Digital Entrepreneurship of Born Digital and Grown Digital Firms: Comparing the Effectuation Process of Yihaodian and Suning

Research-in-Progress

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Abstract

This paper examines digital entrepreneurship in born digital and grown digital firms. Of late, digital entrepreneurship has garnered renewed attention from national leaders, practitioners, and academics due to the phenomenal success of a number of digital startups and the radical disruptions brought by the innovative use of technologies. Despite the significance and the promises of digital technology, especially amid the gloomy economy, digital entrepreneurship has remained inadequately analyzed for its predominant focus on entrepreneurs (human agency) and newly founded firms (context). This study offers an in-depth analysis of two entrepreneurial firms, Yihaodian and Suning, which are among the largest e-commerce players in China. By adopting effectuation as our theoretical lens, this study aims to generate an understanding of the digital entrepreneurial process in both born digital and grown digital firms.

Keywords: Digital entrepreneurship, born digital and grown digital firms, effectuation, case study, e-commerce
Introduction

Amid the sluggish recovery of the global economy, global and industry leaders have advocated for digital entrepreneurship as a potential solution to invigorate the market, create new jobs, and unleash the growth potential and renewed hope brought on by the burgeoning prosperity of e-businesses such as Alibaba and high-flying startups such as AirBnB and Uber. Despite the gloomy economy, these companies remain strong, with their innovative use of technology transforming existing industry and facilitating the emergence of new ones. In the United States, e-business is recognized as one of the key business opportunities (Dahl 2012), and the European Commission has been working on accelerating the transformation of the European business landscape with smart technologies. In addition, national initiatives such as Digital India and China Internet+ launched in the last two years epitomize the rising expectations for the opportunities promised by digital technology. With digital technology’s potential to render certain industries obsolete while also creating and reinvigorating others, it is of little wonder that many countries consider digital entrepreneurship as a critical pillar for their economic development (Shen et al. 2015) and that academics have given heightened attention to digital entrepreneurship in recent years (Arend et al. 2015; Chandler et al. 2011; Davidson and Vaast 2010).

Despite the growing prominence of a fine-grained understanding of digital entrepreneurship (Shen et al. 2015), our knowledge is limited by previous studies’ predominant focus on newly established firms as entrepreneurial firms and by the scarce attention on entrepreneurial processes in the digital context. First, entrepreneurship can occur through both the formation of a new firm or the transformation of an existing firm (Shane and Venkataraman 2000). Besides new ventures, digital entrepreneurship can manifest in existing business through the introduction of new digital technologies or through the novel use of technologies that change business models or revolutionize products or services (Tumbas et al. 2015). This is important because to ensure economic stability, the sustenance of incumbent organizations and industries is just as important as the creation of new businesses. Nonetheless, with the exception of Tumbas et al. (2015), IS studies have been focusing primarily on new firms as entrepreneurial firms (e.g., Fisher 2012; Kelestyn and Henfridsson 2014; Sitoh et al. 2014), shedding little insight into how entrepreneurship can be different in a born digital and a grown digital firm. Second, little is known about the entrepreneurial process. Traditionally, human agency is placed at the center stage of entrepreneurship studies, and there is considerable work on the identification of entrepreneurship traits (Ucbasaran 2008). While the direct effect of digital technology in creating and shaping new conditions for innovations, options, mentality, and practices have been researched (e.g., Kelestyn and Henfridsson 2014; Sambamurthy et al. 2003; Tumbas et al. 2015), the entrepreneurial process in digital contexts, such as the discovery of new e-business opportunities, remains underexplored (Zhu and Lin 2015).

Compelled by the challenges of the digital environment and the limitations in current understandings, this study aims to investigate the entrepreneurial process of digital entrepreneurship in born digital and grown digital firms. An in-depth case study is conducted into the two largest e-commerce companies in China: Yihaodian and Suning. The effectuation theory of entrepreneurship is adopted as the theoretical lens and the timeline of our study lasted from 2008 (when Yihaodian was founded) to the end of 2015.

Literature Review

Digital Entrepreneurship and Entrepreneurship

Digital entrepreneurship is generally referred to as the pursuit of opportunities based on the use of digital media and other information technologies (IT) (Davidson and Vaast 2010 p. 2). With the various possibilities generated by the advancement of digital technologies, digital entrepreneurship is undertaken as one of the key priorities by multiple countries and international bodies, including the European Commission and the World Bank, as a remedy for the weak economy. Inheriting the concept of entrepreneurship, digital entrepreneurship involves the bearing of risks with limited resources under control, within a uncertain environment (Shane and Venkataraman 2000; Stevenson and Gumpert 1985). In distinguishing entrepreneurship from strategic management, which focuses on developing competitive advantage, Shane (2012) highlights entrepreneurship’s focuses on exploiting opportunities to create something new, including products or services, markets, production processes or raw materials, ways of organizing, and business models.
Entrepreneurship is a process that is at the nexus of both opportunities and individuals (Shane 2012). Since its beginning in 1970s, considerable attention has been paid to the identification of common traits and characteristics of entrepreneurs, entrepreneurial cognition, and entrepreneurs’ decision-making process (Ucbasaran 2008). Researchers are concerned with the question of “why, when and how some people and not others discover and exploit these opportunities” (Shane and Venkataraman 2000). Worrying that the field may have overestimated the significance of individual characteristics, Shane and Venkataraman (2000) argue for a shift away from this human-centered view of entrepreneurship. They advocate entrepreneurship as a process rather than an embodiment of individuals or a type of person. Some researchers have conceptualized the entrepreneurial process by building on the concept of opportunities. Opportunities refers to the “situations in which new goods, services, raw materials, markets and organizing methods can be introduced through the formation of new means, ends, or means-ends relationships” (Eckhardt and Shane 2003 p. 336). Opportunities can be identified from the market and economic conditions (Davidson and Vaast 2010), such as recognizing the existence of market inefficiencies amid the invention of new technologies (Drucker 1985).

Our review shows that the current understanding of digital entrepreneurship is limited to the context of newly established firms. Despite the fact that digital entrepreneurship can occur through the formation of a new firm or the transformation of an existing firm (Shane and Venkataraman 2000), studies have focused only on new firms. For instance, Fisher (2012) studies six new consumer Internet ventures, and Sitoh et al. (2014) study a technology startup. As aptly described by Shane (2012), firm formation alone does not meet the requirement of entrepreneurship, “because the creation of a new firm is merely one institutional arrangement for the identification, evaluation, and exploitation of opportunities. The same acts […] can be undertaken by people in existing firms or through market mechanisms” (pg. 13). Our knowledge of entrepreneurship within existing organizations continues to be sparse, compelling Shane (2012) and Fang et al. (2016) to call for greater attention to the influence of context. Toward this end, the categorization of entrepreneurial firms into born digital and grown digital by Tumbas et al. (2015) offers a useful starting point. While born digital refers to firms where IT played a central role in dictating the business model or processes from the organization’s inception, grown digital firms “typically start off with paper based manual processes, without structured IT capabilities in the organization, and thus need to hire additional IT related staff during the growth period” (Tumbas et al. 2015 p.12).

Our second observation is that while technologies have undoubtedly enabled various digital options, the entrepreneurial process in digital contexts, such as the discovery of new e-business opportunities, is still largely underexplored (Zhu and Lin 2015). Digital entrepreneurship research recognizes that digital technologies affect individual entrepreneurs by reshaping their mentality (Di Domenico et al. 2014), and studies have been focusing on the new digitally enabled conditions that lower the risk of entrepreneurial activities (Kelestyn and Henfridsson 2014). For example, the rise of dot-com companies and eBay or Taobao entrepreneurs can be attributed to the effect of new conditions (such as a lowered barrier of entry) as a result of the creation of Internet and digital platforms. Technologies also afforded a new way of organizing or practices. For instance, Fischer and Reuber (2014) have studied entrepreneurs’ use of social media to identify opportunities and mitigate uncertainties. In a resource-restricted environment, technologies also offer a creative solutions or alternatives; Anwar (2015) delineates the use of mobile phones as an alternative in facilitating the operation of Indonesian micro-entrepreneurs’ enterprises, including building trust. Long-standing practices and established industries can also be destructed as a result of digitization. Examples of Airbnb and Uber have shown that creative destruction of long-standing practices can occur when digital entrepreneurs discover how technologies provide opportunities to turn people into part-time entrepreneurs (Richter et al. 2015).

Entrepreneurs also face challenges inherent in the digital environment. First, digitally enabled competitiveness is short-lived (Wade and Hulland 2004). As a result of technological advancements, U.S. public companies go through the business life cycle twice as quickly as compared to 30 years ago, and products and business models become obsolete more rapidly (Reeves et al. 2016). Digital businesses such as e-commerce, while helpful in facilitating large scale entrepreneurship with a low entry cost, are often plagued by stiff competition and high substitutability (Sitoh et al. 2014). Second, we argue that due to the disruptive effect of technologies, the undertaking of digital entrepreneurial activities is becoming a necessity, rather than a choice. From the music and book industry to the rise of AirBnB and Uber, we have seen how changes in the digital landscape, competitors’ actions, and new entrants have disrupted industries and threatened the survival of incumbents, thus necessitating changes by firms. Third, the
unrelenting changes in the digital environment reinforce the aforementioned persistent need for digital firms to respond and reinvent themselves despite resource limitations (Reeves et al. 2015).

The challenges of the digital environment not only motivate our study, but also shed light on our choice of effectuation as the theoretical perspective. The logic of effectuation assumes that the future is unknowable and is not measurable, as opposed to the traditional, predictive model of entrepreneurship, which posits that entrepreneurship opportunities are identifiable a priori based on an analysis of the seemingly predictable aspects of future (Fisher 2012). Since the digital environment is highly uncertain, predetermined opportunities and organizational goals can become obsolete quickly, and a predictable means-ends mechanism can be limited in describing the digital entrepreneurial process. Effectuation offers a suitable lens because it is underpinned by the creation of digital opportunities and the reshaping of goals in a process of enactment (Sarasvathy 2001; Sarasvathy 2008; Sarasvathy and Dew 2005). Besides, because it can be unrealistic for digital firms to continually seek new resources, especially given the speed of change and costs, effectuation that underscores entrepreneurial actions in a resource-constrained condition is suitable for studying digital entrepreneurial process (Fisher 2012).

Effectuation

Effectuation describes a process of entrepreneurial actions based on the logic of entrepreneurial expertise and a dynamic and interactive process of creating new artifacts in the world (Sarasvathy 2008). It is difficult to understand effectuation without a comparison with prior theories centered on prediction logic (Reuber et al. 2016). Fundamentally, the earlier predictive theory is founded on the premise that “to the extent we can predict the future, we can control it,” whereas effectuation is built on the logic of “to the extent we can control the future, we do not need to predict it” (Sarasvathy 2008 p. 18). Positing that the future is predictable and that opportunities exist out there only to be identified (e.g., where demand for a product exceeds supply), the basis for action in predictive entrepreneurial logic is goal-oriented (Dew et al. 2009). It starts with an end in mind, highlighting the importance of identifying goals through systematic information gathering and analysis before seeking resources to exploit the opportunities (Fisher 2012). On the other hand, effectual logic is means-oriented as it starts with means as opposed to setting goals. Given the unpredictability of the future, entrepreneurs exert their control over a set of means available and information is gathered through their experimental learning. More importantly, goals are shaped, constructed, and changed in this iterative process (Fisher 2012; Sarasvathy 2001).

In his review of entrepreneurship, Fisher (2012) has put forth several distinctive actions of entrepreneurial effectuators. The first is means evaluation. Effectuation starts with the evaluation of means as opposed to the evaluation of end goals in predictive theory (Fisher 2012; Sarasvathy 2001). Instead of identifying a goal and then working on acquiring the resources to realize the goal, an effectual entrepreneur focuses on the resources they have on hand, decisions that are within their control, and effects of the available means in considering the means that they can take, with the assumption that the goals are constructed and shaped as they execute and learn from the means (Baker and Nelson 2005; Sarasvathy 2001). While both groups agree that the ownership of resources is critical to entrepreneurial firms (Lee et al. 2001), effectuators derive and evaluate means based on existing resources by asking: “Who am I?”, “What do I know?”, and “Whom do I know?” (Sarasvathy and Dew 2005) For example, the study by Sitoh et al. (2014) shows how the preexisting resources of a firm (i.e., aspiring game developers) serves as the basis of option filtering as the management was deciding to venture into a new project.

The second distinctive action of entrepreneurial effectuators is time orientation. Instead of focusing on long-term returns, the theory of effectuation highlights the responsiveness to contingencies and unplanned opportunities as they arise in the process of an entrepreneurial undertaking (Sarasvathy 2008). Long-range goals are of less concern as in the predictive means-ends connections because effectuators believe that goals can be reshaped in the process (Fisher 2012). Based on the changes in the circumstances, unforeseen changes, and new understanding, effectuators adapt what they are doing to fit the resources on hand while reshaping the goals or navigating toward the future (Fisher 2012). However, while technology-based companies are inherently more positive about the future possibilities of IT, traditional firms and industries often face contradictory tendencies when it comes to digital entrepreneurship. As is evident in the transformation of an old garment factory to a digital-enabled modern factory in Hu’s (2016) study, contradiction arises from the staff’s preference for stability extended from the past as opposed to the potential of the uncertain future.
Loss affordance is the third hallmark of entrepreneurial effectuators. Predictive and effectual logics consist of different predispositions toward risk: while the former highlights expected return and thus risk avoidance in pursuing a new venture, the latter holds that loss and failure are inevitable and necessary for organizational learning (Fisher 2012; Sarasvathy and Dew 2005). Effectuators apply affordable loss in resource allocation such that unpredictable consequences are buffered (Dew et al. 2009). This involves failure management such that the entrepreneurial firms fail “early and cheaply” and yet lessons, knowledge, and know-how skills are derived over time (Sarasvathy et al. 2008).

The last is contingency exploitation. Apart from allowing acceptable risks by building in loss affordance, entrepreneurs who apply effectual logic leverage contingencies that arise in the process and turn them into profitable opportunities (Fisher 2012). This is different from the predictive logic that posits contingencies as an obstacle that should be avoided in order to achieve predetermined goals (Sarasvathy and Dew 2005). When contingencies are exploited, unexpected events are embraced instead of regretted, and may therefore open the door for reconsidering possibilities, reshaping target goals, and creating new solutions that can steer the firm toward reaping unanticipated outcomes (Fisher 2012). As Su (2013) has suggested, entrepreneurial digital firms can capitalize on new opportunities that emerge despite being in a resource-constrained and rapidly changing institutional environment.

From our review, it is found that effectuation is underdeveloped as a new theory of entrepreneurship (Arend et al. 2015), especially with a scarce attention on the process view of effectuation (Gupta et al. 2016). Despite the inclination of the theory toward a process orientation (Sarasvathy 2001), most scholars are predisposed to the variance theory (Gupta et al. 2016). In a review by Perry et al. (2012), none of the 11 empirical studies identified has examined effectuation with a process method. Recently, concerns have been raised about the first formal assessment framework of effectuation proposed by Arend et al. (2015) because it evaluates effectuation in variance terms and may perpetuate the entrenchment of effectuation in variance perspective (Garud and Gehman 2016; Gupta et al. 2016). For effectuation to realize its full potential, there is an imperative need to respond to the longstanding call to embrace process perspective (Dew et al. 2009; Gupta et al. 2016; Sarasvathy 2001). With few exceptions, this lack of theorization of effectuation process is also found in the IS literature. One notable exception is Sitoh et al. (2014), who attempted to derive the decision-making mechanism in a game console development company. Although this study is conducted in a digital context, we contend that it has not explicitly—and therefore adequately—analyzed the unique challenges of the digital environment on the effectuation process.

The digital environment presents challenges to the effectuation process in a few ways. First, the disruptive nature of digital technological imposes a high demand of creativity and mindset shifting on entrepreneurs (Davidson and Vaast 2010). New technologies not only present an opportunity to reconsider businesses’ operational processes, but often redefine the conditions of success and rules of competition (Davidson and Vaast 2010). An example is how digital firms such as Apple, Google, and Amazon are shifting from product- to platform-based models with IT-enabled intermediaries (Zhu and Furr 2016), thus requiring digital entrepreneurs to reconstitute new realities and opportunities into the effectual frame when they evaluate new digital means (Dew et al. 2009). This challenge is further amplified in grown digital firms as IT is not an integrated component of their growth and development strategy. Second, the variety of possibilities offered by technology also means an increase in the number of possible means in the effectuation process. IT is both operand and operant resources; besides being operated on, it can act on other resources to produce effects (Nambisan 2013). In other words, IT is a digital options generator (Sambamurthy et al. 2003), and this further complicates the effectuation process in digital contexts. Third, the rapidly evolving digital environment calls for continual, frequent effectuation actions from entrepreneurs. High speed technology development, the generativity of technology (Sambamurthy et al. 2003), short-lived competitiveness (Wade and Hulland 2004), and highly entrepreneurial environments in emerging economies, especially for digital firms (Su 2013), means that the reevaluation process of means and goals in effectuation takes place more frequently in a digital environment than a non-digital one. Next, details of the methodology, case analysis and preliminary findings are presented.

**Methodology**

Our study adopts a case study methodology for a few reasons. First, our research aims to delve into the effectual process of digital entrepreneurship by unearthing the sequence of actions, and a case study is suitable for examining processes (Gephart 2004) and addressing “how” and “why” questions (Pan and
Yihaodian and Suning are identified because they fit the context of our study. First, they are among the top five most successful e-commerce companies in China, which has leveraged the use of digital technology successfully in advancing the entrepreneurial efforts. Second, the two cases are selected based on the criterion of theoretical sampling (Mason 2002). While Yihaodian is an example of a born digital firm, with digital technology playing a central role since its inception, Suning exemplifies a grown digital firm because it acquired the digital capability to revitalize the organization 20 years after it was established. Third, both firms have shown digital entrepreneurship. For example, Yihaodian is sensitive to technological development, and it has attempted to adopt a platform-based business model on top of its product-based model (Zhu and Furr 2016). Suning, as a large traditional retailer of electronic goods, has adopted e-commerce and launched an online-to-offline (O2O) strategy in transforming the organization.

In total, 37 in-depth, semi-structured interviews were conducted with the top management teams. At Suning, we interviewed the Chairman, Senior Vice President, Vice President, Executive President of Strategic Planning Department, IT Division, Operations Division, Branding and Marketing Division, Logistics Division, and Finance Department. We interviewed members of Yihaodian’s management from various functional areas, including strategy planning, product and marketing, supply chain, big data analytics, finance, and new business units. Field notes and observations were captured by one researcher while the other, a native Chinese speaker, led the interviews. All of the interviews were recorded and transcribed. To enhance the validity of our study (Klein and Myers 1999), secondary data were collected from multiple sources, including the company website, newspaper articles, press releases, magazines, books, and journals, amounting to over 490 pages of transcripts, field notes, and secondary data.

Our data analysis closely followed the approach of Pan and Tan (2011). We began the data analysis at the time of data collection (Eisenhardt 1989; Pan and Tan 2011). During the onsite data analysis, narratives regarding the risk-taking events of the firms, the rationale, the implementation, and outcome were chronicled. We then developed tentative explanations to illustrate the digital entrepreneurial process, and later focused on further “abstraction” of the tentative explanations. These two steps—abstraction of the entrepreneurial process and refinement of tentative explanations—were conducted independently and collectively by all the authors, giving rise to a preliminary model. The advantages of having a preliminary model during data collection were that 1) it guided our further data collection, 2) the model’s flexibility allowed us to incorporate emerging themes from the new case data, 3) we were able to reach a temporal internal agreement among the authors and communicate this agreement to the companies.

The data analysis continued after the onsite data collection. Corroborated by more secondary data, narratives about the organizational context, the development of digital capabilities, and entrepreneurial initiatives were summarized. At the same time, an in-depth review of entrepreneurship literature revealed to us the new categories of analysis. i.e., means evaluation, time orientation, loss affordance, and contingency exploitation. The categories of analysis formed the sensitizing device (Klein and Myers 1999) that allowed us to revisit the preliminary model and to break down the data into themes. Figurative tools such as diagrams were used to summarize the sizeable amount of data based on the identified themes, derive the concepts, and present the theoretical story in our selective coding process (Strauss and Corbin 1998). Subsequently, through constant comparison (Charmaz 2000), we looked for similarities and differences across the contextual environments and strategies of the two companies. It is noteworthy that the categories of analysis would be modified as we uncovered critical elements from the data. Next, we juxtaposed the concepts derived under the four categories of analysis in order to derive further “abstraction and generalization” about the overall effectuation strategies for born digital and grown digital companies (Klein and Myers 1999). The whole data analysis process was conducted independently by the
authors, who later jointly discussed the new concepts and overall effectuation strategies to reach an interim agreement. During the iterative process of analysis, we referred to the literature for guidance. As our model emerged, we consistently ensured alignment among the data, theory, and model (Klein and Myers 1999) until the model was finalized (in Figure 1). The rule of triangulation (Dubé and Paré 2003) was applied to ensure the convergence of multiple interpretations by interviewees; in particular, multiple data sources were used to filter the “false preconceptions” (Klein and Myers 1999).

Case Analysis

Yihaodian is an online business-to-consumer (B2C) e-commerce firm that sells groceries. It is the largest food e-commerce retailer in China, with 5000 staff and an annual sales of RMB 11.5 billion (USD 1.8 billion). The company was founded by two former executives at Dell in 2008, the period when China’s e-commerce went through a strong growth. Then, China’s market was dominated by the consumer-to-consumer (C2C) business model made successful by Alibaba’s Taobao platform. At the same time, the B2C market was shared by large and overseas companies, including JD.com, Amazon, and Dangdang, among others. Despite the competitive landscape, Yihaodian has successfully carved a niche for itself by specializing in the food and groceries business along coastal areas. In 2011, it won the first place in the Deloitte Technology Fast 500 Asia Pacific and achieved a remarkable growth rate of 19.2188%. On the other hand, Suning was founded in 1990. It is the largest electrical retailer in China that sells household appliances and electronic products. In 2010, 20 years after its inception, Suning embarked on its online strategy, amid intense competition from both the new e-commerce entrants such as Alibaba and JD.com and its long-time rivals like Gome, an electrical appliance retailer that has also adopted e-commerce. Back then, Suning was already operating an established chain of 1340 stores in over 700 cities in Mainland China, Hong Kong, and Japan, with an annual sales of RMB 75.5 billion (USD 11.5 billion). With its e-commerce channel, Suning’s product range was expanded to books, household commodities, cosmetics, and baby care products. Table 1 summarizes differences among Yihaodian and Suning.

Both Yihaodian and Suning face a fast-changing and uncertain Chinese e-commerce market in the pursuit of opportunities. Large e-commerce players (e.g., Alibaba and JD.com) have been dominating the market. For instance, Alibaba has been a dominant player in China’s e-commerce for more than 10 years; even Amazon opened a store on Alibaba’s B2C platform in 2015. Similar product offerings on these online marketplaces has also undermined the unique advantage of others. Alibaba, for instance, offers everything, from electronic goods to fresh food, on its B2C web, Tmall. Besides, the competitive landscape continued to be shaped by the online players who are committed to business model experimentation given the opportunities enabled by technology: Alibaba and JD.com are both offering financial services and logistic platforms. In order to strive or simply survive in business, Yihaodian and Suning have been pursuing digital opportunities to create future goods and services: both have pursued an omni-channel model by converging the capabilities of digital and physical channels. Yihaodian has moved from a product-based to a platform-based model by restructuring the organization, and Suning has attempted to synchronize its product offerings, prices, sales, services, and payment mechanism through what it coins as an Online-to-Offline (O2O) model. Against this backdrop, Yihaodian and Suning are going beyond the resources that they currently control: Yihaodian is much smaller compared to Alibaba, with only one fourth of the number of Alibaba’s users, and Suning has limited IT capabilities as a traditional offline retailer. The two organizations are similar in terms of their demonstration of digital entrepreneurship principles, yet different as born (Yihaodian) and grown (Suning) digital organizations (refer to Table 1).

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Preliminary Findings

Figure 1 summarizes our preliminary findings. Using the four entrepreneurial actions from effectuation theory, we compare the digital entrepreneurial actions of Yihaodian and Suning. We further conceptualize the effectuating mechanisms of the born digital and grown digital firms. In the process, the study also reveals that effectuation occurs through the interaction of digital option exploration and digital opportunity exploitation. This, however, is the result from our preliminary analysis and will be further explored in subsequent stages of the study. Based on our analysis, the born digital and grown digital firms demonstrate different mechanisms in effectuating digital entrepreneurship. Due to the inscribed alertness of technological change, as well as the inherent digitally driven competitive advantage, a born digital firm like Yihaodian continually explores digital options in order to survive in a highly competitive environment. One of the key effects of this approach is the speed in actualizing the potential of a technology. Hence, we conceptualize the digital entrepreneurial mechanism of Yihaodian as a potential-instantiation effectuation mechanism. On the other hand, a grown digital firm like Suning faces conflicting challenges to its established structures and procedures in the face of similar opportunities (Tumbas et al. 2015). Nonetheless, entrepreneurial firms would leverage technologies instead of succumbing to constraints. In this case, Suning effectuates its digital entrepreneurship through tension-reconciliation. The following figure briefly explains the two mechanisms.

Potential-instantiation Effectuating In a born digital firm, the entrepreneurial alertness to digital options is high. As opposed to setting long-range goals, digital entrepreneurs emphasize a continuous exploration of the novelty of and the potential embedded in the new technology. Firms look forward to new technology so that they can build on the new possibilities afforded. As the Senior Strategy Manager of Yihaodian said, “We are not afraid of making a wrong decision, but of making one too late. We can always adjust after we have attempted something new” (forward generativity). At the same time, an important guide in these attempts is how a firm can differentiate itself from the competitors in leveraging digital options. This allows a quick evaluation of the digital options. For instance, while setting up the China specialty product page in Yihaodian, Mr Gao, the project lead, has emphasized the need to benchmark against Alibaba (external position differentiation). In order to encourage new ventures and yet take affordable loss into account (Fisher 2012), born digital firms like Yihaodian allow for quick trials for the generation of options value. “When we were exploring the O2O, we spent 30 days to get the system up, including process design, system implementation, and warehouse planning,” said a Project Manager of Yihaodian (temporal allowance). In the process of opportunity exploitation, Yihaodian also shows how they embrace the contingencies. They are not discouraged when they are not able to be the first mover. Instead, they turn such situations into advantages. “We can always emulate what Taobao has already
established [about the platform]. We can save the twist and turn that they have gone through and learn from the best. We refine it further,” said Yihaodian’s platform manager (resource emulation).

**Tension-reconciliation Effectuating** In comparison, a grown digital firm is ingrained in established structures and developed practices, which makes the exploration of digital options difficult (Tumbas et al. 2015). While the firm may acknowledge the potential of technology, it has limited IT capabilities in capitalizing on digital options. More importantly, the firm has to alleviate the challenge that new technology imposes on its existing organization. As exemplified by the Chairman of Suning, “Through the O2O model, we manage to find a way. We did not just close down the physical stores like the Internet companies and commentators advocate; neither did we hold on to the same old model” (past-future tension). An important guide in this process involves exploring internal tensions, as opposed to comparing themselves with external competitors like what Yihaodian does. As described by the Chairman and HR manager, “While we embrace the changes, we need to maintain our core values and key capability” (internal tensions exploration). This eventually led to the integration of the newly acquired digital capabilities with the existing strong base in physical infrastructure that can enhance the customer shopping experience and strengthen its logistical services. In accounting for the loss that they might incur, firms can adopt a structural separation strategy. In Suning, an e-commerce unit was established as an independent unit so that it is free from the structural constraints of the firm, and any negative implications can be minimized to a single unit. According to the Senior Vice President, “E-commerce is not like an ERP. When we implement ERP, it is about the synchronization and integration. However, if something occurs in an online purchase due to a problem of internal integration, we will have to allow the purchase to go through because any seconds of wait can cause loss of customer. In the past, the finance department will not let this go (structural separation)”. In the process of opportunity exploitation, a grown digital firm needs to focus on the resources that they have on hand, apart from acquiring digital capabilities (Baker and Nelson 2005; Sarasvathy 2001). Despite the influence and pressure, Suning has shown how it “refuses to enact the resource limitation dictated by the environment” (Fisher 2012). They redefine the value of its resources. According to the Vice President, “Physical store is our core advantage. As opposed to the pure online players who wanted to get rid of offline stores, we should “revitalize” it... With mobile network, the limitation of the physical stores can now be overcome (resource redefinition)”.

**Potential Contributions and Limitations**

Data analysis is still ongoing and the findings will be extended. Albeit preliminary, our empirical study suggests a few potential contributions. First, by examining digital entrepreneurship, this study sheds light on an emerging and significant phenomenon of digitally enabled startups and organizational rejuvenation, which has garnered heightened attention from various countries and academics (Arend et al. 2015; Shen et al. 2015). Second, by comparing born digital and grown digital e-commerce firms, we hope to extend the existing understanding of digital entrepreneurship, which is largely grounded on the formation of new firms, to include the transformation of an existing business driven by digital technology (Fang et al. 2016; Tumbas et al. 2015). Third, by adopting the theoretical lens of effectuation, our findings unveil an in-depth understanding of the digital entrepreneurial process, thus shifting the predominant focus on human agency away from the center stage of entrepreneurship studies (Zhu and Lin 2015). In addition, by theorizing the effectuation process, our study can potentially contribute to the theoretical status of effectuation that is dominated by variance theory (Gupta et al. 2016). Lastly, by taking into consideration the contextual elements of the digital environment—including the dynamic and emergent aspects (Su 2013), and specifically the temporal frequency element in born digital firms and the tensions in grown digital firms—our proposed framework contextualizes the entrepreneurship processes in order to provide digital firms with a fine-grained and more specific guidelines.

The findings of this study should also be viewed within the context of its limitations. First, statistical generalization is impossible with only two case studies. The purpose of this study is not to establish the validity or statistically test the generalizability of a particular finding. Second, as we aim to achieve analytical generalizability, we need to cautiously guard against generalizing the results to any digital firms as the opportunities and threats posed by the digital environment can vary according to the sector. For instance, because they are subject to more stringent regulatory compliance, the digital opportunities for highly regulated industries such as finance and healthcare can be different from those found in the e-commerce industry.
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