

Digitalization of companies in international entrepreneurship and marketing

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This is a Author's accepted manuscript (AAM) version of a publication

published by Emerald

in International Marketing Review

DOI: 10.1108/IMR-04-2018-0129

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Please cite the publication as follows:

Vadana I., Torkkeli L., Kuivalainen O., Saarenketo S. (2019). Digitalization of companies in international entrepreneurship and marketing. *International Marketing Review*. DOI: 10.1108/IMR-04-2018-0129

**This is a parallel published version of an original publication.
This version can differ from the original published article.**

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ABSTRACT

Purpose: Little research has been done on the emergence of companies that engage in increasingly digital entrepreneurship with digitalized value-chain activities. The extant literature provides an inconsistent picture of how value-chain digitalization affects companies' internationalization and international marketing, and gives no insights regarding the influence of the degree of value-chain digitalization on the level of internationalization.

Design/methodology/approach: This paper takes an explorative approach based on a literature review and uses a conceptual analysis and research framework to empirically classify digitalized/-ing companies.

Findings: This study finds ways to classify the internationalization of companies according to the degree of digitalization of their value chain. The more these companies use Internet hardware infrastructure and web and mobile software technologies, the better they can leverage their foreign assets, achieving a higher share of foreign sales with relatively limited foreign assets.

Research implications: The results enrich the literature on internationalization and international marketing and entrepreneurship to explain companies that are distinctly digitalized across their value-chain activities.

Practical implications: This research provides evidence for companies regarding digitalization of the value chain to facilitate entrepreneurial opportunities and offer rapid, efficient, affordable internationalization.

Originality/value: This research tackles a novel phenomenon by analyzing companies' value-chain digitalization in relation to their degree of internationalization and international marketing.

Keywords: digitalization, born digital, web, mobile technologies, value chain, internationalization, international marketing

1 INTRODUCTION

The connected world and omnipresent technology have changed the rules for building brands, marketing strategies, and internationalization. While the Internet has enabled these transformations, the real drivers have been software and hardware technologies. Thanks to these changes, online customers/users *expect* simplicity (Brouthers, Geisser, & Rothlauf, 2016), convenience, and relevance (Hänninen, Smedlund, & Mitronen, 2017). This has given rise to *digital entrepreneurship*, which calls for new research approaches and explanations (Nambisan, 2017).

Research and online media indicate the emergence of a new type of companies (Bell & Loane, 2010; Brouthers et al., 2016; Wentrup, 2016) that base their business development on the latest technologies and *digitalization*¹—the use of digital technologies to improve the business model, providing new revenue and value-producing opportunities (Hänninen et al., 2017; Nambisan, 2017). This study focuses on the literature in international marketing (IM) and international entrepreneurship (IE) to explore the types of digitalized/-ing companies², how to measure the degree of digitalization (DOD) and degree of internationalization (DOI), and the consequences of the interplay between digitalization and internationalization. Digitalization implies coordination of value-chain activities using Internet infrastructure and web and mobile technologies, known as *digital technologies* (Acedo & Jones, 2007; Brennen & Kreiss, 2014; J. Li, Merenda, & Venkatachalam, 2009). Broadly, however, value-chain digitalization

¹ Not to be confused with digitization, which is the process of converting any data into digits (i.e., 1s and 0s, in) (Brennen & Kreiss, 2014).

² Not all companies are digitalized (some engage in digitalizing their activities later), and since this is a holistic term, it may confuse readers.

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4 describes the proportion of activities performed online (Kollmann & Christofor, 2014).
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6 Digitalization affects a number of firms' functions and activities. For example, marketing, sales,
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8 and support are key in keeping or winning new customers, and improving business decisions
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10 based on algorithms crunching big data from digital technologies is proving essential (Hänninen
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12 et al., 2017). This could help companies serve their online customers around the world.
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18 This article enriches the knowledge on internationalization, IM, and IE by exploring value-
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20 chain digitalization. Scholars (Bell & Loane, 2010; Hamill, Tagg, Stevenson, & Vescozi, 2010)
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22 have suggested the Internet creates easy paths to internationalization for companies and offers
23
24 new ways of doing business, yet little research has examined the emergence of digitalized/-ing
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26 companies (Nambisan, 2017; Wentrup, 2016), beyond online promotion and sales. A
27
28 conceptual literature review is carried out to answer the following questions: *How are*
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30 *digitalized/-ing companies defined in the IE and IM literature? How can the DOD and DOI of*
31
32 *these companies be measured? What are the consequences of interaction between digitalization*
33
34 *and internationalization?*
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41 The existing literature is explored to define, measure, and classify the internationalization of
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43 digitalized companies based on their DOD. The next section presents the literature review,
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45 which begins with a general overview of digitalized/-ing companies and continues with details
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47 about the digitalization of the value chain and the internationalization dimension of these
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49 companies. Next results are presented, and the article concludes with a discussion and
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51 implications of this study.
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2 LITERATURE REVIEW

The literature suggests digitalization is more than a stimulant for companies; it is a changing context in which new technologies emerge and new capabilities are required (Nambisan, 2017; Reuber & Fischer, 2011; Wentrup, 2016). Existing research has largely neglected digital technology's role in companies' internationalization pursuits, because this subject is novel and information is lacking. Even with the vast IM and entrepreneurship literature (Abrahamsson, 2016; Knight, 2000; Moen, Endresen, & Gavlen, 2003; Quelch & Klein, 1996; Webster, 1992), questions remain regarding the conceptualization of digitalized/-ing international companies, and about internationalization processes and challenges. These questions concern international behavior, business and marketing strategies (Bell & Loane, 2010), the evolution of an online–offline balance (Wentrup, 2016), relationships between processes and resources, internationalization performance (Brouthers et al., 2016), business model particularities, and value-chain activities (Hernández & Pedersen, 2017).

The literature was investigated to define sub-types of digitalized/-ing companies and find a basis for measuring their digitalization and internationalization. Relevant articles were identified by a three-step process. First, a search was conducted for the following keywords: “portals,” “web,” “Internet,” “online,” “web-based company,” “platform,” “Internet-enabled,” “marketplace,” “high-tech,” “technology companies,” “software,” “hardware,” “digital,” “digitalization,” “e-marketing,” “e-entrepreneurship,” “e-business,” “e-commerce,” “mobile,” “smartphone,” “cyber-security,” “cyberspace,” “wireless,” “information technology,” “IT,” or “ICT,” combined with “internationalization,” “international,” “market entry modes,” “foreign markets selection,” “international performance,” global,” “foreign,” “cross-national,” “cross-cultural,” “export,” or “import.” These combinations were sought in titles and abstracts of

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4 articles published after 2000 in the top IM, IE, and IT journals, including the *Journal of*
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6 *International Marketing*, *International Marketing Review*, *Journal of Marketing*, *Journal of*
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8 *Marketing Research*, *Journal of the Academy of Marketing Science*, *Journal of International*
9
10 *Business Studies*, *Journal of World Business*, *Global Strategy Journal*, *Management and*
11
12 *Organization Review*, *International Business Review*, *Journal of Business Venturing*,
13
14 *Entrepreneurship Theory and Practice*, *Information and Management*, *Management*
15
16 *Information Systems Quarterly*, and *Internet Research*. The Web of Science and Science Direct
17
18 databases were used to identify other relevant papers, as were the reference sections of the
19
20 articles found through the search steps above. The search criteria yielded 94 sources.
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27 Second, the five criteria of Rialp, Rialp, and Knight (2005) were adopted to refine the number
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29 of articles for review. Articles had to be published in English; in 2000–2018; conceptual,
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31 theoretical or empirical academic papers; closely related to the topic under discussion; and
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33 major works systematically listed as key references in other studies with a similar focus. The
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35 2000–2018 time frame was selected because the concept of digitalization is young, and most
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37 related works have been published since 2000. It was assumed that any relevant research from
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39 the 20th century is cited in the analyzed studies. These selection criteria yielded 45 sources.
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45
46 In the last layer of selection, 35 articles were identified as covering the topic of
47
48 internationalization of digitalized/-ing companies. The excluded papers are review articles or
49
50 generally conceptual, focusing not on companies but on theoretical constructs. The review
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52 highlighted the lack of information and prior academic research available on this topic in the
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54 IM, IE, and information technology fields.
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3 DESCRIPTIVE OVERVIEW AND CONCEPTUAL ANALYSIS

All the analyzed sources focus on defining and investigating digitalization (see Tables 1 and 2).

Insert Table 1 about here

Insert Table 2 about here

Technology-based companies are characterized by their proprietary, innovative technologies, and might initially seem different from digitalized companies, characterized by using Internet networks and web and mobile technologies as key drivers of business development and rapid internationalization. However, technology-based companies also use the Internet to coordinate their value-chain activities and internationalization processes (Nambisan, 2017; Wentrup, 2016). Two dimensions—DOD and DOI—were used to outline these types of companies in comparison with less digital ones.

3.1 DOI of digitalized/-ing companies

As Table 2 illustrates, most of the measurements in the existing literature referring to digitalized/-ing companies' internationalization focus on linguistic and cultural similarities (Brouthers et al., 2016; Hennart, 2014; Kim, 2003; Mahnke & Venzin, 2003; Reuber, 2016; Reuber & Fischer, 2011), adaptation versus standardization (L. Li, Qian, & Qian, 2012), the business model (Hänninen et al., 2017), internationalization speed (Hennart, 2014), online

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4 networks (Brouthers et al., 2016), market knowledge (Luo, Zhao, & Du, 2005), or online–
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6 offline presence (Wentrup, 2016). These companies all generate value using the Internet;
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8 however, the literature suggests their internationalization processes may differ (Bell & Loane,
9
10 2010; Brouthers et al., 2016; Nambisan, 2017; Wentrup, 2016).
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15 Digitalization makes companies less physically and culturally constrained compared to
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17 traditional businesses (Luo et al., 2005). Nevertheless, the type of company analyzed by
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19 Wentrup (2016) follows a more near-market, gradual geographical pattern in its
20
21 internationalization process, starting with the Nordic markets and expanding to nearby
22
23 European markets. It has been argued that these companies prefer to enter international markets
24
25 via controlled modes (e.g., subsidiaries; (Reuber, 2016; Sinkovics, Sinkovics, & Ruey-Jer,
26
27 2013); sometimes digital companies cannot enter and be active in a market without an offline
28
29 presence due to legal and market-specific requirements (Wentrup, 2016). There is likely a limit,
30
31 therefore, on how long, or up to what size, a digital company can operate online without a
32
33 physical presence.
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42 Zhu and Qian (2015) argue that good digital information providers enter foreign markets with
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44 a well-developed Internet infrastructure as the availability and costs of such services influence
45
46 success (Mahnke & Venzin, 2003); see Table 2). Luo et al. (2005) indicate that a country in
47
48 which a large percentage of the population uses the web and mobile technologies presents a
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50 more attractive market for e-commerce companies.
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55 Competition is another driver of swift international expansion among online service providers
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57 (see Table 2; (Singh & Kundu, 2002; Su, 2013). The first-mover advantage is often stressed
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(Kim, 2003; Knight & Cavusgil, 1996; Oviatt & McDougall, 1994; Wentrup, 2016; Yamin & Sinkovics, 2006). Another important catalyst of digital companies' rapid internationalization is related to niche markets. Companies that sell niche products and services internationalize more quickly (Hennart, 2014; Nummela, Saarenketo, & Puumalainen, 2004; Zucchella, Palamara, & Denicolai, 2007). In international expansion, a company develops its domestic markets across international borders by integrating operations formerly carried out by intermediate product markets (Buckley & Casson, 1976; Rugman, 1980). The literature has tried to capture the phenomenon of digitalized companies' internationalization, although the overview is still incomplete.

To the best of the authors' knowledge (see Table 3), research focuses much more on companies' outward internationalization (e.g., delivery, marketing and sales, support) of the value chain (Bell & Loane, 2010; Brouthers et al., 2016; Crick & Spence, 2005; L. Li et al., 2012; Wentrup, 2016; Zou, Chen, & Ghauri, 2010) and less on inward internationalization activities (e.g., creating, producing; (Abrahamsson, 2016; Campos, del Palacio Aguirre, Parellada, & de la Parra, 2009; Luo et al., 2005; Singh & Kundu, 2002). Although marketing and sales are often core elements of early internationalization, this focus on outward internationalization offers only a partial image of these companies' functions and strategies.

Table 3. Papers focusing on inward versus outward internationalization regarding the value chain.

Inward internationalization	Outward internationalization	
Mahnke & Venzin, 2003	Brouthers et al., 2016	Stallkamp & Schotter, 2019
Luo et al., 2005	Zhu & Qian, 2015	Javalgi, Todd, Johnston, & Granot, 2012
Campos et al., 2009	Li et al., 2012	Luo & Bu, 2016
Almor, Tarba, & Margalit, 2014	Mahnke & Venzin, 2003	Chen & Kamal, 2016
Singh & Kundu, 2002	Luo et al., 2005	Hagsten & Kotnik, 2017
Ojala & Tyrvainen, 2006	Crick & Spence, 2005	Watson et al., 2018
Luo & Bu, 2016	Bell & Loane, 2010	Shaheer & Li, 2018
Chen & Kamal, 2016	Almor, Tarba, & Margalit, 2014	Ojala, Evers, & Rialp, 2018

Rezk, Srari, & Williamson, 2016	Kim, 2003	Caniëls et al., 2015
Ojala, Evers, & Rialp, 2018	Hennart, 2014	Gabrielsson & Gabrielsson, 2011
Martinez-Noya et al., 2012	Reuber, 2016	Ifinedo, 2011
	Wentrup, 2016	
	Mahadevan, 2000	
	Hänninen et al., 2017	
	Susarla, Anitesh, & Whinston, 2003	
	Su, 2013	
	Ojala & Tyrvaïnen, 2006	
	Styles & Genua, 2008	
	Juho & Mainela, 2009	

The bolded references focus on both parts of the value-chain activities

3.2 DOD of digitalized/-ing companies

Studies use different terms like *e-business* (Brouthers et al., 2016), *high-tech companies* (Almor, Tarba, & Margalit, 2014; Crick & Spence, 2005; Juho & Mainela, 2009; L. Li et al., 2012; Ojala & Tyrvaïnen, 2006; Styles & Genua, 2008; Su, 2013; Zhu & Qian, 2015), *digital information goods providers* (Mahnke & Venzin, 2003; Wentrup, 2016), *new technology-based companies* (Bell & Loane, 2010; Campos et al., 2009; Mahadevan, 2000; Reuber, 2016), *accidental internationalists* (Hennart, 2014), or *application service providers* (Susarla, Anitesh, & Whinston, 2003). Broadly, however, they view a digitalized company as any firm that provides its products and services to customers using the Internet and other technologies (Bell & Loane, 2010; Nambisan, 2017; Wentrup, 2016). The extant literature suggests that Internet infrastructure and web and mobile technologies represent more than a catalyst for IE and IM; new phenomena are developing and new capabilities are needed in the international environment (Reuber, 2016). It has become much easier to create links between most industries and customers based on web platforms enhanced by e-commerce solutions (Wentrup, 2016).

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4 Digitalized companies are commonly expected to sell digital products for which they do not
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6 require IM adaptation. The anticipated dynamic is the higher the DOD (Jean, Sinkovics, & Kim,
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8 2008), the lower the need for product and service adaptation. Yet the international performance
9
10 of even digitalized companies depends on adaptation, enhanced by specific marketing strategies
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12 and communication languages and channels (Luo et al., 2005; Moen et al., 2003; Moen, Gavlen,
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14 & Endresen, 2004; Reuber & Fischer, 2011). Although differentiation and customization lead
15
16 to a smaller market served at one time (Reuber, 2016), to be successful in foreign markets,
17
18 digitalized companies' marketing strategies and capabilities also focus on adaptation and
19
20 encouraging customers' involvement in improving their products (Knight, 2000; Luo et al.,
21
22 2005; Moen, Koed Madsen, & Aspelund, 2008).

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29 Brouthers et al. (2016) suggest that digitalization of companies augments their value chain
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31 through *servitization* (Vandermerwe & Rada, 1988), adding service capabilities and solutions
32
33 to supplement their product offerings (Baines, Lightfoot, Benedettini, & Kay, 2009; Neely,
34
35 2008; Vandermerwe & Rada, 1988). For example, even online retailers requiring physical
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37 distribution of their products increasingly internationalize more rapidly than brick-and-mortar
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39 retailers do (Schu, Morschett, & Swoboda, 2016).

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45 Nambisan (2017) describes digital entrepreneurship through digital artifacts, platforms, and
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47 infrastructure. Digital artifacts present digital applications or online content as part of a new
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49 product (or service) offering a specific functionality or value to the end user. Digital platforms
50
51 serve as a shared set of services and architecture that hosts complementary offerings. Digital
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53 infrastructure comprises systems that provide better communication, collaboration, or
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55 computing capabilities. If these characteristics are relied on to describe digitalized companies,
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however, important aspects captured by value-chain activities—which cover the full range of companies' activities to bring products or services from conception to end use and beyond—might be missed. Companies gain competitive advantage from how they configure the five main parts of the value chain (i.e., creating, producing, marketing and selling, delivering, and supporting products or services; (Porter & Kramer, 2011); also see Table 4).

Table 4. Examples of digitalized value-chain activities.

Creating	Producing	Marketing and selling	Delivering	Supporting
Research and development based on technology and behavioral data	Online platform/website (web and/or mobile)	Online payment system; marketing based on social media, analytics	Online delivery/last-mile delivery service	Online customer care

Source: Literature review papers (n = 35) and example companies.

Already, web technologies have made product and service information ubiquitous; social media drives consumers to share, compare, and rate experiences; and mobile devices add a “wherever” dimension to the digital environment. To win over customers, companies must know them and their expectations, and must be able to reach customers with the right kind of interaction. Marketing based on social media and analytics is key to building that understanding—data to define and contextualize trends, to measure the effectiveness of activities and investments at key points in the consumer decision journey, and to understand how and why individuals move along those journeys (Bell & Loane, 2010; Brouthers et al., 2016; Javalgi, Todd, Johnston, & Granot, 2012; Kim, 2003; Luo et al., 2005; Mahnke & Venzin, 2003; Singh & Kundu, 2002).

Management literature uses the terms *global value chain* (Gereffi & Fernandez-Stark, 2011; Hernández & Pedersen, 2017) and *global factory* (Buckley, 2011; Buckley & Ghauri, 2004) to

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4 describe the situation where some of a company's activities are located in other countries. This
5
6 paper refers to the *value chain* as defined by Porter (1985).³ In the analyzed literature, the most
7
8 frequent metrics for assessing the digitalization of value-chain activities relate to marketing,
9
10 sales and support. Market performance plays an important role, but this neglects most parts of
11
12 the value chain (see Table 3). Thus, too little is known about other modes and value-chain
13
14 internationalization (Mudambi & Zahra, 2007).
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20 21 **4 RESEARCH FRAMEWORK**

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23 Based on the literature review a conceptual research framework was used to classify
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25 digitalized/-ing companies based on the relationship between age of the company (young vs.
26
27 mature), DOD (domestic vs. international) and DOI (high vs. low). Following Lowy and Hood
28
29 (2004), the framework was built using a 2 × 2 matrix. In addition, classification was used as a
30
31 tool to find the main patterns among these companies.
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37 Classification was carried out using three dimensions (see Figure 1):
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- 39 • Age of the company (Crick & Spence, 2005; Hennart, 2014; Kim, 2003; Luo et al.,
40 2005);
41
42
- 43 • DOD of its value chain, inward (Almor et al., 2014; Campos et al., 2009; Mahnke &
44 Venzin, 2003) and outward (Brouthers et al., 2016; Hänninen et al., 2017; Wentrup,
45 2016); and
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59 ³ “Value chain is a system of interdependent activities” (p. 48).
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- DOI of the online–offline geographical dispersion of its value-chain activities in foreign markets (Nambisan, 2017; Reuber & Fischer, 2011; Sinkovics et al., 2013; Wentrup, 2016).

In Figure 1, the horizontal axis captures the time and internationalization dimension (age of the company; domestic/international); the vertical axis captures the DOD of the value-chain activities (high/low). Thus, enterprises in the first quadrant can be referred to as *born-digital* (BD) companies: companies in which most of the value chain is highly digitalized soon after inception. In general, they are characterized by their easier approach to accessing foreign markets compared to low-tech companies—a consequence that makes it necessary to shed light on the IM and entrepreneurship activities of BD companies as well.

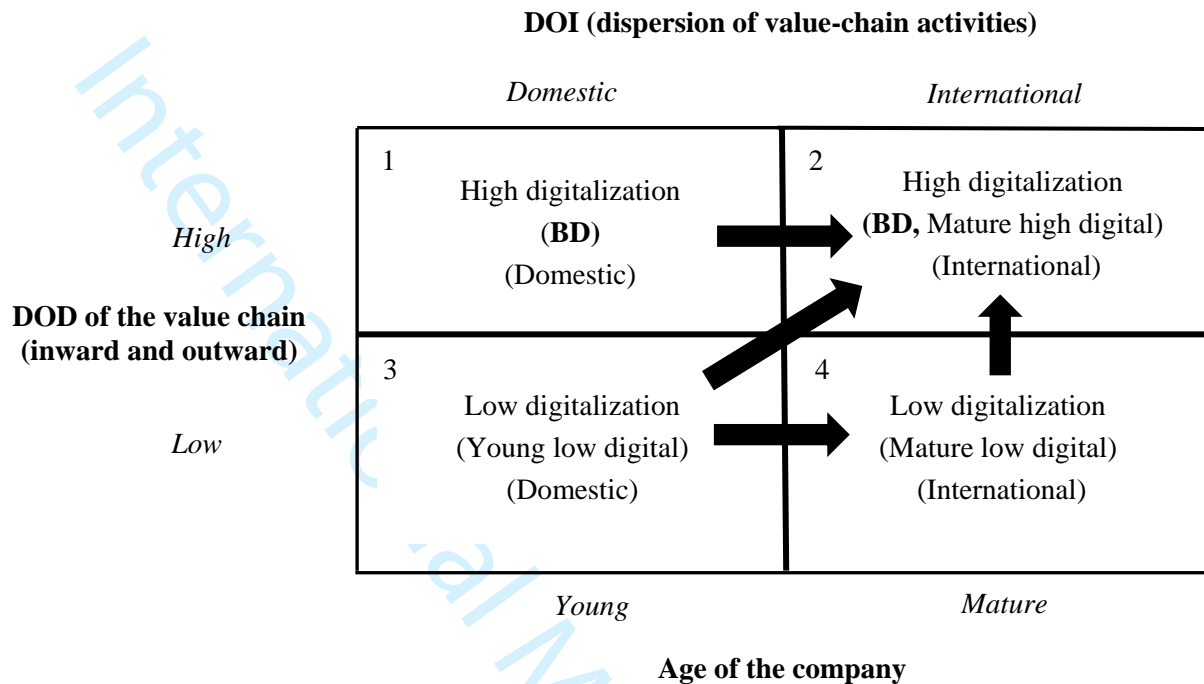
The digitalized value-chain activities that represent DOD—defined by “high digitalization”—differ according to the core product’s nature. To avoid considering all companies founded in the Internet era as BD, based only (for example) on the use of email as an Internet communication tool, it is assumed that BD companies should have highly digitalized most parts⁴ of their value chain straight from their inception (Figure 1).

The second quadrant in Figure 1 includes BD companies and those with a highly digitalized value chain that experienced the transformation later in time (“mature digital” companies). The third and fourth quadrants comprise companies with a low-digitalized value chain, defined by age as “young low digital” and “mature low digital,” respectively.⁵

⁴ This is an arbitrary criterion, but it helps distinguish between software companies with digital products and those with tangible products.

⁵ The authors thank an anonymous reviewer for the suggestion to add terms denoting firms that are not BD.

Figure 1. Classification of digitalized/-ing companies based on degree of digitalization (DOD) and degree of internationalization (DOI). BD: born digital.



After analyzing metrics in the existing literature, the internationalization perspective was measured in terms of dispersion of value-chain activities online (e.g., development, website translation/localization, online sales/support) and offline (e.g., delivery, global offices, on-site support; (Reuber, 2016; Sinkovics et al., 2013; Wentrup, 2016). Moreover, to measure value-chain digitalization, the inward (Almor et al., 2014; Campos et al., 2009; Mahnke & Venzin, 2003) and outward (Brouthers et al., 2016; Hänninen et al., 2017; Wentrup, 2016) metrics from the literature were used.

This framework identifies specific types of companies in each quadrant of the matrix. In time, by updating their DOI and DOD, companies can change quadrants. In the first quadrant of Figure 1, not all companies are BD and not all BD companies are international; however, the focus is on those companies that follow an international path, toward the second quadrant. BD

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4 companies can become internationally operating high-digital companies when they move from
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6 quadrant 1 to quadrant 2; “young low digitals” become internationally operating low-digital
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8 companies when they move from quadrant 3 to quadrant 4, but they can also become “mature
9
10 high digital” by moving, over time, to quadrant 2.
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16 The main differences between types of companies in Figure 1 are the DOD of the value chain
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18 (high vs. low), and the DOI—the online–offline geographical dispersion of activities,
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20 domestically and internationally. The horizontal axis measures the number of countries in
21
22 which these companies have value-chain activities, offline (i.e., with offices) and online, based
23
24 on the number of localized websites or domains in a country’s official language. The first two
25
26 quadrants therefore comprise BD companies, and the other two represent companies in different
27
28 stages of digitalization, with domestic or international activities. The arrows emphasize the
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30 processes of digitalization and internationalization of the company types in quadrants 1, 3, and
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40 An absolute online presence can be surmised at one extreme point, meaning all value-chain
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42 activities are run on Internet infrastructure and coordinated by web and mobile technologies.
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44 Companies in this category operate almost entirely in a virtual setting. At the other extreme, a
45
46 purely offline presence means only physical resources are present (Wentrup, 2016). In practice,
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48 degrees of online and offline presence may vary over time (Sinkovics et al., 2013). Clear
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50 evidence of a balance between online and offline activities is provided by the type of resource
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52 involved in the two domains (Wentrup, 2016). In terms of selling and marketing value-chain
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54 activity, online entry may be nearly instantaneous if a product or service is available online in
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56 a specific market. While an offline entry may be more gradual and time-consuming, the
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necessity of entry seems to increase with time (Wentrup, 2016). The efficiency of the internationalization strategy allows such ventures to “bootstrap” into international markets.

Five companies—Avito.ru, Farfetch, HelvetiBox, HelloFresh, and IKEA—were chosen to illustrate the different types of companies distinguished by the number of value-chain activities enabled by web and mobile technologies and the number of countries in which any value-chain activities occur.

As Figure 2 shows, more digitalization increases the dispersion of geographic activities (online and offline) around the world. Not all BD companies, however, operate internationally. The companies in the first two quadrants display similar digitalization. The most important difference between them is the number of activities in foreign markets. When digitalization is

Figure 2. Classification of digitalized/-ing companies based on degree of digitalization (DOD) and degree of internationalization (DOI).

		DOI (dispersion of value-chain activities)	
		<i>Domestic</i>	<i>International</i>
DOD of the value chain (inward and outward)	<i>High</i>	1 Avito.ru (BD) (Domestic)	2 Farfetch, IKEA (BD, mature high digital) (International)
	<i>Low</i>	3 HelvetiBox (Young low digital) (Domestic)	4 HelloFresh (Mature low digital) (International)
		<i>Young</i>	<i>Mature</i>
		Age of the company	

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4 used for coordinating value-chain activities, BD companies can expand faster internationally
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6 than those with a less-digitalized value chain.
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11 **Avito.ru**, an online classified ad platform, is a BD company having a highly digital value chain
12 since its inception. It is a technology company providing an e-commerce platform (i.e., core
13 business) with classified ads and online shops. Its platforms include an online payment system,
14 and it uses online marketing campaigns based on data generated by its users. Most of its services
15 can be delivered from headquarters.
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26 **Farfetch** is a British international fashion marketplace that uses an online e-commerce platform
27 to sell clothes made by designers from around the world. Rather than having a warehouse,
28 Farfetch acts as an online matchmaker between customers and brands. Brands can create an e-
29 shop on Farfetch's main site or use the company's technology to power their online store. It
30 gives access to brands from 25 countries and has customers in over 170 markets. Using social
31 media platforms, analytics scripts, and mobile apps, Farfetch collects and analyzes user
32 information to create an individualized marketing strategy for each customer, enabling
33 prediction of each customer's future demands. This ability allows the company to send
34 automatically optimized email and online campaigns to each user. The company's business
35 strategy is fueled by its customer service, on-time delivery system, and advantageous returns
36 and refunds policy.
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54 **HelloFresh** is a provider of fresh food at home. It has headquarters in Berlin and operations in
55 11 markets across three continents. HelloFresh generates revenue from the sale of recipe boxes,
56 which varies depending on the frequency of meals and number of people per meal. Each week,
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4 customers choose their meal plan and select a delivery day. Other than the website (i.e.,
5
6 marketing, sales and support), this company performs value-chain activities (i.e., supplier
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8 partnerships, logistics, storage, delivery) offline. HelloFresh has a web-based business model
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10 (i.e., an online platform), but exemplifies a mature low-digital company, with international
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12 activities since 2012.
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18 **HelvetiBox** is a service founded in 2015 in Cordast, Switzerland. Customers use the HelvetiBox
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20 website to order 5–8 Swiss-made specialty foods per month. Despite the website (i.e.,
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22 marketing, sales and support), most value-chain activities (e.g., logistics, supplier partnerships,
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24 storage, delivery) are conducted offline. This is a clear example of a young web-based company
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26 (i.e., an online platform), with a low-digitalized value chain and domestic activities, but with
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28 the potential to go international and increase the digitalization of its value chain.
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35 **IKEA** is one of the biggest furniture companies in the world, founded in Älmhult, Sweden, in
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37 1943. As its internationalization process took more time and resources, IKEA adopted
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39 digitalization of the value chain more than a decade ago, enhancing their initial brick-and-
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41 mortar business model. This example of a mature high-digital company combines online (e-
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43 shop) with offline (store) into an omnichannel concept covering a large scale of customers.
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48 Depending on the industry, tangible foreign assets in international markets are still used, but
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50 are often defined by business offices or data centers (UNCTAD, 2017), needed more for policy
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52 issues or customer support. Overall, the firm cases show that early digitalization of the value
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54 chain, translated into a stronger online presence, followed by a gradual increase in resources
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56 dedicated to offline presence, may present one solution for BD companies' sustainable growth.
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5 DISCUSSION

This exploratory study focused on testing metrics selected from the literature review, and the proposed research frameworks. Few studies have attempted to analyze companies from these perspectives, and the IE and IM literature on digitalization is still in its nascent stages. This paper reviewed the current concepts describing different types of digitalized/-ing enterprises (Nambisan, 2017; Wentrup, 2016), mostly focusing on BD. Suitable metrics were identified for developing an empirical classification of low- and high-digital companies by analyzing several theoretical research models in the existing literature. Developing standard definitions, conceptualizations, and metrics increases research clarity, as well as the comparability of companies across regions, countries, and specific industries. This work was carried out to close some of the gaps in the literature.

Digitalization forms distinct types of companies (international or not) for many reasons, but especially due to the business model. Companies that are highly digitalized from their inception, defined here as BD, using a high DOD of the value chain, intensively coordinate their activities using Internet infrastructure and web and mobile technologies. Both the literature review and the empirical cases suggest the decision center is generally the home country, and the geographical and psychic distance between the foreign market and home country is sometimes critical for the company's success (e.g. in line with all analyzed cases, and in) (Luo et al., 2005; Rissanen, Ermolaeva, Ali, Torkkeli, & Saarenketo, 2019; Singh & Kundu, 2002; Wentrup, 2016; Zhu & Qian, 2015). These companies are distinguished from those whose highly digitalized value chain developed later in time (mature digital companies), and by young low digitals and mature low digitals, that have not yet experienced a digital transformation.

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7 Research suggests some internationally operating BD companies may represent a subset of
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9 born-global companies (i.e., companies that internationalize early and rapidly); based on
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11 Hennart's (2014) work, one can expect BD companies' behavior to be determined largely by
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13 their business models, which generate revenues from an early stage (Ojala & Tyrvainen, 2006;
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15 Su, 2013). These companies are generally perceived as rapidly internationalizing (Bell &
16
17 Loane, 2010), because of the high DOD of their value chain from the beginning (Brouthers et
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19 al., 2016; Wentrup, 2016). This could be a topic for further empirical research.
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25 ***5.1 Theoretical implications***

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27 This study explored the digitalization phenomenon, analyzing several metrics in the extant
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29 literature. It concludes by recommending a framework that relies on the relevance of digitalized
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31 value-chain activities and IM, using both online and offline dimensions of the geographical
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33 distribution of value-chain activities, to present a conceptual analysis of the characteristics and
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35 metrics of companies' digitalization, mostly focusing on BD. Most metrics found in the
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37 analyzed literature do not fit the particularities of digitalized/-ing companies; therefore, a new
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39 set of metrics and a model are proposed to classify them.
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47 Most papers included in the literature review use web-based technologies to measure the
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49 digitalization of value-chain activities (Bell & Loane, 2010; Brouthers et al., 2016; Hänninen
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51 et al., 2017; Hennart, 2014; Kim, 2003; Luo et al., 2005; Mahnke & Venzin, 2003; Reuber,
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53 2016; Wentrup, 2016). Thus, BD companies are service or product companies in which most
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55 of the value chain is highly digitalized; further, they either experienced that transformation soon
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57 after inception or did not need to transform. Mature digital companies, in contrast, entered this
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4 process long after inception and have a brick-and-mortar business strategy, combining offline
5 with online activities. Still others (mature low-digital and young low-digital companies) have
6 not finished or have only begun digital transformation; their value-chain activities rely more on
7 offline functions, and their internationalization process is slower because their speed of learning
8 is lower (Autio, Sapienza, & Almeida, 2000; Hennart, 2014; Sinkovics et al., 2013).
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19 The digitalized activities that show DOD differ mainly in relation to product nature. If the
20 product is tangible, a higher DOD is reached when production and distribution are coordinated
21 with Internet technologies. Servitization also helps tangible products attain a high DOD. Baines
22 et al. (2009) and Neely (2008) argue servitization offers significant potential value, providing
23 solutions for companies to update their value chain and reap greater benefits by creating more
24 complex and refined products and services.
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35 Digitalized companies must have most parts of the value chain digitalized, or at least enhanced
36 or coordinated by Internet infrastructure and web and mobile technologies. Internationalization
37 occurs largely because of the digital nature of the value-chain activities. The framework
38 indicates that empirical investigators interested in digitalized companies, especially BD
39 companies, will find larger sample sizes in industries with a highly developed Internet
40 infrastructure (Mahadevan, 2000; Susarla et al., 2003; Wentrup, 2016). The framework also
41 distinguishes companies by domestic versus international activity; however, empirical research
42 is needed to better understand the correlation between the value chain and internationalization.
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53 Digitalization is presumed to increase internationalization. There are IM-related issues (e.g.,
54 barriers of entry) based on liability of foreignness and newness (Hymer, 1976; Zaheer, 2002),
55 and digitalized companies must overcome numerous marketing challenges to motivate
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4 customers to find, trust, and purchase their offerings (Rangan & Adner, 2001; Yamin &
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6 Sinkovics, 2006).
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11 Furthermore, the international performance of digitalized companies depends on product or
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13 service adaptation (Luo et al., 2005; Moen et al., 2003; Moen et al., 2004; Reuber & Fischer,
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15 2011) correlated with a marketing strategy focused on customers' or users' involvement
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17 (Knight, 2000; Luo et al., 2005; Moen et al., 2008). These companies often offer their products
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19 or services first for a niche market; they adapt quickly to control that market, and after may
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21 become mainstream. Digitalization of outward value-chain activities like marketing, sales and
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23 support tends to increase the international performance of inward activities, especially
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25 improving R&D by driving innovation based on customers' input and behavioral data (Almor
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27 et al., 2014; Crick & Spence, 2005; Hennart, 2014; Luo et al., 2005; Mahnke & Venzin, 2003).
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35 This study employs a holistic framework to clarify the discussion on digitalization in the context
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37 of IE and IM. It integrates the new concept of BD, which explains the digitalization
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39 phenomenon through an innovative perspective, analyzing the digital value-chain activities
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41 correlated with internationalization across two dimensions—online and offline. According to
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43 the literature, the interplay between online and offline internationalization and DOD increases
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45 knowledge of foreign markets and users, meaning digitalized companies grow more rapidly
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47 internationally, extending the dispersion of value-chain activities (Autio et al., 2000; Brouthers
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49 et al., 2016; Nambisan, 2017; Wentrup, 2016; Yamin & Sinkovics, 2006). Going forward, this
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51 classification will help in developing new theories by analyzing digitalized/-ing companies'
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53 internationalization patterns and strategies.
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5.2 Managerial and policy implications

The managerial implications of this research relate to informing entrepreneurs and managers about solutions employing Internet hardware infrastructure and web and mobile software technologies in their companies' IM strategies; they can use these strategies to internationalize. Integrating the strategy of digitalizing value-chain activities into marketing and business objectives could help companies expand their traditional boundaries and internationalize, evolving into an interwoven two-tier market (i.e., physical and virtual). The more these companies use web and mobile technologies, the better they can leverage assets in foreign markets (UNCTAD, 2017).

Focusing on digitalization of inward and outward processes and value-chain activities, managers can identify IM strategies to boost innovation and increase firm performance (Lee, Lee, & Pennings, 2001; Luo et al., 2005; Mahnke & Venzin, 2003; Su, 2013; Susarla et al., 2003). With higher digitalization of value chains, companies can track users and identify relevant value drivers to invest in product or service upgrading. Greater digitalization will virtually decrease the distance between companies and customers (Kollmann & Christofor, 2014). Internationalization through these processes will give companies access to different types of experiential knowledge from different sources, generating a positive effect on turnover.

Based on the model of BD or even mature digital companies, managers can consider the long-term effects of failing to commit sufficient resources to their offline presence in markets with a high psychic distance early in the internationalization process. The rapport between online and offline entry should be considered carefully by both types of companies since online consumer preferences often differ between geographical markets. Failing to do so may affect the

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4 company's internationalization speed. Internationally expanding firms may want to keep their
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6 marketing strategy (e.g., branding) in-house because customer learning facilitated by branding
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8 is essential to prevail in foreign markets (Mahnke & Venzin, 2003).
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14 The internationalization success of digitalized companies relates to the value generated by
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16 providing an online platform, organizing the marketing strategy for user adoption, and
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18 managing users' cross-relationships. Business models built on online platforms redefine the
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20 basic logic of most industries (Bell & Loane, 2010; Brouthers et al., 2016; Hänninen et al.,
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22 2017; Nambisan, 2017; Wentrup, 2016). Companies may mediate deals between buyers and
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24 suppliers rather than approaching the whole supply and logistics chain independently. Business
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26 model innovation determines the success of user adoption and, ultimately, internationalization;
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28 this can help managers adapt to business models of digitalized companies across a wide range
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30 of industries. In addition, policymakers must consider that the penetration of leading digitalized
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32 companies into their country will energize the digitalization of broader economic activities.
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40 Low-digitalized companies seem to have better opportunities when shifting to a fully digitalized
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42 value chain. The present findings may underline the importance of digitalization of all value-
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44 chain activities (inward and outward). A better understanding of digitalization opportunities in
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46 the upstream part of the value chain allows shaping the IM strategy accordingly, improving the
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48 overall prospects of internationalization.
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54 **6 LIMITATIONS AND FUTURE RESEARCH**

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4 This study has several limitations. First, it focused on new theoretical conceptualizations and
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6 empirical findings regarding the internationalization of digitalized companies. Considering the
7
8 novelty of the research topic, the available information is limited. As is the case in international
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10 new venture and born-global studies, studies on digitalization focus too much on high-tech
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12 industries (Andersson, Evers, & Kuivalainen, 2014), and little is known about other industries'
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14 digitalization efforts. Another potential limitation could be the digitalization metric based on
15
16 the company's value chain. Most activities are Internet related, and it can be difficult to track
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18 where in their value chains companies have their activities. Furthermore, the
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20 internationalization metrics proposed in this study must be tested and verified, and the lack of
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22 variance of DOI may be an important limitation.
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30 Future research should explore the corresponding themes. For instance, the BD phenomenon
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32 has been analyzed thoroughly based on the study of large companies; however, other
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34 perspectives are needed on how the value-chain structure, digitalization, country of origin, and
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36 dynamism of the industry may influence the evolution of BD companies. There may eventually
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38 be other typologies of BD companies or subcategories based on different criteria.
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44 It would be useful to explore issues such as the role of value-chain digitalization in
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46 internationalization; the impact of high digitalization of value-chain activities on
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48 internationalization strategy and international performance; or the speed of learning of BD
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50 companies and its impact on the relation between internationalization process/strategy and
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52 international performance.
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4 The internationalization process includes multiple steps. In general, companies' inward–
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6 outward activities are initially related to geography; they begin with regional expansion,
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8 balancing the resources invested in their online and offline presence to expand to new
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10 international markets. There may be a significant difference between an information and
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12 communication technology (ICT)-based firm and an ICT-intensive one. A more thorough
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14 investigation of the differences between product and service companies could strengthen the
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16 validity of this paper.
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23 Digital technologies foreshadow the next era in IM and IE. The traditional means of following
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25 marketing and entrepreneurial opportunities will be increasingly questioned and reworked. BD
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27 companies represent the beginning of this new era in how internationalization will be achieved.
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Table 1. Sources identified by the literature review.

ID	Ref.	Type of research	Sample, if empirical
1	(Brouthers et al., 2016)	Empirical: Qualitative, semi-structured interviews, exploratory case study	Nine German companies (seven marketplaces, two communities)
2	(Zhu & Qian, 2015)	Empirical: Quantitative, secondary data	1191 international acquisitions (from 49 countries) made by US acquirers (ITC industry)
3	(L. Li et al., 2012)	Empirical: Quantitative, secondary data	278 US SMTEs (ITC industry)
4	(Mahnke & Venzin, 2003)	Empirical: Qualitative, exploratory case study	One CS: eBay
5	(Luo et al., 2005)	Empirical: Quantitative, secondary data	93 US Internet companies
6	(Crick & Spence, 2005)	Empirical: Qualitative, semi-structured interviews	12 in-depth interviews with UK high-tech SMEs
7	(Campos et al., 2009)	Empirical: Qualitative, semi-structured interviews, exploratory case study	Six Mexican companies
8	(Bell & Loane, 2010)	Empirical: Qualitative, exploratory case study	Five Internet companies
9	(Almor et al., 2014)	Empirical: Quantitative longitudinal study, secondary data	57 Israeli technology-based companies
10	(Kim, 2003)	Empirical: Qualitative, exploratory case study	Case studies: Yahoo! Inc., AOL, Lycos, and AltaVista
11	(Hennart, 2014)	Conceptual: Literature review, case study	Three case studies
12	(Reuber, 2016)	Empirical: Qualitative, case study	Seven eINVs
13	(Wentrup, 2016)	Empirical: Qualitative, semi-structured interviews, exploratory case study	Three Swedish companies
14	(Singh & Kundu, 2002)	Conceptual: Case study	Amazon.com, Yahoo.com, Landesend.com, Cnet.com, AOL.com, Ebay.com, etc.
15	(Mahadevan, 2000)	Conceptual: Case study	Amazon.com, AOL.com, Ebay.com, etc.
16	(Hänninen et al., 2017)	Empirical: Literature review, content analysis, qualitative case study	Alibaba Group, Amazon.com, eBay and Rakuten Group
17	(Susarla et al., 2003)	Empirical: Quantitative, questionnaires	256 software and services companies

18	(Su, 2013)	Empirical: Qualitative, semi-structured, secondary data, interviews, case studies	13 China-based IT service companies
19	(Ojala & Tyrvaïnen, 2006)	Empirical: Qualitative, secondary data, semi-structured open-ended interviews, case studies	Eight Finnish software companies
20	(Styles & Genua, 2008)	Empirical: Qualitative, personal interviews (observation, documentation), secondary data, case studies	Four Australian high-tech companies
21	(Juho & Mainela, 2009)	Empirical: Qualitative, longitudinal research, semi-structured interviews, secondary data (observation), in-depth case study	Two Finish high-tech companies
22	(Stallkamp & Schotter, 2019)	Empirical: Qualitative, interviews, secondary data, case studies, conceptual	Nine platform companies (country n/a)
23	(Javalgi et al., 2012)	Empirical: Qualitative, secondary data, in-depth case study	Three Indian companies
24	(Luo & Bu, 2016)	Empirical: Quantitative, face-to-face interviews, standardized questionnaires	6236 companies from 27 emerging economies
25	(Chen & Kamal, 2016)	Empirical: Quantitative, survey	22,000 US companies
26	(Rezk, Srail, & Williamson, 2016)	Empirical: Quantitative, questionnaire, interviews	96 interviews with designers, engineers, industry experts, and researchers from companies based in Europe, US, China, Brazil, Mexico, and Egypt
27	(Hagsten & Kotnik, 2017)	Empirical: Quantitative	Companies from 12 European countries (ESSLait firm-level datasets)
28	(Watson, Weaven, Perkins, Sardana, & Palmatier, 2018)	Conceptual: Case studies	Dubai Ports World, Michel's Patisserie Franchises, eBay Small Businesses, Adobe SMEs, Embraer Aircraft, Fleetguard Filters, Blackboard Educational, Google SMEs
29	(Shaheer & Li, 2018)	Empirical: Quantitative, longitudinal, cross country, secondary data	127 apps at Apple's app store
30	(Ojala, Evers, & Rialp, 2018)	Empirical: Qualitative, longitudinal single-case study, in-depth case study, interviews, secondary data	G-cluster from Japan
31	(Martinez-Noya, Garcia-Canal, & Guillen, 2012)	Empirical: Quantitative, multilanguage cross-country questionnaire, interviews	182 technology-intensive companies from the US and European Union

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32	(Caniëls, Lenaerts, & Gelderman, 2015)	Empirical: Quantitative, questionnaire	78 Belgian SMEs
33	(Ziyae, Sajadi, & Mobaraki, 2014)	Empirical: Quantitative, questionnaire	135 Danish SMEs
34	(Gabrielsson & Gabrielsson, 2011)	Empirical: Qualitative, case study, interview, semi-structured questionnaire, secondary literature	35 Finnish SMEs
35	(Ifinedo, 2011)	Empirical: Quantitative, questionnaire	214 Canadian SMEs

Table 2. Overview of metrics from the sources identified in the literature review.

ID	Terms used to define digitalized/ing companies	Definitions	DOD metrics	DOI metrics	DOI (range)	Type of companies
1	ibusiness/e-business companies	Any firm operating online that provides its products/services to customers using the Internet and other computer-based information system technologies.	Online platform	Sales; number of users in different markets, networks	Number of foreign markets (1–150)	Web-based (products and services)
2	High-tech companies	n/a	High-tech industry	Entry modes: Acquisitions; post-acquisition performance	>1 foreign countries	IT (products and services)
3	Small- and medium-sized technology-based enterprises	Enterprises that employ fewer than 500 people and have R&D intensity >3.5%.	High-tech industry	International diversification: Geographic spread and concentration; product diversification: Related and unrelated diversification	>1 foreign countries	High-tech (products and services)

4	Digital information goods providers	Companies deriving most income from one or more Internet-related activities.	Internet technology: Digital information goods	Entry mode (in a single foreign market) and entry patterns (across foreign markets), networks	International company	Web-based (services)
5	e-commerce companies	Companies whose business activities are entirely Internet-based.	Online platform/eShop/marketplace	Speedy foreign market entry, sequence, coverage	>1 foreign countries	Web-based (products and services)
6	High-tech SMEs	Generally, small- and medium-sized companies with advanced tech knowledge and capabilities, an educated workforce, and the ability to adapt quickly to fast-changing environments.	Advanced tech knowledge and capabilities	Speed of internationalization, years from start-up; sales volume and growth, profitability and market share; market strategy, networking	>1 foreign countries	High-tech (products and services)
7	New technology-based companies	Independent companies 10 years old or younger, and their operations are based on exploiting the firm's technological resources, meaning as the firm actively develops, it produces and/or commercializes technology.	Technology companies (from Technology-Based Business Incubator Network)	Relationship between technology strategy and performance	n/a	Technology-based (products and services)
8	"New-wave" global companies	Entrepreneurial companies that " <i>pursue rapid and dedicated internationalization from inception or shortly thereafter</i> " (Oviatt & McDougall, 1994, p. 49). The Internet is a key driver of business development and speedy internationalization.	Internet-based companies	Rapid internationalization based on close collaboration with other companies and co-creation with customers, networking	>1 foreign countries	Web-based (products and services)

9	Maturing technology-based, born-global companies	Often characterized by proprietary technologies and innovations.	Information and communication technology (ICT) sector: software, hardware, electronics industries	Entry modes: Mergers and acquisitions	>1 foreign countries	High-tech (products and services)
10	Internet portals	Internet companies.	Online portal	Entry modes, speed, internationalization strategy	>1 foreign countries	Web-based (services)
11	Accidental internationalists	INVs/BGs possess superior technological resources which they exploit by selling knowledge-intensive products. Acquiring foreign customers is for INVs/BGs no different than acquiring domestic ones. In that sense, INVs/BGs are accidental internationalists.	Technology company (Atlassian)	Speed, knowledge, business model	>1 foreign countries	Web-based (products and services)
12	eINV	A venture whose business model is based on a digital platform and that seeks, from inception, to derive significant competitive advantage from international growth.	Digital platform	Language boundaries, adaptation, standardization	>1 foreign countries	Web-based (services)
13	Online service providers	Any company, organization, or group providing an online service.	Web and mobile technology companies	Online-offline balance: Speed, geography, mode of entry	>1 foreign countries	Web-based (services)
14	e-commerce corporations	Organizations engaged from inception in electronic commerce; derive significant	Online platform/eShop/marketplace	Growth, networks	>1 foreign countries	Web-based (services)

		competitive advantage from the use of network resources resident in virtual networks of commercial collaborative alliances.				
15	Internet-based business, Internet-based e-commerce, and business over the net	Organizations that conduct commercial transactions with business partners and buyers over the net (exclusively or in addition to brick-and-mortar operations).	Online platform/portal/eShop/marketplace	Business model	>1 foreign countries	Web-based (product and services)
16	Digital multi-sided platforms	Facilitate interaction and the seamless exchange of products between consumers and independent suppliers through a multi-sided digital platform-mediated marketplace.	Online platform/marketplace	Business model	>1 foreign countries	Web-based (services)
17	Application service providers (ASPs)	Company that provides access to remotely hosted IT applications over a wide area network (WAN), virtual private network (VPN), or the Internet.	Online platform/marketplace	Business model	>1 foreign countries	Web-based (services)
18	IT service suppliers	n/a	Software solutions	Business strategy: Time to internationalize, entry modes	>1 foreign countries	Software (products and services)
19	Software companies	n/a	Software solutions	Variation of business models, entry modes	>1 foreign countries	Software (products and services)
20	High-technology companies	n/a	Software and hardware solutions	Networks, entrepreneurial orientation	>1 foreign countries	High-tech (products and services)

21	High-tech companies	n/a	Software and hardware solutions	Entry modes (external facilitation), networks	>1 foreign countries	High-tech (products and services)
22	Digital platform companies	Companies with business models based on digital platforms.	Online platform/marketplace	Business model, networks, entry modes, market selection	>1 foreign countries	Web-based (services)
23	Internet-enabled SMEs	Companies with business models based on Internet technologies.	Online platform/marketplace	Business model, decision-making	>1 foreign countries	Web-based (services)
24	Emerging economy enterprises	n/a	ICT resources/assets	Export sales, national sales	>1 foreign countries	Products and services
25	Multinational firm	n/a	ICT adoption (e.g. Internet-enabled network technology, e-commerce apps)	International trade	>1 foreign countries	Manufacturing-based
26	Multinational firm	n/a	Product attributes (tier structure, value density, knowledge tacitness and embeddedness, product modularity)	International configuration of value chain (inward)	>1 foreign countries	Manufacturing-based
27	SMEs	n/a	ICT usage (website, online sales, ICT-schooled employees)	Export performance (export activities, foreign ownership)	>1 foreign countries	Manufacturing and services
28	n/a	n/a	e-commerce, digital delivery, SaaS, logistic and communication technology infrastructure	Entry modes, networks	>1 foreign countries	Manufacturing and services
29	Start-ups	n/a	Mobile apps	International penetration	>1 foreign countries	Services
30	Digital platform providers/digital-based INVs	Digital platforms are defined as <i>"a shared, common set of services and architecture that serves to host</i>	Online platform	Network, entry modes	>1 foreign countries	Services

		<i>complementary offerings</i> " (Nambisan, 2017, p. 1032)				
31	Technology-intensive companies	Coordinate and integrate distributed activities along their value chains; explore and exploit emerging technologies	e-commerce, digital delivery, SaaS, logistic and communication technology infrastructure	Outsourcing (R&D)	>1 foreign countries	Manufacturing and services
32	SMEs	n/a	Internet usage and technology	Market orientation	>1 foreign countries	Manufacturing and services
33	Electronic businesses	n/a	Internet-based technologies	Speed of foreign market entry	>1 foreign countries	Manufacturing and services
34	Born-global firms	A firm that " <i>from inception, seeks to derive significant competitive advantage from the use of resources and the sales of outputs in multiple countries</i> " (Oviatt & McDougall, 1994, p. 49)	Internet-based channels, technology infrastructure, brick-and-mortar	Entry modes, international sales	>1 foreign countries	Manufacturing and services
35	SMEs	n/a	Use of Internet and e-business technologies	International sales	>1 foreign countries	Manufacturing and services