Comment les changements d'orientation entrepreneuriale peuvent-ils expliquer les pivots au cours du processus d'internationalisation des Born global digitales

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How Changes in Entrepreneurial Orientation can Explain Pivots during the Internationalization of Digital Technology-Based Born Globals

Most theories of strategic change focus on established firms. Little research examines how early-stage entrepreneurs decide to change their strategies and pivot in an international context (Kirtley & O'Mahony, 2019). To better understand how Born Globals (BG) pivot during their rapid internationalization, we study digital technology-based mobile game development BGs. We found that pivots are mostly driven by changes in individual Entrepreneurial Orientation (EO) components. Using effectuation/causation theory, this study contributes to the understanding of both pivots in born globals and the role of changes in individual EO components over time.

Key words: Entrepreneurial orientation; pivots; born-globals; internationalization

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La plupart des théories du changement stratégique se concentrent sur les entreprises établies. Peu de recherches examinent comment les entrepreneurs en phase de démarrage décident de changer de stratégie et de pivoter dans un contexte international (Kirtley & O'Mahony, 2019). Pour mieux comprendre comment les Born Globals (BG) pivotent pendant leur internationalisation rapide, nous étudions le développement de BG de l'industrie du jeux vidéo. Nous constatons que les pivots sont principalement provoqués par des changements dans les composantes individuelles de l'orientation entrepreneuriale (OE). En utilisant la théorie de l'effectuation/causation, cette étude contribue à la compréhension à la fois des pivots dans les BG mais aussi du rôle des changements dans les composantes individuelles de l'OE au fil du temps.

Mots clefs : Orientation entrepreneuriale ; pivots ; born-globals ; internationalization

¿Cómo los cambios en la orientación empresarial pueden explicar los pivotes durante el proceso de internacionalización de las Born global digitales?

La mayoría de las teorías de cambio estratégico se centran en las empresas establecidas. Solo pocas investigaciones examinan cómo los emprendedores emergentes deciden cambiar su estrategia y pivotar en un contexto internacional (Kirtley - O'Mahony, 2019). Para entender mejor cómo pivotan las Born Globals (BG) durante su rápida internacionalización, estamos estudiando el desarrollo de las BG en la industria de los videojuegos. Encontramos que los pivotes son causados principalmente por cambios en los componentes individuales de la orientación empresarial (OE). Utilizando la teoría de la efectuación/causalidad, este estudio contribuye a la comprensión no solo de los pivotes en las BG, sino también del papel de los cambios en los componentes individuales de la OE a lo largo del tiempo.

Palabras claves: Orientación empresarial; pivotes; Born Globals; Internacionalización

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INTRODUCTION

International entrepreneurship (IE) researchers have become increasingly interested in exploring the internationalization strategies of born global (BG) firms, defined as *"business organizations that, from or near their founding, seek superior international business performance from the application of knowledge-based resources to the sale of outputs in multiple countries"* (Knight & Cavusgil, 2004: p 124). These are young, relatively small, technology-focused firms that rely on selling their products internationally through exports or other modes soon after inception. With the availability of global platforms such as the Apple and Google stores, digital technology-based BGs can find international customers quickly (Cavusgil & Knight, 2015). Therefore, scholars have called for research focusing on the international business strategies these digital technology-based BGs employ to survive and grow in international markets (Cavusgil & Knight, 2015), especially when they are based in emerging countries (Neubert & Van Der Krogt, 2020). Because born globals need to move fast, adjust their offerings, and take action under highly uncertain conditions (Townsend, Hunt, McMullen & Sarasvathy, 2018), they sometimes need to radically rethink their positioning.

However, little research examines how early-stage entrepreneurs decide when and how to change their strategies and pivot, even though many are likely to pivot at some point. In the Lean Startup approach, a pivot is a "*structural course correction*" made after customer feedback counters a firm's business hypotheses (Ries, 2011, p. 149). In line with the literature on strategic change (Agarwal & Helfat, 2009), we define a pivot as "*a change in a firm's strategy that reorients the firm's strategic direction through a reallocation or restructuring of activities, resources, and attention*" (Kirtley & O'Mahony, 2019, p. 3). We argue that pivots require a reorientation of the firm's strategic direction.

Recent literature (Acosta, Crespo & Agudo, 2018) points to the role of entrepreneurial orientation and strategic posture in SME internationalization. The entrepreneurial orientation

(EO) of a firm evaluates how entrepreneurial it is by exploring its actions and behavior in terms of innovativeness, proactiveness, and risk-taking (Miller, 2011). Born-global firms are found to display high degrees of entrepreneurial orientation (Kuivalainen, Sundqvist & Servais, 2007). In the case of digital technology-based born globals, there is a lack of understanding about the role of the firm's EO at the time of internationalization as well as the evolution of EO and its influence on these firms' strategic posture. EO researchers have pointed out the lack of studies looking at the emergence and evolution of a firm's EO over time to uncover the reasons for those changes (Covin & Miller, 2014; Miller, 2011; Zahra, Wright & Abdelgawad, 2014). Finally, "*although findings in all streams concur to the view that the firms' strategic posture is crucial to survive and prosper in a domestic competitive environment…only a little research informs about its role in determining the international strategic behavior and performance*" and "*this is even more true for SMEs*" (Hagen, Zucchella, Larimo & Dimitratos, 2017. p. 265)

In order to fill these gaps, we thus examine the question: *what is the influence of EO on born globals' pivots during internationalization*?

To answer this research question, we apply a case study approach, as suggested by Piekkari, Welch and Paavilainen (2009), to study eight born globals focused on developing mobile games for international markets. Studying these firms provides an ideal scenario for exploring both the pivots adopted by firms that have been global from beginning and the role of EO in their internationalization and growth. Furthermore, EO remains relatively unexamined in developing and emerging market contexts (Falahat, Knight & Alon, 2018; Wales, Monsen & McKelvie, 2011), so this study allows us to address this shortcoming in the EO literature. We conducted face-to-face interviews with nine firms' founder-managers or top managers, adopting a case study research strategy based on the combination of primary and secondary qualitative data sources (Yin, 2013).

Overall, this paper contributes to the IE literature on three major points. First, by exploring the internationalization strategies of digital technology-based born globals, we reveal a dynamic view of EO since changes in firm EO over time can influence strategy. Second, our research shows that the type of business model used by born globals is influenced by individual components of EO. Third, we look specifically at pivots and EO in firms that have internationalized early and quickly, an area that lacks substantial research.

This paper is structured as follows. We first provide a review of literature on born globals, as well as entrepreneurial orientation, pivots, and their decision-making logic, using effectuation theory. We then describe and justify our qualitative methodology and present results. Finally, the study concludes by analyzing the findings in light of the extant literature, followed by a summary of the key contributions, limitations, and implications of the study.

LITERATURE REVIEW

Born Globals in the digital game development industry

The reshaping of international business environments has led to firms internationalizing early and rapidly. Born-global firms are defined as "*business organizations that, from or near their founding, seek superior international business performance from the application of knowledge-based resources to the sale of outputs in multiple countries"* (Knight & Cavusgil, 2004, p. 124).

Research suggests that born globals have a broad global focus, are more interested in selling products and services internationally than seeking a competitive advantage, and, more often than not, have an internationalization goal from inception (Øyna & Alon, 2018). Born globals are mostly new, knowledge-intensive firms using limited resources to create and sell self-developed technology-based products in international markets, usually within three years of their founding (Knight & Cavusgil, 2004).

Researchers on born globals (BGs) have called for more studies of the strategic adjustments or shifts that occur during the early stages of BGs (McDonald & Gao, 2019). In this study, we contribute to this area by studying the internationalization strategies of digital BGs that develop games for mobile phones and the major strategic adjustments these firms have made. While there are a handful of studies on the internationalization of game development firms in general (Cunningham, Loane & Ibbotson, 2012), a comprehensive study focusing only on firms developing digital games for mobile platforms is needed to identify the strategies these BG firms use for rapid internationalization.

It is important to study such firms for several reasons. First, the market for games is a large and rapidly expanding arena that can internationalize very quickly (Wijman, 2018). Second, because most of the mobile gaming industry is highly dependent on third-party distribution platforms such as the Apple and Google stores, most small firms are forced to depend on the operational strategies of these platforms and quickly adapt to the technical and content-specific requirements of these platforms. Finally, these firms compete with companies that dominate this industry and generate multi-billion-dollar revenues. Based on these unique features of the digital game development industry, we argue that exploring the internationalization processes of BGs operating in this industry will provide a valuable addition to the international business literature.

In the absence of vast resources, BGs in the digital game development industry must possess or quickly develop superior capabilities to be successful in this dynamic environment (Cunningham et al., 2012). Entrepreneurial orientation (EO) is one such capability that allows firms to display superior performance (Lumpkin & Dess, 1996), and recent work (Acosta et al., 2018) has highlighted the limited research on the role of EO in the SME internationalization process.

Entrepreneurial orientation in the international context

As noted in recent meta-analyses, the Miller (1983)/Covin and Slevin (1989) conceptualization is by far the dominant perspective of entrepreneurial orientation (EO) in the relevant literature (Rosenbusch, Rauch & Bausch, 2013). We therefore ground our discussion in the Miller/Covin and Slevin view describing entrepreneurial orientation as three distinct components of a firm's behavior: innovativeness, risk-taking, and proactiveness. Innovativeness refers to a firm's inclination towards new ideas, experimentation, and creativity that may lead to development of new products or processes. Risk-taking indicates the degree to which a firm is willing to commit its valuable resources to something with an uncertain return, and proactiveness relates to the willingness to take initiatives and to anticipate and pursue new opportunities (Lumpkin & Dess, 1996).

Scholars report strong relationships between firm EO and internationalization (Liu, Li & Xue, 2011). Internationalization entails identifying and exploiting new business opportunities in new environments and combines risk acceptance with the ability to innovate. As Zahra and George (2002, p. 261) suggest, EO capabilities aid a firm in "*the process of creatively discovering and exploiting opportunities that lie outside a firm's domestic markets in pursuit of competitive advantage*." EO is especially important for born globals due to their limited financial, technical, and managerial resources (Brouthers, Nakos & Dimitratos, 2015).

As EO describes the strategic attitude of an entrepreneurial firm, and research has already shown high levels of EO associated with the establishment of born-global firms (Kuivalainen et al., 2007), examining changes in firms' EO over time is also important in evaluating the strategies that allow BGs to survive and grow in international markets. In this regard, EO scholars have also called for research to understand how individual components of EO shape internationalization of new ventures (Covin & Miller, 2014) as well as firms' EO changes over time (Miller, 2011; Short, Ketchen, Combs & Ireland, 2010; Zahra et al., 2014).

These changes in EO can be studied by identifying and analyzing strategic decisions, especially the strategic changes, or pivots, that firms make over time.

Entrepreneurial Orientation, Pivots, and Effectuation

Scholars agree that EO is an organizational attribute "*indicative of an entrepreneurial mindset (McGrath & MacMillan, 2000) whereby strategic decision makers focus on identifying, evaluating, and selectively exploiting business opportunities in order to capture the benefits of uncertainty*" (Titus, Parker & Covin, 2019, p. 2). Strategic change refers to "*the process, content and outcome of refreshment or replacement of attributes of an organization that have the potential to substantially affect its long-term prospects*" (Agarwal & Helfat, 2009, p. 282). This strategic reorientation is referred to as a pivot (McDonald & Gao, 2019), in which the intent of entrepreneurial firms is to "radically transform" (Hampel, Tracey & Weber, 2020) their business in order to improve their future performance. We believe that the notion of pivots is more appropriate in the case of "*an organization in its early years of existence*" (Zimmerman & Zeitz, 2002, p. 414) since it is not uncommon for new ventures to change their business ideas. Indeed, pivots are a distinct type of strategic change, more appropriate for new ventures, in which leaders engage directly with their generally small team to change their business (Hampel et al., 2020). New ventures, especially at the international level, often need to deviate from their plans (Dominguez, 2016) and reorient their activities in order to better align their products with the expectations of their customers: "*they need to radically change direction to attract new audiences as their original approach has failed*" (Hampel, et al., 2020, p. 3).

While our current understanding of strategic change in entrepreneurial firms offers robust explanations for mature firms, it faces many limitations (Kertley & O'Mahony, 2019). The literature explains strategic changes in regards to firms' reactions to exogenous shifts and the position of mature firms that have already achieved strategic alignment with their environment. However, in the case of new ventures, there is no benchmark with a previously

successful strategy, so the choice to change strategy may not be a reaction to an external factor but rather a change in risk perception and attitude.

While EO acts as a driver of the strategic decision-making in a venture, effectuation theory helps us understand the process of entrepreneurial decision-making. In this framework, a rational, planned, and goal-oriented decision-making logic is identified as causation, while an intuition-based, flexible, and experimental decision-making logic based on affordable loss and pre-commitments is identified as effectuation (Chandler et al., 2011; Sarasvathy, 2001). SMEs are presumed to benefit from adopting effectuation and avoiding causation as their dominant decision-making logic. On one hand, effectuation enables SMEs to combine resources to take advantage of emerging opportunities (Frishammar & Andersson 2009; Sarasvathy 2001); on the other hand, developing a strategic orientation, such as an entrepreneurial orientation, is shown to improve firm performance in dynamic environments (Rosenbusch, Rauch & Bausch 2013). Effectuation is a theoretical decision-making framework that emphasizes control rather than prediction (Sarasvathy 2001), which is consistent with an emergent strategic decision-making logic (Wiltbank et al. 2006). Some authors (Mthanti & Urban, 2014; Laskovaia, Shirokova & Wales, 2019; Palmié et al., 2019) have recently shown the moderating role of EO in the relationship between effectual/causal decision-making logic and performance. Laskovaia et al. (2019) "*additionally show that the impact of an SME's decision-making approach on performance may be shaped by the level of its EO*" (p. 470). EO may align well with an effectual approach to new product development when resources are limited (Marino et al. 2008). Moreover, Palmié et al. (2019) show a positive relationship between promotion-focused effectuation principles (flexibility and experimentation) and EO and a negative relationship between prevention-focused principles (affordable loss and precommitments) and EO.

The joint use of EO and effectuation principles is thus interesting in three ways. First, it describes why some firms are more effective than others at innovating and creating new opportunities (Morris, Kuratko & Covin, 2011). Second, EO components and effectuation principles are useful in comparing the strategic entrepreneurial attitudes of several firms as they provide widely applicable and easily evaluated measures (Covin & Lumpkin, 2011). Third, both concepts provide a practical way of assessing the performance levels of firms (Laskovaia et al., 2019), making them a helpful instrument for entrepreneurship scholars (Covin & Lumpkin, 2011; Palmié et al., 2019).

We thus believe that both streams of literature—EO and pivot—can, with the help of effectuation theory, explain shifts in BGs' internationalization strategy in their early stages. Our aim is therefore not only to develop a deeper understanding of pivots but also to understand how different components of EO affect decision makers' intention to pivot or not; that is to say, the role of EO in the evolution of digital technology-based Born Globals' business models once they have internationalized.

METHODOLOGY

Research Design

We adopted a qualitative multiple case study research design for two reasons. First, the case study method allows exploration of rich information (Yin, 2013), identification of patterns across different cases, and incorporation of the context and its specific attributes, a perspective called for in international business research studies (Welch et al., 2011). Second, EO scholars have recently suggested the use of multiple case studies to compare how different firms change their EO over time (Wiklund & Shepherd, 2011). Therefore, we selected a research design that would allow us to explain pivots in the internationalization strategies of BGs by studying the EO of these firms over time and how it influences firms' internationalization trajectories. This

research design also enables us to respond to calls for contextualized qualitative approaches in research focused on international business (Welch et al., 2011) and EO (Covin & Miller, 2014).

Research Context

We selected the mobile game industry in Pakistan as our research context. As Nadkarni and Herrmann noted, more research is needed "*in countries that are emerging as important global players and at the same time have sociocultural contexts very different from those of the US and other developed countries*" (2010, p. 1067). Scholars have also recommended selecting cases from emerging and developing countries for BG-related research (Mthanti & Urban, 2014) and studying the role of EO in BG strategy development (Falahat et al, 2018). We believe Pakistan is a suitable context in this regard. Mobile application exports comprise a small percentage of Pakistan's IT exports at roughly $120 million a year (Samaa, 2016), dominated by only about a dozen firms that generate all or most of their revenue through mobile game development, although this area has been growing. From the overall IT industry in Pakistan, we decided to focus on mobile games because Pakistan lacks a significant local market for revenue generation from such applications; thus, firms in this business serve almost exclusively international customers. The ease of launch of mobile games through major global platforms like the Apple and Google stores has allowed many such firms to introduce their products to international customers quickly from inception. Thus, firms in the mobile game industry earning most of their revenue from sales and services to foreign customers immediately after their inception can be classified as born globals[1].

Case Selection

[1] Due to the specificity of the business sector, i.e., mobile games, it is important to emphasize that these games are distributed mostly through international platforms, which allows the original game-producing firms to internationalize almost immediately after inception. Even for service providers, the majority of business comes from abroad because this sector is not yet well developed in a developing country like Pakistan.

Given this context, we selected our cases using a purposeful sampling method commonly used in qualitative studies (Gehman et al., 2018). As there are no official government data available on the mobile game industry in Pakistan, we performed a preliminary search to identify major mobile game firms in Pakistan. We concentrated on firms that mostly or exclusively focused on mobile game development and services activities so that we could distinguish them from those conducting game development along with other IT-related products and services. Our selection criteria further focused on firms that internationalized upon inception or soon after[2] (as suggested by Knight & Cavusgil, 2004). The suggested number of cases for multiple case study research design ranges from 4 to 10, which "*usually works well*" (Eisenhardt & Graebener, 2007) in understanding complex real-world phenomena. Our preliminary search allowed us to identify eight prominent mobile game firms[3]; this number also satisfies the criteria for the appropriate number of cases in a multiple case study research design. The selected firms are described in Table 1.

/// Insert Table 1 here ///

Data Collection

Our data collection included secondary data sources and semi-structured interviews[4].

Secondary data sources: Before going into the field, we conducted an online search to collect more information about the selected cases. We used secondary sources such as the websites of our selected firms, newspaper reports, blog posts on the development of the IT

[2] Less than 3 years between inception and the first internationalization.

[3] This sector is dominated by only about a dozen recognized firms in Pakistan. Due to the specific cultural background, lack of prior research in this particular context, and lack of trust of outsiders asking questions about the business, it was very difficult to gain access to all of the industry players. Nevertheless, we were fortunate enough to make contact with some of the biggest names in the industry.

[4] We conducted our interviews in 2016. As the information collected was sensitive (and the firms easily recognizable to players in the sector), our respondents requested a time lag in publication. We agreed since this did not affect the results in any way (we focus on their pivots). Thus, some secondary data was collected in 2016 (in order to prepare for the interviews), while we have continued to collect other data until today to follow the evolution of the companies and to ensure the relevance and timeliness of our results.

industry in Pakistan, transcripts of previous interviews with the founders of our selected firms available on several technology-focused websites, and videos of lectures by these founders available on major video websites (see Table 2).

/// Insert Table 2 here ///

Semi-structured interviews: We decided to collect our primary data through semi-structured in-depth interviews of the founders of the eight selected firms. We based this decision on two key considerations: First, scholars maintain that EO represents an entrepreneurial mindset, and the field of IE research strongly emphasizes individuals. Therefore, consistent with Joardar and Wu (2011), we conceptualized EO as an individual-level construct. Similarly, effectuation theory also focuses on the decision-making behavior of individual entrepreneurs. Second, our research required answers to questions that could only be provided by a few principal individuals, such as founders and CEOs. Therefore, we interviewed firms' founders and CEOs to gain a deeper understanding of the EO of those who developed their firms' strategies (Shah & Corley, 2006) and because it is less likely that such key actors would forget about important events related to organizational processes (Huber, 1985). Moreover, Deb and Wiklind (2017) show that variations in EO across small firms are driven by founder-CEOs' prior managerial experience, goals, and motivations. Our semi-structured interview guide consisted of questions related to the three components of EO – innovativeness (e.g., new game products, new technologies), proactiveness (e.g., reaching out to potential customers and partners), and risk-taking (e.g., diversifying the product portfolio, experimentation) – and key strategic changes. We foresaw and accepted a relatively small sample size of interviewees due to our interest in interviewing only firm founders[5]. Overall, we

[5] There are two reasons why we consider these interviews sufficient for this study. First, we only interviewed the founder/CEOs of these firms, who took each and every decision to start and grow the firms. Second, we heavily relied on several secondary resources. In fact, we collected most of this freely available information before going to interview the founders so that we could ask them specific questions about particular events related to their firms. Later, we corroborated the founders' answers using the available secondary information.

conducted 9 in-depth interviews, which included one founder each from seven of the selected firms and two founders of the eighth firm. Table 3 below provides more details about the interviewees.

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All interviews were digitally recorded and lasted about one hour on average. The interviews were conducted primarily in English, with some interviewees interjecting phrases in the local Urdu language. These non-English phrases were translated during the interview transcription stage and double-checked by a native speaker. During the interviews, we remained focused on our goals of learning about the pivots these firms made and their EO at both the time the firm internationalized and the time of pivots.

When the data collection was finished, we found that of the eight firms in our sample, only four made a major strategic pivot after internationalization, whereas the other four firms did not radically change their strategies. The firms that made pivots were Firms A, D, E, and H.

Data Analysis

Following Yin's (2013) recommendations, our analysis proceeded in four steps. The first step involved using the secondary information (websites, interviews of founders, etc.) to create a timeline for each firm, tracing major events, popular games, partnerships, and achievements over the time the firm had been active in business. Corroboration of events through different sources added to the consistency and reliability of the available information. We also used our primary data to ensure that what we found on the internet aligned with the data collected through interviews. This step of data analysis allowed us to understand the individual paths that each firm took towards internationalization.

We examined our interview data in the second step to understand the role of EO in the internationalization and the pivots made by these firms. We therefore separated the individual

interviews into two parts. The focus of first part was to gain insight regarding the establishment of the firms up to their internationalization, defined as the time when they started earning revenue from the sales of either mobile game products or services to international customers. The second part comprised information about the firms from the time of their internationalization up to the time of the interview. The outcome of this step was 18 documents containing information about the early and later stages of each firm's development.

The third step of the analysis involved coding both sets of documents to learn about the firms' decision-making logic and EO during the two periods of interest. For the decision-making logic, we based our analysis on classifications developed by Dew et al. (2009) to differentiate between causation and effectuation logic (four sub-dimensions were used: experimentation, affordable loss, flexibility, and pre-commitments). We also consulted past research (e.g., Perry, Chandler & Markova, 2012) to identify which decisions would reflect causation or effectuation-based decision-making. With regards to EO, as scholars have encouraged using content analysis to measure entrepreneurial orientation, Short et al. (2010) proposed using computer-aided text analysis to this end and developed extensive wordlists to capture individual dimensions of EO. We used these wordlists and, with the help of auto-coding function of Atlas.ti, coded the occurrences of specific words in our interview documents corresponding to three individual dimensions of EO: innovativeness, proactiveness, and risk-taking. In the meantime, we also identified themes related to pivots. Figure 1 below presents the changes in individual firms' EO components during and after early internationalization.

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In the final step, we conducted a cross-case comparison of firms by identifying similarities and differences. To gain a generalizable theory from this process (Eisenhardt & Graebner, 2007), we focused on looking for data that could be found in multiple cases. The internationalization strategies included internationalizing as a service provider firm, which

involved working on game projects outsourced by foreign clients, and internationalizing as a product maker, which involved reaching an international audience with original game products through global mobile platforms. The pivots involved some firms changing their strategies from service provider to product maker and vice versa for other firms. The final data structure is presented in Tables 4 and 5.

/// Insert Table 4 here ///

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We took several additional measures to strengthen our data collection and analysis (confidentiality, consistent interview protocol, manual coding and auto-coding, etc.). Overall, the case study processes as described were aimed at finding recurrences and commonalities among the investigated cases.

FINDINGS

Our analysis of BG firms revealed changes in firms' EO as they pivoted after internationalization. In the next sections, we first examine the EO and decision-making logic of BGs during the internationalization stage; we then describe the changes in EO and decision-making logic when BGs pivoted at later stages.

Entrepreneurial orientation and decision-making logic during early internationalization

Firms took two different strategic focuses for early internationalization: as service providers or product makers. Below, we describe how the three components of EO are related to decision-making logic and early internationalization strategic focuses of these firms.

EO and decision-making logic during early internationalization of service provider firms

Two BGs, Firms D and E, internationalized as service provider firms.

Firm D was founded in 2011 by two brothers: one had practical experience as business development manager working in a mobile game firm in Pakistan; the other provided complementary expertise related to operations and financial management of the firm. When they decided to launch their own mobile game firm in 2011, their prior network relationships came in handy when they entered into a service contract offered by the CEO of Halfbrick Studios who wanted to outsource the development of Fruit Ninja for the less popular Nokia platform. This service contract allowed Firm D to internationalize quickly after incorporation.

Firm E started in 2006 as a consulting company providing specialized services to foreign clients on web and mobile application development. The founder had past experience of working in local software firms fulfilling

outsourcing projects for foreign clients but had no experience of working in game development. Soon after incorporation, he realized the growth potential in the mobile game industry and, beginning in 2007, focused on service projects outsourced by foreign game firms.

We found that risk-taking was low for both firms at the time of internationalization as neither was willing to make risky investments in developing their own products. Firm D was able to find a major contract through their prior network relations and then capitalized on it.

The founder of Firm D said:

(W)e were honestly very happy that we were getting involved in such a recognizable brand… we were lucky enough to be part of that brand wagon, and that opened up lots of doors because that gave us instant credibility, instant name recognition.

Using this credibility and recognition, Firm D started working on service contracts instead of developing on their own products. In the case of Firm E, they internationalized by working on service projects outsourced by foreign clients due to the low risk associated with outsourced projects in comparison to developing their own products.

Firm E founder told us why they preferred to work on service projects in the beginning instead of their own products:

(W)e came to games like you see there is a thing called outsourcing. Outsourcing means that you build projects for someone, you deliver it and you kind of charge for services. Either that project works or not, it depends on that person's luck. In the case of products, you need skills.

Innovativeness and proactiveness were in the medium range for both firms during early internationalization. This suggested that the low risk-taking attribute of the firms was balanced with medium levels of the other two EO components, which allowed the firms to internationalize. These components enabled the firms to approach their prospective customers for service projects, anticipate their demands, and adapt to customer requirements without taking too much risk.

Firm D's founder said about the proactive way he used to find new service projects:

So basically it's networking and networking and I networked with the CEO of Halfbrick studios which built Fruit Ninja, a global blockbuster. So I negotiated a (service) contract with him.

Founder of Firm E said about their focus on innovativeness:

(W)e wanted to position ourselves as a focused niche consulting company, focused around new tech.

Concerning their decision-making logic, both firms' founders intended to launch a business that would serve the needs of foreign game firm clients. This is clear from the way they strategically built the skills necessary for outsourcing such as hiring appropriately trained human resources, building partnerships, and fulfilling their clients' outsourcing projects.

Hence, these firms displayed a purposefully planned, strategic approach to the internationalization of their business, pointing to the causation logic of decision-making.

EO and decision-making logic during early internationalization of product maker firms

Firms A and H internationalized through a product making strategic focus.

Firm A was founded in 2008 by three Stanford graduates with past experience in technology companies such as Apple and Microsoft, albeit with no experience in game development. From the start, the firm aimed at developing new games for international users. Their first gamified product was developed and launched in 2008.

Firm H started operations in 2013 when two co-founders, working in a local game development firm, decided to start their own firm focused on developing new mobile games using latest technologies. One of their initial projects was the development of a multiplayer game known as Massively Multi-player Online Role-Playing Game. One of their initial games was launched in 2015.

These firms shared similar patterns of EO during internationalization. Their innovativeness and risk-taking were both higher at the time of early internationalization than those of the service-focused firms. This indicated that higher EO values led these firms to build their own products by being more innovative and taking risks.

About working on risky innovative technologies at the time of early internationalization, Firm H's founder said:

[W]e were working within a 3-D environment at that time, […] like unity 3-D was very new at that time, now it's almost ubiquitous right, but back in the day it was a new platform.

Firm A's founder told us about different game publishing models they tried:

(P)ublishers can take lots of different approaches… There are some publishers who also develop themselves, there are some who are like mini VCs… There are others who will… take a percentage of returns in exchange for providing services… We have tried all these models, none of them has produced a hit yet.

Proactiveness differed for these firms at the early internationalization stage (low for Firm A, but medium for Firm H). The difference can be attributed to prior experience of the two firms' founders. Both of Firm H's founders had prior experience in mobile game industry. They were convinced that customers want high-quality products with new technology and followed this path proactively from the beginning. In contrast, none of the three founders of Firm A had similar past experience. Although they were keen to be innovative and take risks, they aimed to learn from the product building experience, thus starting with low-quality products.

Regarding their first gamified product, founder of firm A said:

Wordlist […] It was a simple app for GRE, SAT words practice. It was put together quickly; it was put online and made some money.

From inception, the founders of both of these firms intentionally made the strategic decision of developing new mobile games that they could distribute through international mobile platforms like the Apple and Google stores. They took several steps to achieve this aim, but the overall goal was planned in advance, and the appropriately skilled human and other resources were engaged for this purpose. Therefore, these firms followed the causation logic of decision-making in the launch and internationalization of their business.

Change in entrepreneurial orientation after a pivot

Our firms pivoted their strategic focus following internationalization; the three components of entrepreneurial orientation (EO) also changed. Below we describe the changes in EO and pivots of these four firms.

Pivots of service provider firms: Changes in EO and decision-making logic

Firms D and E, which internationalized as service providers, pivoted after some time to become product makers. They developed their skills and expertise by working on projects outsourced by foreign clients, and ultimately, decided to focus on building their own products.

Firm D took the path of co-creation: instead of working as a service provider, it started working in partnership with foreign firms. This partnership status afforded the BG a share in profits as well as losses. Building its reputation from working on service projects of globally popular games, Firm D was able to partner with another well-known international mobile gaming firm, K. In 2012, Firm D started working with K as a co-creator on a mobile game called Order of Elements. This pivot allowed firm D to greatly increase its learning as well as revenues; it continued following this strategic focus.

Unlike Firm D, Firm E started building its own mobile games when it pivoted its strategy from service provider to product maker. To reduce the risk of losing money on a flop, it started with low-risk games, i.e., very simple, low-tech games that did not require much effort or resources. This allowed the firm to develop expertise, and as it learned about the market, Firm E gradually increased the sophistication level of its games and became apt in developing games that produced better financial results. Its first game was launched in 2012.

We found similar patterns in the change in EO for both firms. As they built their confidence from the experience gained from service projects, innovativeness and its associated risks increased, which allowed the firms to change their strategic focus to product making.

About working on innovative game technologies, the founder of Firm D said:

[W]e still try to do all those things which are ahead of the market, ahead of the curve.

We noticed that proactiveness increased a little for Firm D but decreased slightly for Firm E. This can be explained through the individual strategy differences between the two

firms. Although Firm D changed its strategic focus to products, it was still interested in the co-creation of new games, meaning working as a partner with foreign game studios. This required the firm to be a little more proactive in finding partnership opportunities with foreign firms.

The founder said about getting a good deal when entering into a contract with a new partner:

I mean we were able to negotiate… they started off good, but we were able to negotiate to a higher (partnership) contract.

On the other hand, Firm E focused on becoming independent in building new products. Its proactiveness slightly decreased as it was no longer searching for service projects.

Regarding their intentionality and decision-making logic, it was not the initial plan of either firm to pivot to their own game development. Firm D found an opportunity to work in partnership with a foreign game studio and was flexible enough to follow its intuition and experiment with a new business model. Firm E also started experimenting with small, low-risk games to learn about the market and then continued flexibly with its new business strategy. Hence, both firms pivoted but in an unplanned manner, seizing partnership opportunities (cf. the precommitments principle) and remaining flexible, which corresponds to the effectuation logic.

Pivots of product maker firms: Changes in EO and decision-making logic

Soon after internationalizing as product makers, Firms A and H pivoted to become service providers. Both firms faced challenges when their original games did not produce the desired results. They thus pivoted to services to survive in the field and continue supporting their employees. It was also important for them to rebuild their resources over time so that they could try product making again once they had more confidence.

Firm A's original game attained millions of downloads and reached top positions in gaming charts, yet the firm could not create a profitable business model around it and was unable to capitalize on this success. Similar experiences led to a scarcity of resources in the firm. To survive and in the hope of achieving success at a later time, Firm A decided to put product making on hold in 2009 and started working on service projects. Over the years, it built up its reputation and was able to work on projects for well-known international firms.

Firm H encountered a similar situation when, in 2015, one of its major projects failed to take off and the firm had to bear considerable financial loss. To stay in business, Firm H pivoted to services and started from scratch by picking up projects from Odesk, an international platform connecting freelance jobseekers with people

looking for a job to be done. While working on these projects, the firm focused on developing narrower expertise related to new technologies in mobile games.

We observed a similar pattern of change in EO for both of these firms. There was a considerable increase in proactiveness and a relatively smaller increase in risk-taking. This indicated that as these firms became service-focused and more concerned for their survival, they became more proactive in anticipating and addressing customer needs. Now focused on services, these firms struggled in building their reputation and securing service contracts.

Talking about additional risks associated with providing services for clients, Firm A founder said:

So the uncertainty is […] trying to keep everyone happy within a pre-defined budget. And that's what the game companies are trying to do. They are trying to reduce their own risk by putting the risk on top of us.

Finally, innovativeness slightly increased for Firm H and remained the same for Firm A, but both BGs already showed high levels of innovativeness.

Founder of firm H told us that while they focused on a narrow expertise and built many innovative products for their clients after the pivot, it was done according to the specifications provided by their foreign clients. Hence, innovativeness slightly increased for Firm H. The founder mentioned one such game product:

Pixel Dodge actually does ridiculously good, both installs and like retention rates. But it's not our product, we build it for somebody else.

Firm A worked broadly on many game projects without any strategic focus, some of them commissioned by non-game firms. In this case, there was less space for them to increase in innovation. The founder said:

There was a competitive RFP process. We made a game design, they liked it, then we did a project that was branded as Lonely Planet BBC. We used their content and we needed their approval on the final product.

We found that firms A and H sustained losses in their initial business strategy and thus made an intentional decision to pivot to providing services to foreign clients. This pivot was unplanned because they never had the intention to change their business focus, but they had to be flexible to survive their losses and change their business strategy. This strategic change was based on the principle of affordable loss, so we can say that these firms followed the effectuation logic when making this pivot.

Changes in firm EO, decision-making logic, and firm strategy

Figure 2 summarizes our findings regarding changes in the firms' EO, decision-making logic, and strategy. This figure shows that in an industry like mobile games, where firms can internationalize relatively quickly, low EO suggests that firms will prefer the service provider strategy,f in which they are paid to work on game projects outsourced by foreign

clients. Low EO comprises low levels of risk-taking and up to medium levels of innovativeness and proactiveness by firms. A change of decision-making logic from causation to effectuation can lead to an increase in EO (with high levels of innovativeness and risk-taking and up to medium level of proactiveness), which allows firms to produce their own mobile game products for internationalization. A similarity in EO can be observed in firms that initially internationalized with a product making strategy: their EO shows higher levels of risk-taking and innovativeness.

/// Insert Figure 2 here ///

In sum, we observed that for both types of business strategies, product maker and service provider, entrepreneurs started their business taking a planned, strategic approach in which they hired the appropriately trained staff, worked on relevant network connections, and gained relevant skills. Therefore, we classified their approach during the initial phase of conception and internationalization as causation. However, later, when the firms pivoted due to the failure of either products or new opportunities, the firms followed an emergent, flexible, and experiment-based approach that pointed to the effectuation logic. In the following section, we further elaborate upon and discuss different aspects of the changes shown in this figure.

DISCUSSION

This study explores pivots of digital technology-based BG firms in their early stages of internationalization. We found that each pivot was accompanied by changes in the individual components of EO. By highlighting the relationship between EO components and BG internationalization, this study provides a better understanding of changes in decision-making –pivots– by BGs and challenges conventional ways of studying changes in EO. In fact, as Palmié et al. (2019) recently pointed out: "*The approaches leaders adopt to make important decisions tend to have substantial implications for organizational attributes such as EO (Engel*

et al., 2017). Research into decision making as a correlate of EO is therefore 'most promising'" (p. 108). Below, we discuss our findings in relation to EO, pivots in BGs, and effectuation.

Entrepreneurial orientation and firms' strategic focus in the internationalization of digital technology-based born globals

Existing studies have mostly focused on EO as a composite construct in which all the different EO components display a combined firm-strategic behavior (Covin & Slevin, 1989; Simsek, Heavey & Veiga, 2010). Moreover, scholars have paid increasing attention to the influence of individual EO components on firms' internationalization strategies and have called for more research in this area (Covin & Miller, 2014; Kreiser, Marino, Dickson & Weaver, 2010). Our study, in responding to this call, found similarities in EO components during the early internationalization stage according to whether the BG is product- or service-focused.

Thus, for product maker BGs at the early internationalization stage, innovativeness and risk-taking were high and proactiveness was at a medium level. On the other hand, service provider BGs showed low levels of risk-taking but medium levels of innovativeness and proactiveness. Since we found similarities in EO for firms adopting similar strategies for internationalization, we can say that EO is a relevant construct when we study the strategic choices related to BG internationalization. Moreover, we also show that these three components of EO evolve over time. Indeed, just a few years later, only proactiveness increased in the product makers that pivoted to become service providers. For service providers that pivoted to become product makers, on the other hand, innovativeness and risk-taking increased greatly while proactiveness increased only slightly. This shows that within the same industry, BGs that choose to become product makers display high degrees of innovativeness and are risk takers, while service provider BGs should be more proactive, as they need to pursue new service contracts, but have overall lower levels of EO than do product makers. EO has generally been considered as a fixed firm behavior that does not change with time and displays stable

patterns of the firm's strategic attitude (Covin and Lumpkin, 2011; Wales et al., 2011). Our results, however, join those of Gabrielsson, Gabrielsson & Dimitratos (2014) in showing that the influence of EO components varies over time, but we go one step further by showing that the evolution of EO components could arise well before the later phases and is linked to the firm's strategic focus and effectual decision-making logic. Moreover, EO seems to align well with an effectual approach to new product/service development when resources are limited (Marino et al. 2008).

Compared to existing quantitative studies, qualitative research enabled us to better capture complex phenomena (Covin & Miller, 2014) like changes in three components of EO over time and in connection with the strategic focus. Our results are thus in line with those of Laskovaia et al. (2019), which find that EO reinforces a positive relationship between effectual decision-making logic and competitive positioning, and therefore better SME performance.

Changes in entrepreneurial orientation, pivots, and decision-making logic in born-globals

Many scholars have called for studies looking at changes in EO over time (Miller, 2011; Short et al., 2010). George (2011) contends that when the EO of a firm does change, it indicates a change in the whole construct of EO. However, building upon the concept of a multidimensional construct of EO (Covin & Miller, 2014; Kreiser et al., 2010), our study shows changes in individual components of firm EO over time and in their influences on these BGs' strategic focus. Indeed, we found similar changes in the EO of BGs that made similar pivots; i.e., BGs that pivoted from a service to a product strategy exhibited similar changes in EO, and BGs that pivoted from a product to a service strategy also exhibited similar changes in EO. This is an important finding because of the pattern in how BGs' EO changed and in their choice of strategic pivots. Contrary to Mthanti & Urban (2014, p. 131), who posit that "*high-technology ventures that possess a high level of EO can explore and exploit opportunities more*

easily than those that do not," we show that even with low EO, SMEs can seize opportunities and change their decision-making logic towards "winning" strategies.

Moreover, our study shows EO adjustments over time as demanded by the environment while keeping in view the firm's resources and capabilities. In line with Laskovaia et al. (2019), we therefore suggest that the characteristics of effectual decision-making logic enable SMEs to more effectively manage within an uncertain context by rapidly and creatively adapting as the environment evolves. We extend this understanding by positing that in addition to achieving growth and development, BGs also change their EO to survive or maintain their business during rough patches brought about due to, for example, a suboptimal business model or lack of financial and human resources. The findings of our qualitative study provide insight into the nuances of IE and how it is likely to be modified over time, thereby supporting the need for research on pivots in IE (Covin & Miller 2014; Gabrielsson et al., 2014; Kuivalainen et al. 2007). This is all the more important as "*strategic pivots will become central to the resolution of strategic uncertainty*" (Pillai, Goldfarb & Kirsch, 2019, p. 394).

Frishammar and Andersson (2009) found that of the three EO components, only proactiveness plays a significant role in a firm's international growth and development, whereas Kreiser et al. (2010) emphasized the role of risk-taking. These quantitative studies have contradictory results because they fail to capture the complexity of strategic actions. Thus, thanks to a qualitative study of a sample of BGs, we raise the importance of linking pivots to the components of EO, and, like Lechner and Gudmundsson (2014), we point out the relationships between individual components of EO and firms' business strategies leading to better performance. Our results thus advance this understanding by focusing on pivots in BGs' strategic focus and the influences of EO components, with insight from the effectuation theory.

This study posits that firms pivoting their strategic focus displayed changes in EO components – as some of them faced threats to their survival and some decided to grow their

business with a different focus. Hence, we show that digital technology-based BGs change their EO components over time as they experience changes in both their external environments and their internal capabilities and resources. However, contrary to what Rosenbusch et al. (2013) hold, these pivots are not always made to improve upon existing performance but are sometimes necessary to survive and stay in business. This is why "*strategic pivots are important to study because they often control the fate of the firm. Startups have finite resources, and bets that do not turn out well can lead to firm failure*" (Pillai et al., 2019, p. 393).

Researchers that have studied firm internationalization from the viewpoint of effectuation theory often posit that entrepreneurial firms generally employ effectual decision-making logic at the time of internationalization (e.g., Gabrielsson & Gabrielsson, 2013). This is especially true for non-digital firms internationalizing through the traditional way of expanding businesses internationally. Our study provides a novel perspective by studying changes in EO through pivots of digital technology-based BGs that are able to use a causal decision-making logic at the time of internationalization because they do not need to go through the traditional phases of internationalization and the accompanying learning process. They intentionally start the internationalization process with a particular strategy in mind, i.e., as a product maker or a service provider. At the time of pivot, these digital BGs switch from causal to effectual logic, allowing them to utilize their knowledge of the market to better adapt for survival or growth purposes (Kalinic, Sarasvathy & Forza, 2014). This change in decision-making logic also helps in understanding changes in firms' EO under uncertain business conditions (Mthanti & Urban, 2014) as firms adapt with the help of changes in certain aspects of firm EO. Therefore, effectuation theory appears to afford firms greater opportunity to adapt to changing economic conditions. These results are a step towards a better understanding of the evolution of EO components and encourage further qualitative study of components over time.

CONCLUSION

This research focuses on the link between EO and pivots during early internationalization of digital technology-based BGs, with the help of effectuation theory. We examine BGs' decision-making logic to extend the understanding of how individual components of EO shape the internationalization of BGs and whether EO components change over time. This study contributes in several ways to the literature on EO and pivots. First, our research shows that, as suggested by Frishammar and Andersson (2009), it is prudent to separate different dimensions of EO (innovativeness, risk-taking, and proactiveness). The evolution of firms' strategic focus necessitates the consideration of EO and decision-making logic over time. A key contribution is thus our finding that the influence of each EO component varies in accordance with the change in decision-making logic and pivot. This result invites researchers to adopt a dynamic and qualitative view of EO to grasp its complexity; effectuation theory facilitates this.

Second, when these components were separated, we found that proactiveness is the only dimension that increased when BGs pivoted from product makers to service providers. The reason is that these firms have the capabilities needed to proactively transform their products to services in order to better align with foreign customer's demand. Another key contribution is therefore to highlight the relationships between individual components of EO and BGs' strategic focus. These BGs also possess the skills to develop new capabilities needed to better serve foreign market needs. Third, the positive influence of proactiveness on international strategy was expected and in line with earlier research in IE (Frishammar & Andersson, 2009; Brouthers et al., 2015). Our study further contributes by showing that the change in proactiveness played an important role in pivoting towards a service focus. The BG perspective highlights the importance of a proactive and innovative strategic posture. However, contrary to literature on BGs, risk-taking was not found to be important for service providers. Thus, our work on the evolution of EO in BGs over time offers extensive opportunities to infuse

additional energy into the BG research agenda and throughout the broader field of IE research. Finally, we agree with Pamié et al. (2019) that the relationship of effectuation with EO deserves further attention.

One limitation of this study is our small sample size that comes from an under-researched context, i.e., a developing country (Pakistan); more comprehensive research should be done to generalize our findings. Focusing on one country has the positive effect that cultural variation is reduced (Wales et al., 2011). For future research, however, a transnational study would be quite valuable. Another limitation is that our BGs all come from the mobile game industry. It would also be interesting to investigate less technology-oriented industries.

Overall, our study has important managerial implications. First, this research could help BGs identify the category to which they belong and how they can evolve. For example, entrepreneurs might ask what kind of characteristics their BGs need (more proactiveness? more innovativeness?), and then, if they lack these characteristics, work to obtain them by hiring new employees, for example. We have identified two kinds of BG strategic focuses that correspond to two different EO profiles. These profiles could help small firms identify their weaknesses and try to compensate by aligning their EO with their strategic focus. Our analysis suggests that strategic pivoting was associated with success. Second, our study could help SMEs clarify their needs according to their current strategic focus and identify components that matter the most for developing their business. It appears that developing EO capabilities can also play a significant role in small firms pivoting in international markets. Managers thus need to improve EO capabilities before pivoting so that their firms can take full advantage of the opportunities provided in foreign markets. Third, this paper provides implications for policymakers. Small firms, including BGs, play a vital role in economic growth in many developing countries. Given this importance, policymakers must recognize the variation in

entrepreneurs and help them in a more targeted way by developing programs to help, for example, service providers become more proactive.

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