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Case-Study Framework for Properties of Disruptive Digital Entrants

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Abstract: While disruption is not a new phenomenon, the rise of digital technologies has created unprecedented challenges for organizations. While research on how to handle disruptive innovation has been carried out to a large extent, most studies focus on the perspective of incumbents and not on how to be a disrupter. This paper argues that there is a potential for new theoretical points in studying entrants. As a point of departure from this, a tentative framework for digital entrant case-studies is established. This is done by coupling research perspectives from disruptive innovation theory with the concept of exponential organizations. The paper presents research-in-progress where the long term ambition is to clarify capabilities to be a disruptive, digital entrant.

Keywords: Digital disruption; digital entrants; exponential organization; case-study framework; innovation management; disruptive technologies.

1 Introduction

The global mega-trend of digitization affects many organizations including the context in which organizations are disrupters and disrupted. In research literature, examples of disruption are often given from the digital domain. However, general reflections on how innovation managers specifically in the digital domain should configure entrants to be disruptive is lacking. We term these disruptive, digital organizations.

It is special to the digital domain that product performance is information-based (Turing 1950) and grows with an exponential rate (Moore 1965). This applies to all technologies which are digitally driven such as smartphones, Internet bandwidth, and cloud computing. It is essential for innovation managers to possess knowledge of how to take advantage of digital performance.

The concept of disruptive technologies was initially coined by Clayton Christensen in 1995 (Bower & Christensen 1995). We use Christensen's definition of disruption where disruption "... describes a process whereby a smaller company with fewer resources is able to successfully challenge established incumbents business" (Christensen et al. 2015). Christensen developed the concept into a theory of disruptive innovation, initially described in his canonical work "The Innovator's Dilemma – When new technologies cause great firms to fail" (Christensen 1997), focusing on disruption from the perspective of incumbents. This is also the case for other researchers of disruptive innovation who have maintained a focus on disruption from the perspective of incumbents (e.g. Markides & Charitou 2004; Govindarajan & Kopalle 2006; Henderson 2006; Lucas & Goh 2009; Gans 2016). The title of Christensen's book (1997) certainly frames this side of the theory in that it stresses a dilemma of an innovation process in which the innovator already possess a significant amount of market shares. The authors mentioned above present takes on why incumbents find themselves in that dilemma as well as strategic frameworks they might use to navigate the situation and even, in some cases, become the disrupter themselves.

The predictability of Christensen's theory has been widely discussed (Danneels 2004; Tellis 2006; Yu & Hang 2010; Lepore 2014; Gans 2016). While the theory will, arguably, never be able to, without fault, predict which organizations would successfully disrupt, we hypothesize that knowing the capabilities driving certain entrants' success is useful in qualifying such predictions.

Thus, we argue that there might be a potential area of interest in examining disruption from the perspective of entrants. This research is a step towards unfolding that area of interest within the scope of the digital domain.

In this paper, we refer to entrants as new organizations with a niche market foothold. This includes new business units born from incumbents with reference to Yu and Hang (2010, p. 439) who note that the theory "...does not imply that disruptors are necessarily start-ups".

2 Studying disruptive digital entrants

The theoretical long-term goal of this research-in-progress is to determine what enables disruption for digital entrants. On the research path towards this long-term goal, we find it relevant to establish a framework for assessing disruptive potential for digital entrants.

The objective of the research presented in this paper is to contribute with an empirical and practical method to identifying disruptive properties of digital entrants with an ambition of later clarifying capabilities relevant to being a disruptive entrant. Stated as a methodic research question: How can disruptive properties of digital entrants be identified?

This research question follows Christensen's suggestion to further research; rather than continuing to define new categories of disruption, the theory should be tested inductively in order to uncover anomalies (Christensen 2006). While researchers have analyzed cases in a number of different industries in the search for anomalies, the focus has not been on specific circumstances regarding disruptive innovation in the digital domain. Furthermore, we find a lack of generalized methodical considerations on how to carry out such studies.

In terms of the digital domain, literature in the field of disruption is not targeting challenges of managing information-based, exponential digital performance specifically.

This research-in-progress is limited to a conceptualization of a framework to identify disruptive properties in digital entrants. The conceptualization is based on a literature review of relevant digital disruptive case-studies.

Based on above, it is inclusive to the area of interest that, for the performance of their products (including services), organizations leverage the potential exponential, information-based, digital performance. A quality criterion for the framework is to assist in exploring links between product performance and information-based, exponential performance in digital disruptive entrants.

3 Exponential organizations

Ismail elaborates the concept of exponential organizations in his canonical work "Exponential organizations – Why new organizations are ten times better, faster, and cheaper than yours (and what to do about it)" (Ismail 2014), beginning with an entrant organizational perspective. This point of departure is opposite to the research on disruptive innovation mentioned above. Even though Ismail is aware of disruption as a "new norm" (Ismail 2014, pp. 124-126), there is no theoretically elaborated discussion including the concept of exponential organizations into Christensen's theory of disruptive innovation.

Ismail summarizes the concept of exponential organizations with two acronyms: SCALE (Staff on demand, Community & crowd, Algorithms, Leveraged assets, and end user Engagement) and IDEAS (Interfaces, Dashboards, Experimentation, employee Autonomy, and Social technologies) (Ismail 2014, p. 53; pp. 58-84; pp. 85-115). Relative to the exponential organization, SCALE refers to external properties and IDEAS to internal properties. Moreover, an exponential organization is characterized by an MTP (Multiple Transformative Purpose) which is "...the higher, aspirational purpose of the organization" (Ismail 2014, p. 54). The MTP is not the mission statement but rather a purpose that, ideally, has a positive effect for a billion people—e.g. optimizing corporate meetings. "The most important outcome of a proper MTP is that it generates a cultural movement..." (Ismail 2014, p. 55).

Ismail provides an analysis of a number of exponential, incumbent organizations with properties he defined using the matrix in Table 1 (Ismail 2014, pp. 240-260).

Ismail is aware of the fact that disruption is highly relevant to exponential organizations, and he refers to Deloitte's Center for the Edge Co-chairman Hagel's concept of

“exponential disruption” (Ismail 2014, p. 42). Ismail’s objective is not to make “... a book of theory, but rather to present the reader with a how-to-guide to the creation and maintenance of an Exponential Organization” (Ismail 2014, p. 21). Ismail focuses on how to scale organizations exponentially (Ismail 2014, p. 16) and the attributes that characterize exponential organizations (Ismail 2014, pp. 51-115).

Table 1 Ismail uses this matrix as a tool for analyzing exponential organizations.

<i>MTP</i>	<i>S</i>	<i>C</i>	<i>A</i>	<i>L</i>	<i>E</i>	<i>I</i>	<i>D</i>	<i>E</i>	<i>A</i>	<i>S</i>
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Source: Ismail 2014, p. 243.

4 Disruptive innovation in the digital domain

The theory of disruptive innovation has, throughout the past two decades, been developed towards the understanding that the business model of an organization is the prime driver of disruption and not technological innovation itself (Christensen 2006).

The digital industry in particular had (and still has) numerous examples of organizations investing heavily in sustaining innovations to accommodate customer demands. Case studies of incumbents within different industries have been carried out in search of special conditions of disruption. However, a specific focus on disruption in the digital domain is not present as a specific area of disruption research; furthermore, focus on the perspective of incumbents has remained as the prominent perspective in Christensen’s research up to this point in time (Christensen et. al. 2015).

In short, suggestions and guidelines to disruption in research literature address an incumbent perspective; and furthermore, the literature primarily revolves around how not to be disrupted rather than how to be a disrupter. To this point in time, a lack of research on how entrants in niche or new markets become disrupters exists.

While this might paint a picture that the authors of this paper do not find extant literature relevant to this study, that would be a wrong assessment. Knowledge regarding market orientation in the attempt to avoid disruption as an incumbent can be used in identifying strategic potentials for entrants.

Expanding upon this, we have identified research perspective pairs that are prominent throughout the research on disruptive innovation: disruption driven by technology or business models, internal or external organizational factors, and supply-side or demand-side disruption. The relevance of these perspective pairs will be clarified here.

Disruption driven by technology or business models

When Bower and Christensen initiated the theory of disruptive innovation, they did so under the header "disruptive technologies" (Bower & Christensen 1995). Several years following their article, researchers have asked how to characterize this type of technological innovation (Danneels 2004) and what effect disruptive technologies might have on the markets in which organizations operate (Adner 2002).

Christensen (2006) has later stated that it was a mistake to label the phenomenon as a type of technology. In the years following *The Innovator's Dilemma*, he had observed incumbents successfully creating business units to fend off disruptive competitors. This meant that the disruptive aspect to organizations lies in their business model and how they act in accordance with a market.

While Christensen retracted the concept of disruptive technologies, the attributes of a technological innovation which afford disruptive potential is still subject to several studies, e.g. (Rao et al. 2006; Padgett & Mulvey 2007; Lucas & Goh 2009; Garrison 2009). Evidenced by the technologies studied in these papers among others (e.g. voice-over-Internet-protocol, open-source software and digital photography), this especially applies to studies focusing on digital cases. Markides (2006) argued that disruptive technological innovations are fundamentally different from disruptive business-model innovation and that the two concepts should be studied as separate phenomena.

Using this distinction, we emphasize that disruption can be understood both from a technology and business-model perspective.

Supply-side or demand-side disruption

A side to disruption which was very recently touched upon by Gans (2016) is the distinction between supply-side and demand-side disruption. The main concept of this distinction is that organizational failure can be explained from two perspectives. Christensen's theory was based on a demand-side perspective on why established organizations fail. While incumbents seek to provide the largest market segments with improved product performance, entrants initially target niche or new markets with product components that are different from the mainstream components.

The supply-side of disruption is, argued by Gans, another way organizations might be disrupted. A sudden supply of a new product or service which requires an organization to accommodate their infrastructure to new product architectures can leave managers in a disruptive scenario. This is inspired by Rebecca Henderson's in-depth research, e.g. (Henderson & Clark 1990), identifying the mechanism for disruption as "... the inability of market leaders to absorb new architectural knowledge" (Gans 2016, p. 101).

With this distinction, we emphasize that disruption can be driven by other processes than the formation of niche markets. Moreover, we note that the concept of disruptive technologies can be divided into component-based or architectural technological innovations.

Internal or external organizational factors

Similar to the internal and external factors Ismail had defined within the context of being an exponential organization, internal and external factors are present within the context of disruptive innovation.

A number of researchers have concerned themselves with internal factors of disruption such as willingness to cannibalize (Slater & Narver 1998), how new innovations are

framed (Gilbert & Bower 2002), and vertical integration versus horizontal stratification (Christensen et al. 2002).

On external factors, subjects such as market dynamics as a result of symmetry of product features (Adner 2002), timing (Iansiti et al. 2003), innovation development phases (Buxton 2014), dominant designs (Markides 2006; Gans 2016), and strategic archetypes (Slater & Mohr 2006) have been unfolded.

With this distinction, we emphasize that disruption can be a matter of both internal and external organizational factors.

4 Case-study framework

The future ambition of this research-in-progress is to uncover capabilities that allow digital entrants with a foothold in a niche or new market to become digital disrupters with a sustainable, exponential growth. The research presented here, however, only covers first steps in this direction. This is based on the working hypothesis that a case-study framework integrating disruption research perspectives with the concept of exponential organizations might be a way to identify disruptive properties of digital entrants.

Carrying out a case study based on this framework can be done by utilizing appropriate methods and tools from case to case. The main point with this framework is not to specify specific approaches to collecting data, but rather to provide a common reference point for comparing the data collected. This reference point consists of a list of themes to unfold.

The above analysis has led to the first layout of a case-study framework for identifying properties of disruptive digital entrants. The properties are not necessarily exhaustive, and they are not necessarily exclusive to entrants.

To perform case studies addressing what makes some entrants successful disrupters, we consider the properties presented by Ismail (2014)—referred to as SCALE-IDEAS—as potential enablers for realizing disruption for digital entrants. In future case studies, we want to analyze how these enablers influence the process of an entrant actually becoming a digital disrupter. We intend to determine relationships between exponential organization enablers and the effects that might be linked to digital disruption. This is illustrated in Table 2 where each intersection in the table represents a potential causal relation between an enabler and a disruption research perspective.

Table 2 is a tentative framework in the form of a template for case studies of digital disruptive entrants with a potential for sustainable, exponential growth. Case studies based on this framework will address each intersection and investigate how each enabler correlates with certain research perspectives on disruptive innovation. As an example, it may be analyzed how the enabler "Staff on Demand" correlates with component technology disruption. Across different research perspectives, disruption researchers address organizational culture as an essential ability of an organization to react appropriately to disruptive possibilities and threats. In this regard, we note that the

organizational culture including the massively transformative purpose (MTP) of entrants should be considered for each intersection in Table 2.

Table 2 Integrating disruption research perspectives with SCALE-IDEAS.

		<i>External</i>					<i>Internal</i>				
		<i>S</i>	<i>C</i>	<i>A</i>	<i>L</i>	<i>E</i>	<i>I</i>	<i>D</i>	<i>E</i>	<i>A</i>	<i>S</i>
Technology disruption	Component (Demand-side)										
	Architecture (Supply-side)										
Business model Disruption											

By analyzing the outlined relationships between disruption research perspectives and IDEAS-SCALE, we argue for a hypothesis that common characteristics across disruptive, digital entrants can be found. This can, in time, be synthesized to a number of capabilities which disruptive entrants build to be qualify their success.

A case-based method for identifying properties of digital disruptive entrants is a cornerstone towards clarifying capabilities of digital disruption for entrants. As such, the framework is a contribution to a large but clearly outlined section of the literature.

Practical implications

In a short-term perspective, innovation management researchers will gain a structured case-based method for identifying properties in digital disruptive entrants. In a long-term perspective, we help entrant innovation managers to be more successful.

Stakeholders with an interest in disruptive, digital entrants can use knowledge of the properties for innovation management. Finally, the findings may also be useful in building disruptive, digital business units within incumbent organizations.

On ensuring success, Christensen has written that "...the definition of disruptiveness [...] exists independent of the outcome" (Christensen 2006, p. 41). For this reason, it is not a criterion for the work presented here that digital entrants develop the capabilities to successfully disrupt a market with no potential for failure. This means that the research might also benefit from examining potentially disruptive organizations and not only historical cases.

5 Conclusion

In this paper, we present a tentative framework for uncovering properties of disruptive, digital entrants on the path of clarifying capabilities. The framework applies to case studies but might be extended as a foundation for action research.

6 Areas for feedback & development

For this research-in-progress, we seek suggestions for improvement of the case-study template (Table 2). Especially other relevant research perspectives on disruption is of our concern.

Furthermore, we welcome relevant research-based case-studies within the field of disruptive innovation research.

Lastly, we ask what the implications of taking a digital entrant perspective as opposed to an incumbent perspective might be?

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