a highly uncertain, resource-constrained environment [18] since the core activities of BD companies are entirely digital (using digital applications for connecting users) and can be shifted over online channels that are accessible from anywhere in the world [11]. However, one of the common challenges for digital companies is technological uncertainty (due to the need for rapid change and innovation in R&D technology), which is occasionally fueled by a lack of resources [4,5].

According to Yang [5] and Senyard and Baker [58], there are different central elements in bricolage, including the re-use of existing resources when facing new challenges, combining the resources at hand for new purposes (which could potentially respond to a new challenge or opportunity), and taking action with accessible resources, assuming that doing so will help uncover a workable solution.

New or early-stage companies often tend to use bricolage as a way to temporarily overcome the challenges raised by resource-constraining situations. This approach is described in the research of Baker and Nelson [18] as “parallel bricolage.” When these organizations operate in resource-intensive environments where new challenges must be faced without access to new resources, bricolage can be employed in five domains: the component, effort, expertise, customer/market, and institutional and regulatory environment domains [18].

Nevertheless, based on existing literature, in order to grow, a company must slowly transition to a bricolage-free strategy due to the negative impact of the potential constraints introduced by the bricolage strategy [18,69]. Due to the specific focus on forming temporary solutions as quickly and easily as possible, the ability to consistently create permanent, high-quality solutions, which is mandatory in large organizations, is affected [9,18]. Focusing especially on solving explicit situations and not going beyond the context at hand brings into question the ability of a company to develop learning competencies [18,70].

This uncontrolled approach is closely related to the size and development of a company. Small companies in the growth stage of development are better able to manage market uncertainties, innovate, survive, and perhaps even expand despite the lack of resources [9]. According to Baker and Nelson [18], bricolage may be damaging for large, established companies but can be helpful if used properly and associated with a high degree of digitalization of value chain activities [4,8,9].

In summary, BD companies use the resources at hand, recombine them into new uses, and enhance strategies to enter and grow in international markets [5]. Bricolage helps these companies to find international market opportunities based on the strong foundation provided by the digitalization of their value chain activities [6,18].

Further, through rich descriptions of several explanatory case studies, knowledge regarding how BD companies use existing resources to create their internationalization strategies is gained. This approach enables data comparison across cases, the drawing of generalizable conclusions, and the development of testable hypotheses.

3. Methodology

We employed a comparative case study research method [71,72] because this method is considered useful for examining the context and features of two or more instances of specific phenomena [73]. This research uses descriptive and exploratory case research approaches to better understand the internationalization strategies of BD companies and describe contextual factors and their behavioral implications.

The research procedure follows the guidelines developed by Yin [72] and the recommendations for rigor in positivist case research by Dubé and Paré [74]. A multiple-case design was utilized. Multiple cases deepen the understanding of a particular phenomenon and help generate more powerful explanations than a single-case design. Further, the evidence from multiple cases is often regarded as having more compelling support for the development of testable hypotheses, hence rendering the overall study more robust [72,73]. The theoretical basis that guided the selection of case companies was the general description of BD companies, in which all core activities of the value chain are digitalized at inception. The core activities of the value chain defined the major business components and helped create an overview of the company business strategy [32,49,50].

3.1. Sample Selection

A sample of three organizations of different ages (young < 3 years and mature > 3 years) and in different stages of development (development and growth), with domestic and international activities, was selected. By selecting companies from both stages, it is possible to show that the choice of internationalization strategy used by these companies is not a function of a particular type of value chain activity but can be generalized to different types of BD companies. Furthermore, the sampled BD companies are headquartered in Finland and have international activities in foreign markets that allow for the analysis of their internationalization strategies. The selected cases have their businesses built around

proprietary online platforms, with a fully digitalized value chain, and they are believed to be most relevant to the main research objective [75–77] and allow the exploration of the largely untapped topic of the company digitalization phenomenon. The country and cases were not selected randomly but were based on the close connection of the author to the Finnish entrepreneurial ecosystem, which is recommended by Eisenhardt [71], who asserts that choosing cases aimlessly is neither necessary nor desirable. A brief overview of the case companies is provided in Table 1.

Table 1. Details of the firms investigated.

Company Name:	Glostars	UpCloud	4straction
Activity description	Social media	Hosting services	Management system
Year founded	2015	2011	2016
Employees	11	34	9
Business strategy	B2B and B2C	B2B and B2C	B2B and B2C
Turnover	n/a	>4 mil. euros	n/a
Number of users	>1000	>3000 users	>300
Offline presence	Offices: Finland, Bangladesh	Offices: Finland, Singapore, UK, US. Data centers: Finland, UK, US, Germany, Netherlands, Singapore	Offices: Finland
Online presence	Users from >20 countries	Users from >130 countries	Users from >4 countries
Business stage	Development stage	Growth stage	Development stage and growth stage
Location interview	In person/Skype	Skype/Skype	Skype/Skype
Interview duration (hours.minutes)	1.30/1.20	1.15/1.10	1.10/1.20

3.2. Data Collection

The data were collected in late 2018 from primary sources, semi-structured interviews with top managers (two informants from each company), and secondary sources (e.g., company websites). In all three companies, interviews were conducted with the members of the board of directors, each of whom are called “informant” here. During the analysis, additional questions came up, and the research team realized that more information on certain aspects was required. In such instances, the team returned to the interviewees, conducted a second interview, and collected additional data until it was concluded that the saturation level of information concerning the topic was reached [77,78]. All six interviews were recorded and transcribed. One of the informants was interviewed in person, while the other five were interviewed via Skype. Both types of interviews followed the same procedures. There were no noted significant differences in the quality of information given or interview duration between these two techniques. The average interview length was 60–80 minutes.

The case protocol included questions aimed at developing a clear understanding of the configuration and digitalization of the value chain activities and internationalization marketing strategy (and entry market modes, niche market strategy, standardization vs. adaptation strategy). As such, the protocol included open-ended questions to enable participants to comment on issues that they considered important. The questions and asking order were the same for all respondents [79]. This helped generate specific information on the digitalization of the value chain and internationalization strategy to satisfy the “how” and “why” questions [79].

More specifically, the case protocol was divided into five sections. The first two sections asked interviewees very specific questions regarding their background (e.g., involvement in strategic decisions, employment duration within the company) and their company details (e.g., description about the product/service and overall sales). The third section requested information on the geographical distribution of the company's business activities. The fourth set of questions was used to obtain information on the degree of digitalization of the company operations. The last section included questions exploring their strategy for entering foreign markets. In addition, respondents were asked how a certain strategy was implemented (for each of the strategies suggested), how intensively they were undertaken, and the metrics regarding the success of the strategy.

3.3. Data Analysis and Coding

Table 2 features evidence from the interviews for each of the first-order concepts and theoretical categories. The first-order concepts were described in one sentence to highlight the similarities among the cases [79]. Despite the fact that there still exists some variation between the analyzed cases, this study concentrates on resemblance among them, which is necessary for obtaining the research outcomes [80]. The observation of constant elements in a heterogeneous sample provides more solid grounding for a general process model [71,75,81]. Using the reasoning and concepts mentioned in the existing literature, the theoretical categories were included based on the initial codes that emerged from the data. Next, the aggregate theoretical dimensions represent the key findings of the research that emerged from the analyzed data. Codes for the evidence categories are as follows: "A," evidence from the first informant; "B," evidence from the second informant.

Table 2. Data structure.

Glostars	Evidence		1 st Order Codes	Theoretical Categories	Aggregate Theoretical Dimensions
	UpCloud	4straction			
A, B	A, B	A	Explicit statement of online coordination of the entire process of R&D, purchasing, and logistics.	Creating	
A, B	A	A, B	Statements that described development activities managed by in-house teams.	Producing	
B	A, B	A, B	Explicit statement describing services and product delivery using an online platform and mobile apps.	Delivering	Value chain
B	A, B	A, B	Explicit statement of using all available channels (online–offline).	Selling and marketing	
A, B	A, B	A, B	Statements that customer support services were entirely tied to online (e.g., email, chat) channels.	Supporting	
A	A	A, B	Explicit statements of choosing internationalization in countries with a digitalized infrastructure.	Market selection	
A, B	A, B	A, B	Statements that describe combining online-offline modes to internationalize.	Market entry	Internationalization strategy
A, B	A, B	A, B	Explicit announcements regarding the complete digitalization being essential for service or product offering.	Service or product offering	

Source: Adapted after Walsh and Bartunek [80].

All three companies selected for comparison and highlighted in Table 1 are Finnish BD (SMEs) companies at different stages of development (young vs. mature) with international activities. Their business type can be described as online service companies with digital platforms that facilitate the interaction and seamless exchange of products between consumers and independent suppliers [41,52,82]. Although all three companies are quite similar (i.e., operate in the same industry, have similar business models), the variation in the different stages of business development could reveal advantages for developing a better understanding of the internationalization strategies of BD companies.

All three companies are between three to seven years old and have engaged in international activities since or soon after (less than three years) their inception. Their geographical expansion (online: users, partners; offline: offices and data centers) is global. The mode of market entry describes a pattern of usage between different existent resources available for these companies, which are mostly in-house. Two companies chose to establish themselves abroad with their own staff, offices, and data centers. Two of these companies—which have a B2B- and/or B2C-oriented business strategy—serve a global online market from relatively few offices. This is referred to as online internationalization [27,83]. The third company has focused more on domestic and close-by markets.

4. Findings

As entrepreneurship has been defined by Stevenson and Jarillo-Mossi [84] as “the process by which individuals pursue opportunities without regard to the resources they currently control” (Stevenson and Jarillo-Mossi, 1990: 23), entrepreneurship can occur primarily via two avenues: resource seeking (e.g., raising investment or grant funding) or creating the most out of the resources at hand (bricolage). Nevertheless, considering existing research in the field of bricolage [6,9,18], it appears to be more relevant for new enterprises or early-stage companies but can occasionally have important potential for bigger firms exploring new business ideas or low-resource markets on tight budgets or with limited or no additional resources [85].

4.1. Digitalization of the Value Chain Activities and Bricolage

Digitalization of the entire value chain is essential for companies that intend to internationalize. It represents the main engine of the value chain for these companies, if we imagine the strategy to be the fuel and the bricolage to be the skills. 4straction, UpCloud, and Glostars did not exist two decades ago because of the limited internet infrastructure and underdeveloped web technologies.

Digitalization is the heart of everything. Most of all, without digitalization our company would not have existed.

(Glostars-Informants A and B)

We could not succeed 20 years ago because there would not have been an online infrastructure as it is now, the internet.

(UpCloud-Informants A and B)

Without digitalization, it's almost impossible if you think about premise models.

(4straction-Informants A and B)

The rapid pace of digitalization made it more urgent than ever for companies to find fast solutions to problems using their available resources. While the processes and resources for building business strategies, augmented by skilled leadership, have often been beacons of success during times of disruptions or transformations, the extent of integrating and using technology represents the stark differentiating role between success and failure.

Digitalization of our value chain activities helped us to save time and money as well.

(Glostars-Informants A and B)

we have to be inventive in how we promote ourselves with lesser resources.

(UpCloud-Informants A and B)

Having a 100% digital product, I would say that online is the most economical way to distribute and to sell.

(4straction-Informants A and B)

Combining both channels (internal and external), bricolage could generate resources for digital value chain activities (e.g., online platform, social media strategy, AI customer support) or physical ones (e.g., inputs for machines, materials, parts, land, waste). However, this research considers that digital resources with appropriate traits have the rather unique characteristic of being relatively cheap to transform into other resources [23,86].

We use social media platforms not only to promote ourselves but to collect information on our target markets, market trends, and our competitors' offerings on those particular markets. (Glostars-Informant A) Social media platforms and the internet, in general, represent a big source of data when it comes to our challenges regarding the strategy.

(Glostars-Informant B)

We have to be creative in terms of how to spread the word. We use big data analysis to set up prices in different markets. Most of the marketing activities are also done online just to cut down costs of customer acquisition and to increase performance overall.

(UpCloud-Informants A and B)

We learned to use online solutions combined with the ground support of our partners. Nevertheless, we combine all the channels (internal and external) to get customer attention.

(4straction-Informants A and B)

According to our cases, through the digitalization of the value chain activities, most companies can succeed in adjusting and extending their offerings to more digitally enhanced products or services. Technological capabilities (e.g., skills to manage digitalization, use of cutting-edge technologies) stand out as key factors of success in an intensively digitalized industry, decreasing costs associated with spatial distance (e.g., remote working, decision-making processes, and digital operations).

Our development team is located in Bangladesh, but we use Team Viewer and Skype to visualize and to test the user experience and to communicate our feedback. (Glostars-Informants A and B) All services are accessible online, on our web platform and mobile apps. Thus, these are the channels people can access our solution.

(Glostars-Informant B)

We coordinate online the entire process of data center deployment. We do not really touch the servers in Helsinki at all. Everything is done digitally by the operations team. (UpCloud-Informants A and B) Our services are fully distributed through the Internet infrastructure.

(UpCloud-Informant A)

The online side of these activities is that with existing customers, we have in place an automatic system that records and reports user activities to understand how easy it is to use the platform and how effective it is. (4straction-Informants A and B) To distribute our services, we use an online platform and mobile apps (Android and iOS) translated in three languages (Finnish, Swedish, and English) through a cloud delivery system.

(4straction-Informants A and B)

The cases suggest that bricolage can mobilize companies with a digitalized value chain to intensify the business outcome of internal and external resources. According to Yang [5], this could facilitate internal cooperation between different business units as well as partnerships with external stakeholders. Therefore, companies are encouraged to

combine available resources, if needed, to develop their internationalization strategies to fit their internal organizational context and the external environmental conditions [5].

... if you want to play it smart and creative than you have to constantly brainstorm and find new ideas using combining internal and external resources.

(Glostars-Informants A and B)

We are using digital tools or using somehow local people/partners, which enables us to reach potential customers. But we haven't had a very specific marketing strategy as such.

(4straction-Informants A and B)

We follow the market with our own "market radar", which analyzes online what products or services other companies are providing. Moreover, we discuss regularly with 5 to 10 customers and potential consultants (partners) in order to validate our technical and business ideas.

(4straction-Informant A)

4.2. Internationalization Strategy and Bricolage

Based on this research finding, digitalized companies can apparently use bricolage to grow rapidly internationally and/or with less expenditure. Additionally, bricolage provides the proper means to obtain the required knowledge and other resources necessary to develop and exploit their value chain activities. Refusal to accept the limitations of a resource-constrained situation or environment requires, in most cases, bricolage.

The development team takes care of the result of research and develops our services and the product team ensures that our services are up and running.

(UpCloud-Informant A)

Our internationalization strategy is flexible and focused on finding the most relevant answer to issues with available resources. If one of our usability engineers knows how to design a marketing campaign; of course, we use the usability guy to design these fancy pictures and use his strengths to be able to provide killer marketing campaign materials.

(4straction-informant A and B) The market research was done by the CTO and his team, and we gathered feedback to improve our technologies.

(4straction-Informants A and B)

These companies target countries with a considerable market size, enabled by the internet infrastructure. Apart from marketing and sales, BD companies can decide to enter those markets with the plan to localize other activities as well (e.g., technical logistics, customer support). Thus, these countries become something similar to a business hub for their core activities.

We focused in particular on these countries (e.g., Russia, Bangladesh, US, Sweden) because people use social media a lot and create content. Moreover, these countries set the trend for the future.

(Glostars—Informant A)

Service side, we are in Singapore, Germany, the Netherlands, the United Kingdom, and the United States. There, we currently have both offices and data centers because these countries are in generally technology-driven.

(UpCloud-Informant A)

BD can mostly manage the challenges raised by entry market modes and serve the global operations of their customers, thanks to their home country.

The ecosystem in Finland helped us to engage users from different countries.

(Glostars-Informant A)

... even though we are from a small country like Finland, there are plenty of companies that conduct business and people are willing to share their experiences to help others.

(UpCloud-Informants A and B)

Target countries are very alike with Finland regarding the usage of technology and management habits. (4straction-Informant A) We intend to target first Scandinavian countries (Sweden, Norway, and Denmark) because of the market similarities (use of technologies, policy regulation) and management habits.

(4straction-Informants A and B)

These companies combine online activities considered as less-controlled market entry modes made available by the digitalization of the value chain, with offline activities considered the more controlled ones determined by business strategy and country regulations. In general, entry modes enhanced by digitalization (e.g., social media marketing) take less time and resources compared with the more controlled modes (e.g., local agents, data centers, offices) that are specific to low-digitalized companies.

In general, we do not create bulletproof plans because planning is a well-thought hypothesis that probably doesn't stand the interaction with the customer or the market. Instead, we combine online and offline available resources to solve different situations.

(UpCloud—Informant A)

... if we talk about marketing, ... if you want to play it smart and creative, then you have to constantly brainstorm and find new ideas using combining online with offline activities.

(Glostars-Informants A and B)

Analyzing the cases and the existing literature, bricolage represents a process for developing an initial strategy using few available resources or creating a strategy with the goal of exceeding the bounds of current value chain activities [8,9,87]. Consequently, bricolage helps them to leverage the resources available throughout the organization and boost the delivery of customer value in their product or service offerings (i.e., customer experience support) and enhance customer connectivity all over the world.

Being a digital company, we provide support for users through an email or Facebook page. We have also obtained a feedback form on our platform and on our mobile apps.

(Glostars-Informants A and B)

We offer customer online support on a 24/7 basis and all of our offices are actually eight hours apart from each other. Thus, with that arrangement, we are able to run 24/7 online support in the manner that everybody does regular daytime hours.

(UpCloud-Informants A and B)

Customer support is mostly embedded in our systems (e.g., online chat, email, feedback form). (4straction-Informants A and B) The internet makes it really much easier to deliver the platform to our customers.

(4straction-Informants A and B)

5. Discussion and Conclusions

Bricolage is about making do with what is available at hand, and effectuation is about selecting between a given set of means and their possible effects [57,88,89]. Accordingly, BD companies can reach customers (users) and partners with digital resources at hand, whereas low-digital companies use available resources to foresee the possible outcomes of their decisions. In practice, due to the digitalization of the value chain activities, it appears that BD resource environments are constructed to facilitate the creation of something from less or even nothing [57], as compared to effectuation, where companies facing unpredictable situations collect information through experimental and iterative learning techniques aimed at discovering the future.

Proposition 1: Digitalization gives BD companies the tools and bricolage provides the skills to apply their internationalization strategies with the resources at hand and to extend, especially, into markets with a high coverage of digital technologies.

Bricolage enhances the decision-making process and supports the capabilities of BD companies to solve challenges with the available resources and reach their business goals (e.g., internationalization, foreign market growth). As made evident in the previous section, this approach of re-using and mixing different resources and improvising solutions to solve existing problems and create new opportunities can be explained through bricolage [4,18]. Thus, the analyzed sample was consistent in terms of statements of generating value by combining digitalized resources and activities to overcome the new challenges faced internationally that the resources were not originally intended to tackle.

Proposition 2: Over time, the bricolage capabilities of the company, supplemented by its internationalization experience, lead to the performance of exploiting the digitalization of its value chain.

Similar to the research of Busch and Barkema [6], the results of this paper suggest that companies can build or improve their business strategies by utilizing bricolage processes, and this approach, contrary to the assertions of Baker and Nelson [18], can enhance their growth in domestic and foreign markets. In addition to the papers mentioned, based on all three case studies, higher digitalization of value chain activities can ameliorate the quality standard of products or services. At the same time, BD companies can scale up parallel bricolage for their value chain activities (both upstream and downstream of the value chain).

Proposition 3: BD companies combine, using bricolage skills, digitalized (online) modes of entry with physical (offline) modes to optimize their internationalization strategy.

Based on this study and the existing literature, both internal and external dimensions of bricolage are important for building and successfully exploiting the opportunities highlighted by the internationalization strategy, work optimization, and financial resources [23]. Both of these activities involve what Sarasvathy and Dew [90] call an “expanding cycle of resources” that are available to companies. These can be experimented with as expanded channels of resources that can be used as a basis for accessing other resources [23].

Proposition 4: Thanks to digitalization and bricolage, BD companies improve, in real-time, their services or products.

BD companies can adopt parallel bricolage in all domains in a more entrepreneurial environment [5]. However, based on differences in their value chain activities, some companies could selectively use only one or two bricolage domains before attracting additional resources for those specific activities. The findings advocate that an entrepreneurial culture within a company could enable bricolage behavior. This behavior could eventually inspire other business units of the organization to restore their business strength, which can lead to innovation in key business areas that bring about internationalization growth [5].

The internationalization strategies of BD companies cannot be explained by only one theory [11,26,27]. Based on the results of this paper (i.e., companies proceed from goals to means using available resources to solve challenges), the research team proposes that the bricolage approach [4,18,91] can provide an appropriate theoretical background through which to explain the internationalization strategies generally used by BD companies. Consequently, the present study contributes to the international business literature by extending the discussion on internationalization strategies to capture the rising BD phenomenon. Namely, this study has illustrated how these companies design their interna-

tionalization strategies based on the digitalization of their value chains and consideration of bricolage settings.

In summary, we argue that (successful) BD companies assemble their internationalization strategies by merging various available online–offline elements, such as digital technologies, organizational marketing activities, and networks, creating bricolage solutions to overcome or enhance their limits (e.g., small budgets, lack of capabilities, lack of materials, no market knowledge, legal regulations) [4,9]. This study proposes the notion of entrepreneurial bricolage, described by Baker and Nelson [18], to explain bricolage, as it is practiced by BD companies, in developing and implementing the internationalization strategy of a company.

5.1. Theoretical Contributions

The main insights emerging from this research help illuminate the process of how small BD companies use the bricolage approach to run their value chain activities and implement their internationalization strategies. First, this research fully articulates the concept of bricolage based on existing literature and highlights its connection to value chain activity digitalization and its importance regarding internationalization strategies [5,10,18,85]. Second, the study briefly describes the relationships between the digitalized value chain activities and company resources, enhanced by the bricolage approach, and their impact on the internationalization strategy.

Based on existing literature, bricolage is particularly relevant to emerging industries and crowded, competitive markets where declining resources and innovation are needed [55,56] to speed companies with strong bricolage abilities [19]. Nevertheless, in accordance with Yang [5], our findings indicate that bricolage is not only triggered by resource-constrained contexts [18,57] but is also facilitated by industry or market uncertainty. In these contexts, bricolage becomes an important mechanism for early-stage exploration and exploitation, enabling employees to make unusual and unexpected use of a variety of amateur skills and resources at hand [8,9].

Compared to the literature [10,18,57,91], these research findings consider that BD internationalization strategy could be environmentally sustainable by saving time and resources. Further, bricolage culture could help digital companies to grow in a more sustainable manner by constantly recreating their value chain activities [6,69,92]. Findings also highlight a higher speed in making decisions, thanks to bricolage, especially for those companies without a strict internationalization strategy in place [5,6,9].

Overall, this study provides a suitable overview to help make sense of the discussion on bricolage and its implications for digital entrepreneurship, international entrepreneurship, and international business. It represents one of the first empirical studies on the international strategies of BD companies. The attempt to scale up from combinations of the resources at hand (online–offline), including trust in self-taught and amateur skills that are typical of bricolage, is likely to be a slow process of trial-and-error experimentation and a very gradual accumulation of skills.

5.2. Managerial Contributions

This study raises important questions about the relationship between the digitalization of value chain activities and internationalization strategies and the impact of the bricolage approach that could be relevant to industry exports and entrepreneurs. First, knowledge is limited concerning how digitalization helps companies succeed in enhancing existing resources to emerge, survive, and scale in resource-scarce contexts using bricolage. In this manner, internationalization strategies have been developed by services or product companies that aim to expand to a variety of markets at low costs and in less time.

Instead of seeking new resources when facing challenges, companies could consider employing existing resources and recombining them for new value use of their services or products to engage with new international markets. Such innovation or repurposing of existing resources or skills to find optimized solutions for their engagement of employees,

local communities, and spaces and thinking about alternative ways to leverage internal resources for sustainable advantages could be essential for traditional company survival.

Second, our study outcome could inspire government institutions or other types of organizations to focus less on providing resources (especially financial) and instead facilitate solutions (e.g., digital platforms with knowledge of international networking) to enable companies to make the best of what is available at hand and, in the process, to involve and strengthen local communities. As such, traditional companies in resource-constrained contexts, when implementing digitalization in their value chain activities, might benefit from learning at hand how resources can be used to grow the company locally or internationally. Implementing digitalization and encouraging a bricolage approach could allow companies to have a more sustainable business growth model by saving time and resources, increasing their reaction speed when a clear strategy is not required, developing agile services or products based on live data, and, last but not least, helping internal departments to innovate. All things considered, the main disadvantage to the bricolage approach is that quality cannot be guaranteed.

5.3. Limitations of the Study and Future Research

This research has a number of limitations, and some of them are inherent to qualitative research methods [71], which can provide a generous field for future research. Most important is the degree to which the findings are generalizable across BD companies (or at least those with a service-oriented platform). The study was limited to six entrepreneurs from three companies located in Finland.

The sample comprises Finnish companies, and it is possible that culture, specific market-based factors, or the activity sector could have influenced their strategic actions. Nevertheless, entrepreneurs and their companies mostly varied by industry, size, date of founding, business stage, and (for some of them) educational and demographic backgrounds. The sample also exhibited a wide variation across international activities (online-offline), longevity, and financial performance; nevertheless, their businesses are based on online platforms. Further research could build and test propositions in different contexts (e.g., market, industry) and for different types of companies (e.g., manufacturing).

The objective to quantify some of the qualitative data (e.g., digitalization of the value chain activities) is associated with at least two notable limitations. First, the assessments of entrepreneurial digitalization were based on a combination of statements made by the entrepreneurs and the subjective judgment of the research team based on secondary data (e.g., company website, online press). An ideal measure would analyze data obtained by visiting their offices and conducting on-premise observations of their international activities. Second, converting the qualitative assessment to quantitative scales is subjective and risks losing the richness of the data.

Based on the results of this research, quantitative studies could fully explore the relationships between the digitalized value chain activities and company resources enhanced by the bricolage approach and their impact on internationalization strategies. Moreover, future research in the form of longitudinal, cross-country, and cross-cultural studies is encouraged. Combined with large-scale quantitative studies, these are needed to develop and validate measurements of the internationalization strategies of BD companies.

Further research could also highlight how governments might be involved in the bricolage approach and explore its social and economic impact, or research could explore the boundaries within which scaling bricolage could become harmful for companies through the under-investment of resources. Another issue worth analyzing is the identification of the potential antecedents of bricolage-able knowledge that could be used by companies from different contexts. Can companies implement bricolage based only on their own contexts and experiences, or can they combine their contexts and experiences with those of other companies?

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