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Author(s): Ojala, Arto; Rollins, Minna; Fraccastoro, Sara; Gabrielsson, Mika

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The Internationalization of B2B Digital Platform Providers: The Role of Cross-National Distance and Digital Characteristics

Arto Ojala
University of Jyväskylä
arto.k.ojala@jyu.fi

Minna Rollins
University of West
Georgia
mrollins@westga.edu

Sara Fraccastoro
University of Eastern
Finland
sara.fraccastoro@uef.fi

Mika Gabrielsson
University of Eastern
Finland
mika.gabrielsson@uef.fi

Abstract

Digitalization offers new opportunities and changes how firms can explore and enter new markets. Current literature has deepened our understanding of the internationalization process of digital-based firms, but it provides very little guidance on how the specific characteristics of digital artifacts enable and accelerate internationalization or of the role of cross-national distance and cultural difference. We use a longitudinal single-case approach to explore how a Business-to-Business (B2B) platform provider internationalized its operations from inception. The case study illustrates that the ongoing development of the digital service and the integration with new devices played an important role in the firm's internationalization and expansion into new markets. We also observed that cross-cultural distance and cultural differences played an unexpected role. Finally, we propose avenues for future research.

Keywords: internationalization, cultural distance, digital artifacts, International New Venture (INV), digitalization

1. Introduction

There has been a great interest in digitalization in the international business (IB) literature. Those companies that offer digital services, *digital-based international new ventures (INVs)* [37] or *iBusinesses* [7; 8], provide platforms that allow various content providers and content users to create value on the different sides of the platform. Digital INVs offer purely digital value offerings, which are particularly relevant in B2B contexts, given that through their platform-based innovations these firms can alter the operational environment of a growing number of industries [20], and they are usually larger players than their B2C counterparts [40; 42].

Previous studies have illustrated that the internationalization process of digital-based INVs differs considerably from that of other types of companies [7; 8; 37]. Consequently, studies have expanded previous theories and created new models to explain why and how digital-based firms become international [1; 5; 7; 8; 37]. The previous studies have focused solely on industry platforms [19] operating in multi-sided markets. For these firms, industry ecosystems, indirect positive network effects, and the creation of multi-sided markets play important roles in their internationalization [7; 8; 37]. However, there is very little research on the internal platforms that are designed for organizational use. Our study contributes to reducing this gap in the current literature.

A B2B company usually develops internal platforms to increase productivity and variety, achieve mass customization, and improve flexibility in new product design [19]. The developers of internal platforms are not often as well-known as industry platforms that function in B2C markets, but the B2B platform market is estimated to be four times larger than the B2C platform market [40; 42]. Given their different objectives and operational logic, we expect digital platform providers to behave differently to the firms featuring in previously examined cases, particularly in terms of their internationalization (as in [37]). The differences are closely related to technological differences in the architecture that defines how the platform as a digital artifact is built [30; 50].

In general, digitalization tends to facilitate internationalization of the companies [8; 11], but previous research provides very little guidance on the characteristics of digital artifacts that make these companies “international”. Furthermore, the effect of cultural differences and cross-nation distance [53] has not been explored in this context as previous studies have focused on the providers of B2C mobile applications. [51].

Our case study illustrates how national cultural differences and cross-national distance play an unexpected role when a B2B digital service provider is internationalizing its operations. We follow a longitudinal case study approach and use theme interviews, secondary data ranging from promotional material to a company's internal presentations.

We continue by outlining the conceptual foundation of this paper, after which we introduce the methodology. The discussion of the results and implications then follows before we explore future research avenues.

2. Conceptual Foundation

2.1. The Internationalization of Digital Based Firms

The impact of technological transformation deeply affects firms' environments and their internationalization in terms of time, pace, and rhythm. Coviello et al. [11] call for further research on digitization in the context of the internationalization of firms. Our study context is that of a firm that has internationalized from inception. We also review the studies that relate to internationalization of the INVs.

The internationalization process of firms has attracted scholarly interest for the past 40 years and literature focusing the process has developed alongside theories and research on international business. Johanson and Vahlne's model [26], referred to as *The Uppsala Model*, has been the foundation for studies dealing with different topical areas in the international business field. Johanson and Vahlne [26] built the argument on a firm-level analysis where decisions are taken under conditions of uncertainty, lack of knowledge, and partial ignorance. The model posits firms' gradual and incremental involvement in and expansion into foreign markets based on experiential learning. In addition, such firms expand their operations into similar countries [26]. In 2009, Johanson and Vahlne [27] revised their internationalization process model to include the network of the actors outside the firm. In 2017, Vahlne and Johanson [48] renewed their model for a third time and borrowed the concept of the *multinational business enterprise* (MBE) devised by Pitelis and Teece [41]. The new conceptualization emphasized central aspects of the modern firm compared to established views of the phenomena. Among these, business exchange rather than production, proactive entrepreneurial behavior rather than passive adaptation, and a decentralized

organizational structure rather than a hierarchical one characterizes firms' adaptation to industrial changes [48].

Håkanson and Kappen [25] suggest alternative patterns of firms' internationalization that complement both the Uppsala school and recent research analyzing the foreign expansion of rapidly internationalizing firms, commonly referred to as Born Globals or INVs [31; 39]. By combining the incremental involvement in the international markets with the rapid internationalization of entrepreneurial ventures, based on risk-taking and means-oriented approaches Chetty et al. [10], and Håkanson and Kappen [25] shift the focus of internationalization patterns and link them to boundedly rational decision-makers.

The role of the decision-makers is particularly important in rapidly internationalizing firms [39]. Previous research has shown how the decisions made, activities undertaken, and the processes implemented by entrepreneurs form the basis for the firm's international growth [2; 28; 43]. INVs tend to pursue international opportunities by utilizing their business networks [9; 12; 13; 27] and unique available resources [6].

2.2. Digital Artifacts

This study focuses on the internationalization of a company that offers a purely digital service in B2B markets. Understanding those services in global cyberspace requires a detailed exploration of the nature of the services.

Information Systems (IS) literature has investigated various characteristics of digital artifacts that form a digital service, but there is no all-embracing list of all the possible characteristics [e.g., 30]. First, digital artifacts are *product agnostic* [22; 50]; they can be used through different physical devices. For instance, Spotify can be used through mobile phones, tablets, desktop computers, amplifiers, and smart TVs. Due to the product agnostic nature of digital artifacts, entrepreneurs generally aim to multihome their services to provide customers with easy and convenient access to the service through different devices [3; 38].

Second, digital artifacts are *borderless or have distributedness* [29; 30] that is, digital artifacts themselves are not confined by physical, institutional [15], or national borders. Digital artifacts are spread through the Internet and other information infrastructures [29; 30; 47] and are accessible through digital technologies [50]. For instance, when a publisher publishes a new book in digital and physical forms at the same time, the digital version of

the book is immediately available all over the world if potential users have Internet access and a device on which to read the book. Therefore, in theory, markets are immediately global for digital artifacts. However, the access to the digital content is limited by technological and strategic bottlenecks such as limited access or internet speeds, country regulations [37], and cultural preferences of the target market [51].

Third, the non-physical form of digital artifacts makes them easily *editable and interactive* [36]. Editability opens several opportunities for firms as their digital services can be easily modified to meet their customers' preferences and the needs of the local market. Interactivity enables activities that are contingent in nature [30]. Interactivity also enables actions to be developed where the outcome of the digital service varies based on the type of user and his/her choices.

Fourth, digital artifacts are accessible and modifiable by computer programs [30] making them *reprogrammable*. This makes it possible to modify the structure of a digital artifact and its original purpose [15]. That is, this reprogrammable nature allows firms to introduce new digital devices and services to the market [36; 50]. In contrast to the kind of editability that focuses on the changes within the usage of a digital service, reprogrammability enables more fundamental changes to be made to the service and, for instance, may allow the firm to enter new market segments.

2.3. Cultural Differences and Distance in the Digital World

Researchers in the realm of international business have paid great attention to the impact of cross-national distance on the decision to enter specific countries, the sequence of market entry, and the choice of entry mode, among others [53]. Digital services can be easily distributed via networks to the new foreign market, but Shaheer and Li [51] suggest that in the case of digital services cultural, administrative, geographic, and economic distances may act as barriers to user adoption and hinder entry into new markets.

In general, culture represents how groups organize their knowledge, sense-making, and behavior, and is a factor in distinguishing one group from another [23]. In this paper, *culture* refers to the national culture, and cultural differences refer to differences among national cultures, for example, the Japanese, American, or Australian cultures. We follow the view of culture outlined by Ang and

Inkpen [4] that incorporates both subjective and objective components. The objective components are comprised of institutional elements such as legal, economic, political, religious, and educational systems [4]. Therefore, our understanding of cultural distance and differences is multidimensional [53]. Berry et al. [53] adopt an institutional approach to cross-national distance and their conceptualization highlights nine dimensions that include geographical and cultural distances.

Online preferences among users differ widely across countries [54], the penetration of digital innovations may also vary depending upon the match between the attributes of digital innovations and the preferences of users in particular countries [51]. Shaheer and Li [51] suggest that offering digital services in host country languages or adjusting prices may not be enough to overcome cultural differences. The same authors' recent study [51] shows that in the consumer market context, the speed of digital internationalization is subject to not only cultural, administrative, and economic but also to geographic distances. For our study, cultural, demographic, economic, geographic distances are the most relevant. Our study employs qualitative methods; therefore, we did not calculate the exact numerical distance between the countries, but work with the *idea* of cross-national distance.

3. Research Context and Methodology

To obtain a deeper understanding of the internationalization of a purely digital service provider, we chose an exploratory, longitudinal single-case study approach [16; 49]. We commenced the study with little understanding of the phenomenon, and we assumed that several unpredictable events might affect the internationalization process; it was this approach that allowed us to observe these events in a detailed manner [49]. A single-case study tends to help deliver a deeper understanding of organizational processes [14; 32] and longitudinal studies help to better understand the evolution of digital services [37; 55].

The case company, HD-Furniture, was established in Finland in 2006 and has actively internationalized its operations since the following year. HD-Furniture has employed between 10 to 50 employees and has a global clientele and offices or representatives on four continents. HD-Furniture is classified as an INV as defined by Oviatt and McDougall [39].

HD-Furniture was selected for two main reasons. First, HD-Furniture represents a typical digital platform provider that operates and develops internal platforms as its main service for B2B markets [cf. 33; 44]. Second, that platform can be used to visualize customer content (e.g. furniture or elements of furniture) as 3D digital models. The main target customers, furniture manufacturers and furniture retailers, can use HD-Furniture's service as a sales tool with their end customers.

3.1. Data Collection

Empirical material was collected throughout the entire history of the case firm from 2006 to 2018. Table 1 summarizes the interviews and participants. The interviews with the top management team were the main element of that material. We also interviewed six additional employees and two representatives of a partner firm (a retailer) to avoid personal and elite bias [52], to triangulate and improve the validity of the study, and to acquire an in-depth perspective and the most relevant information on each topic [24]. All the interviews were recorded and transcribed verbatim, resulting in 160 single-spaced pages of interview data. In addition to these more formal interviews, the first author of the paper had several informal discussions with the case firm's managers and employees during a number of seminars and also during leisure time. These informal discussions also provided some detailed insights into the firm, its products, and the internationalization process. The other contributing authors were not involved in the data collection, which helped to maintain the outside perspective necessary to avoid biased theorizing [21].

The several types of secondary data were also collected to avoid retrospective bias [24; 35]. The main source of the secondary data was the firm's PowerPoint presentations created for trade shows and stakeholders meetings, we also followed the firm's social media sites and collected secondary material from its Facebook, Instagram, and LinkedIn pages, and collected the press releases, video materials used for advertising purposes, websites, and brochures. We were able to cover the entire history of the firm and often to validate the interview data.

Table 1. Persons interviewed

Person interviewed	Time of the interview(s)	Duration of the interview
CEO (co-founder)	4/2011	1:10
	6/2011	0:50
	4/2017	1:15
	2/2018	1:20
COO (co-founder)	4/2011	1:00
CTO (co-founder)	3/2013	1:10
Art Director (co-founder)	6/2011	0:55
Vice President, Sales	8/2011	1:00
Sales Manager, Europe	11/2014	0:50
	2/2018	0:55
Sales Manager, South-East Asia	12/2014	0:45
Sales Manager (partner in Japan)	5/2012	1:00
Technical Director (partner in Japan)	5/2012	1:10

3.2. Data Analysis

Qualitative techniques were used to analyze the data [17; 18; 34]. As we had a great deal of transcribed data, we first conducted a data reduction process to remove unnecessary data [34]. Based on the data reduction, we developed a document that covered the entire history of the firm.

After the data reduction, the next step was to organize the data into more detailed events. For this task, we implemented an open thematic content analysis [45; 46]. First, we organized the case firm's internationalization into chronological order. Based on this, we were able to develop a case narrative that demonstrated the firm's internationalization history. Here we traced the internationalization process longitudinally by dividing it into three phases emerging from the data. These phases were formed based on the stage of the internationalization and the service development. Thereafter, we traced the interplay between the internationalization and the characteristics of digital artifacts.

4. Findings and Discussion

4.1. Early Internationalization Phase

Table 2 summarizes the three phases of the internationalization of the case company, HD-Furniture. The first phase spanned 2006–2009 and constitutes the early internationalization phase. The second phase spanned 2010–2013 and was marked by the extension of digital service functionalities, and, finally, the third phase spanned 2014–2018, where the company extended to new customer segments in existing markets.

HD-Furniture was established in 2006 in Finland by a group of four software entrepreneurs with considerable knowledge of 3D software tools and visualization. Based on their experience of 3D modeling, the entrepreneurs realized that there was a need for a digital technology that could be used to visualize physical furniture elements in a digital 3D model. Consequently, they started to develop a digital service that functioned as a sales tool for furniture retailers to present their furniture selection to customers in 3D form. In practice, the service was a platform where furniture manufacturers and retailers could present both furniture and related elements digitally, which enabled the visualization of physical furniture, for instance, a bookshelf as a 3D model and to show how different components of the bookshelf could be joined. This service ran physically on a server located in Finland and customers were able to use it as Software-as-a-Service (SaaS) over the Internet. The first two versions of the software were designed for desktop or laptop computers.

The CTO of the firm explains the early plans as follow: *“From the establishment of this firm, our focus has been on global markets. That is why we have been aggressively looking for opportunities in foreign markets from day one.”* In theory, HD-Furniture was able to distribute its service to any geographical location; however, while its digital service itself was borderless, in the first phase, internationalization was slowed down by the marketing and sales processes that required lengthy face-to-face negotiations with prospective customers. In addition, HD-Furniture’s customers were not able to add their physical furniture into the digital service as doing so required extensive technical knowledge. HD-Furniture’s employees conducted this task until they found partners to take over the task. This slowed down the internationalization process as customers were not able to adopt the service in a self-service form.

Table 2. The Internationalization Phases of the Firm

	Market Entry/Year	Characteristics of digital technology
Phase I: Early internationalization of the digital service	2007–2009: Direct sales: Sweden, Italy, Norway, Denmark, Estonia, Poland. Through the Italian distributor: Italy, Spain, France, Portugal, the Netherlands, the UK, and the USA.	Basic Technology with limited functionalities. The server center located in Finland enables selling the service (in the form of SaaS) via the Internet nationally and in the nearby countries.
Phase II: Extension of digital service functionalities for global markets	2010–2013 (In addition to the existing markets) Own offices: Denmark, Japan, Singapore, the USA. Direct sales: Australia and South-East Asia.	Addition of new functionality (e.g. augmented reality, and multihoming for the service).
Phase III: Global Technology alignment	2014–2018 Extension into new customer segments in markets already entered.	Technological features of the product continuously updated. Adoption of a global platform to switch the services to a cloud environment.

The internationalization of a firm often starts with an incremental expansion to culturally similar countries/markets [26] or to countries where cross-national distance is relatively short [53]. HD-Furniture’s first foreign market entry was to a culturally similar and close market to Finland, Sweden, in 2007. The company’s founders attended an international furniture exhibition in Stockholm to achieve international visibility. Despite the various similarities between Finnish and Swedish society,

such as short cultural distance and the similar cultural values, HD-Furniture faced some challenges adapting to Swedish buying culture and style. These challenges were related, for instance, to differences in negotiation style and decision-making processes.

Next, HD-Furniture entered a strong furniture industry segment in Italy, which is culturally very different to the first foreign market, Sweden. The idea of expanding to Italy was based on the premise that an Italian retailer could also manage nearby markets in Southern Europe that are culturally far closer to Italy than to Finland. In 2007, HD-Furniture carried out a market survey and attended a trade networking event in Italy and quickly learned that a local representative would be essential if the firm were to be successful in the Italian market. First, HD-Furniture had difficulties finding a suitable retailer in Italy, but serendipitously a potential retailer from Italy contacted them after HD-Furniture announced its interest in the region. Over the next two years, HD-Furniture attracted several new customers from Sweden, Norway, Denmark, Estonia, and Poland via its own sales activities and attendance at international exhibitions. In addition, the retailer in Italy sold the service as expected to the culturally and geographically closer countries Spain, France, and Portugal. The Italian retailer also had previous business ties to the Netherlands, the United Kingdom, and the United States and used them to enter to these markets.

4.2. Extending to Global Markets

The second phase of the internationalization took place during 2010–2013. In this phase, HD-Furniture made a number of improvements to the service. First, in 2010, HD-Furniture launched the first augmented reality (AR) extension that enabled consumers to take a photo, for instance of their living room, and see how different furniture could be fitted into the room. This was seen as an important extension as there was a growing interest in AR globally. Second, HD-Furniture developed an extension for the newly released Apple iPad in 2010. Third, in 2013, the company started to develop virtual spaces that enabled the creation of 3D models of a building and to design furnishings for it. All three extensions were introduced to potential customers at international exhibitions to attract attention and increase the interest in HD-Furniture's digital service. The sales manager of HD-Furniture explained this: *"We aim to bring in new things. For instance, nobody in the furniture industry had thought about augmented reality and its use in their business before we brought it to the market."*

In 2011, HD-Furniture established an office in Denmark to market to customers in Scandinavian countries as well as Central Europe. Opening the new office in the country that is culturally and geographically close by followed the pattern adopted by HD-Furniture in the first phase of internationalization. In addition, HD-Furniture signed a retailing agreement with a Swedish company in the same year. Moving marketing and sales partially to Denmark helped HD-Furniture to focus more on service development in Finland.

Moreover, in 2011, one of HD-Furniture's employees moved to Japan and established a retail firm in Japan. Japan is geographically and culturally very far away and different from Finland, but as previous studies demonstrate, the role of the decision-makers is particularly important in rapidly internationalizing firms [39] and HD-Furniture followed the INV trend of pursuing international opportunities by utilizing its business networks [9; 12; 13; 27] and unique available resources [6]. A sales manager explained:

Our partner (in Japan) educates us about cultural differences and differences in the business context and we can modify our (digital) service to their market and we are ready to do that. The basic concept of our digital service stays the same though.

The sales manager continues on the subject of the Japanese partner:

We receive feedback from our distributor/partner [from Japan] all the time; for example on how to price the service and how to package our service. The partner has its own business goals that have been clearly communicated to us. Our partner knows the markets well and wants to be profitable and we want that too.

In 2012, HD-Furniture opened offices in Singapore and the United States. The office in Singapore serviced customers in Australia, partially in Japan, and sold and promoted the service to Southeast Asian markets. Singapore and other countries in South-East Asia are both culturally and geographically distant from Finland.

At this stage, the physical distance between the server in Finland running HD-Furniture's service and the customers increased considerably. This along with the considerable bandwidth required to handle the growing volume of data started to slow the speed of the service. Consequently, customers in Australia and Japan started to use their own data centers to guarantee sufficient speed and to deliver a

satisfactory customer experience when using the service. However, this made updates to the service more complicated to manage as the software was running in decentralized different locations. The technical director of HD-Furniture's retailer in Japan explained this as follows:

We rented a server and maintained it here [in Japan]. It is much easier and better for us and our customers. If the server is in Finland, it is painfully slow [to use the service]. Now when it is in Japan, the speed is not a problem.

4.3. Further Globalization

The last phase of internationalization spanned 2014–2018. By 2014, HD-Furniture had customers globally and continued the development of the platform to maintain its leading market position and to acquire new customers. In 2014, a new version of the platform was published that included several new features such as social media integration, new AR integrations, AutoCAD connectivity, a virtual space tool, and automatic virtual environment technology. However, the most important change was moving the service to the global Windows Azure cloud environment, which provided a global coverage and the fast access for the service over the Internet irrespective of the location of the users. The CEO discussed the benefits of that cloud environment:

Azure works so that there are data centers in the EU, Japan, the USA, and so on... Our service application is located in each of these centers. Then they have CDNs [content delivery networks] more densely so that all heavy 3D models that take up a lot of broadband are located nearby. So, bigger files are located nearby the users and lighter, basic features, can be in more distant locations. Azure optimizes it so that the users get the fastest possible service.

The limited technological expertise of the firm's customers and distributors had become a technical bottleneck given the new features in the service. In 2014, HD-Furniture found a partner in Belarus, Eastern Europe, that started to carry out 3D modeling. HD-Furniture found a new partner in Japan in 2015 and the United States in 2017. Both partners had in-depth technological knowledge and were able to bring their customers' physical furniture into the HD-Furniture's digital service through 3D modeling.

In 2016, HD-Furniture started to develop and integrate high quality rendering (HQR) and virtual reality technologies for their service jointly with the

Japanese distributor a year later. The CEO explains the differences in the markets in terms of the adoption of technology:

Virtual Reality attracts new customers. Especially in Japan, it opened doors. Replicating that [VR] in Europe has not been that successful so far. The Japanese seem to like all kinds of techy things. All new tech is so in for them. Our VR application is used there in showrooms. I think that everyone, both consumers and distributors is excited about new tech in Japan.

HD-Furniture started exploring new segments for its service. In 2015, the firm expanded into the home improvement segment. The extensions and modifications to its service enabled the firm to show how different surface materials like textiles, tiles, wallpapers could be integrated in different spaces. HD-Furniture immediately found customers for this new offering from Australia and Japan. HD-Furniture continued actively attending international exhibitions to keep up with the latest developments and innovations in the industry.

5. Conclusions, Implications, and Future Research Avenues

This study demonstrates an important connection between the IB and IS literature. Previous research had shed light on how the internationalization of digital service providers differs from other types of firms [7; 8; 37]. However, this study further emphasizes how internationalization evolves for this type of firm, the role of digital artifacts and their boundary conditions for internationalization purposes. Our longitudinal single-case-study brings new insights to the emerging stream of IB literature dealing with digitalization [7; 8; 37].

By analyzing the evolvement of the characteristics of digital artifacts during the internationalization process of a purely digital service provider, and by further considering the role played by geographic distance and cultural differences in a firm's expansion into global markets, we enhance the understanding of the interplay between the IS and IB streams of literature. Our research makes it particularly evident that cultural differences and geographic distance are important planning parameters for the internationalization action of digital-based firms. For instance, our findings demonstrate that both cultural differences and geographic distance between the firm's home market and the target market can hinder the positive effects

that the characteristics of digital artifacts have on the internationalization process of the firm. In fact, whereas digital artifacts characteristics such as distributedness [29; 30], product agnostic [22; 50], editability [36] and reprogrammability [30] make markets immediately global for digital service providers, differences in terms of culture and location between firms can act as further bottlenecks (alongside technological, and strategic ones [37]), for the viability of internationalization strategies. Such findings are in line with, and extend, previous literature examining how the cultural preferences of a target market can limit access to the digital content of digital service providers' offerings [51]. In light of our findings, the research [56] suggesting that cultural distance does not matter for digital-based firms and claims that these firms can internationalize accidentally without regard to cultural differences is premature. Accordingly, our research offers interesting avenues of investigation relating to how such firms can manage cultural distance in a novel way. It seems that networking is becoming a viable means to acquire market information and access to more culturally distant markets. Our case firm showed that not every market requires a physical presence, and therefore, we can derive some theoretical implications on the internationalization of digital service providers [1; 5; 7; 8; 37] as well as broader theoretical implications on the IB and IS fields.

Over time, it seems that it can be sufficient to establish a physical presence on a regional basis rather than on a country basis. Interestingly, a new finding was that it seemed technological limitations in terms of bandwidth also prompted advancement in terms of internationalization. Furthermore, removing technological bottlenecks opened market space for the digital-based firm. A related finding is that the development of the scope that the technology provider was able to service, from country to region and finally to a global level clearly facilitated the internationalization of the digital-based firm.

To the best of our knowledge, this study is the first exploring the internationalization of a B2B digital service provider, whereas previous studies address the effects of cultural differences on the internationalization of digital service providers have mainly focused on consumer market contexts [51]. Consequently, we call for further research on how cross-national distance and cultural differences may affect the internationalization of digital B2B services. We argue that the importance of personal selling activities in B2B markets means that culture and cross-national distance has a greater effect on the

internationalization of digital services than they would in consumer markets.

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