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Applying Organizational Ambidexterity in strategic management under a “VUCA” environment: Evidence from high tech companies in China

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ABSTRACT

High tech organizations confront dual demands of exploration and exploitation, particularly in today's competitive environment marked by a trend of volatility, uncertainty, complexity, and ambiguity. Although there is general consensus about the relationship between ambidexterity and firm performance, few studies have probed into the mechanism of how it is applied in the strategic management process. Considering the premise of environmental change, this research considers a multilevel perspective on the nature of organizational ambidexterity and its functioning in the whole strategic management process. Through a comparative case study of the two most famous high tech companies in China, a model is provided to reflect the functioning of organizational ambidexterity where a cognitive pattern of top management teams plays a critical role in the ability that the organizations demonstrate. This research also contributes to the literature of entrepreneurship by extending innovation from a demand-side perspective, where the core of product/market exploration/exploitation activities could be expanded into customer value creation. Undertaking a careful analysis of the mechanism of organizational ambidexterity, this research sheds new light on the literature of strategic management that operates in a more turbulent environment.

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1. Introduction

With the global environment becoming more dynamic, firms are faced with discontinuity and rapid changes caused by technological development, disruptive innovations, intense global competition, alterations in governmental regulations, and shifts in industry structures (Beer, Voelpel, Leibold, & Tekie, 2005; Crossan, Vera, & Nanjad, 2008), which makes strategic activities a bedeviling challenge for managers. In a world where volatility, uncertainty, complexity, and ambiguity (VUCA) has become the “new normal,” the faith for a definite strategic plan is fading away, and adapting to changes constitutes a major strategic challenge faced by organizations. Defined as simultaneous actions undertaken by firms to address two heterogeneous situations simultaneously, to explore and exploit (Adler et al., 2009; Cho & Pucik, 2005), organizational ambidexterity has been considered particularly relevant in conditions of environmental volatility and uncertainty as it helps firms maintain

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strategic agility by being both aligned to the existing environment and adaptive to possible turbulence (Heracleous, Papachroni, Andriopoulos, & GotsiStructural, 2017). Thus, it is viewed as a key ingredient for an organization's success (Lavie, Stettner, & Tushman, 2010; Stadler, Rajwani, & Karaba, 2014). Failure to manage these tensions can result in a success trap (too much exploitation at the expense of exploration) or a failure trap (too much exploration at the expense of exploitation) (Levinthal & March 1993), which are both fatal to firm growth. The fall of Nokia and Motorola has been viewed with such dilemma that their inability to simultaneously explore and exploit, to develop products for both the current and future, resulted in the decline of the organizations.

For high technology (tech) companies which are particularly noticeable to compete in such VUCA environments, the need to manage this tension is more urgent than ever (Chandrasekaran, Linderman, & Schroeder, 2012). Although there is general consensus about the relationship between ambidexterity and performance (Derbyshire, 2014; Govindarajan & Trimble, 2005; Kitapçı & Çelik, 2013), few studies have been undertaken from the perspective of the nature of ambidexterity, or the mechanism of how it is applied in the strategic management process, let alone the fragmented units of analysis, which Raisch, Birkinshaw, Probst, and Tushman (2009) has identified as a piece-meal approach that is applied in different organizational levels.

Our paper attempts to integrate both the operational level and organizational level of ambidexterity, while considering the background of a VUCA environment. Through a comparative case study of two Chinese high tech icons, it is observed that ambidexterity is not only a result of the dynamic ability responding to changes (Jansen, Tempelaar, van den Bosch, & Volberda, 2009; O'Reilly & Tushman, 2011, 2008), but also the interaction of the elements with special focus on the cognitive models from top management teams. We propose that the routines and processes from the experiential learning of organizations are promoted by the cognitive pattern of decision-makers from the top. Thus, the nature of organizational ambidexterity is revealed and the mechanism of how organizational ambidexterity takes effect is also discussed. Considering the need for balancing conflicts and dealing with complexity is urgent than ever in a VUCA environment, particularly considering the background of the transformation and upgrading period of the Chinese economy. We expect to shed light on the new thinking and development trends in strategic management. We are also interested in how the traditional Chinese culture, such as the "moderation" or the "harmonious thought," has influenced the strategic management process that is unique to Chinese high tech companies.

2. Theoretical background

2.1. From the competitive positioning view to the demand-side perspective

The subject area of strategic management has enjoyed rapid development and provided fruitful results since half a century. One of the fundamental questions in the field is how firms achieve and sustain competitive advantage (Rumelt, Schendel, & Teece, 1994; Teece, Pisano, & Shuen, 1997). From the competitive positioning view associated particularly with the works of Porter (1980, 1985), to the resource based view (RBV) associated with writers such as Wernerfelt (1984) and Barney (1991), or even the dynamic ability advocated by Teece et al. (1997), there is a shift of research perspective from "outside in" to "inside out." While Porter (1980, 1985) has focused on the external impacts on enterprises, strategy is the reflection of ways to make use of such forces. In addition, the RBV perceives firms as unique bundles of resources and capabilities (Grant, 1996; Loane & Bell, 2006); competitiveness is achieved and sustained with the leverage of such resources. Teece et al. (1997) has defined dynamic capabilities as "the firm's ability to integrate, build, and reconfigure internal and external competencies to rapidly address the changing environments." It is the fit or the interaction of both the internal and external resources, thus with a shift of emphasis on both the internal resources and external markets.

The evolutionary path of theoretical development is merely the reflection of environmental change on decision-making in the strategic management process. While in the past, alignment between a firm's strategy and external environment was easier to achieve due to comparatively stable market conditions, the classical approach of strategy followed a clear route of planning, executing, and controlling. As the VUCA forces intensify, change is possible but not a given, in which the ongoing situation has many interconnected parts and variables, where even the unexpected and unstable may be of unknown durations. Under such circumstances, we are faced with completely "unknown unknowns" (Bennett & Lemoine, 2014). As a result, there is a shift of orientation in strategic management scholarship, highlighting the external environment or the demand-side again (Priem, 2007).

The demand-side research focuses on the downstream from the focal firm toward product markets and consumers, to explain and predict those managerial decisions that increase value creation within a value system (Priem, Butler, & Li, 2013). By evaluating how heterogeneity among a firm's immediate customers can affect the viability of various strategic responses to radical technology change (Adner & Snow, 2010a, 2010b), or by showing how consumers' preference functions can be useful in guiding strategies, the research perspective of strategic management has been repositioned to "outside in" again. Rather than the more common RBV emphasis on resource markets and value capture, demand-side research emphasizes on the product markets as key sources of value-creation strategies for firms. In a VUCA world marked by crossover innovation and multi-dimensional market space, the demand-side work could generate new knowledge useful to scholars and managers.

2.2. Organizational ambidexterity

The phenomenon of ambidexterity has been an object of intense research focus for the past 15 years, producing rich explanations on how companies cope with two contradictory situations simultaneously. For example, stability and change, creativity and efficiency, and exploitation and exploration (Gibson & Birkinshaw, 2004; He & Wong, 2004; O'Reilly & Tushman, 2008). As an extension of ambidexterity in strategic management research, organizational ambidexterity also reflects the tension or conflict of strategic endeavors of firms faced with constrained resources, such as the ability to pursue exploitative and explorative innovation strategies (He & Wong, 2004). It allows firms to exploit the existing capabilities, while simultaneously not neglecting the effort undertaken in developing new capabilities (Lubatkin, Simsek, & LingVeiga, 2006). As a special type of dynamic ability in nature (Jansen et al., 2009; O'Reilly & Tushman, 2011, 2008), it is inextricably connected with the transformation and change of enterprises.

Ambidexterity can be applied by organizations into a typology of three groups: sequential, simultaneous or structural, and contextual ambidexterity (Raisch et al., 2009; Simsek, Heavey, Veiga, & Souder, 2009). Sequential ambidexterity implies that an organization focuses on one of the competing objectives after another; structural or simultaneous ambidexterity implies that an organization allocates different tasks to different sub-units of the organization; and the contextual type of ambidexterity is defined as a situation where each member of the organization can switch between the competing tasks of exploitation and exploration as the demand or opportunity arises. The different types of ambidexterity actually reflect the different research perspectives of the current streams, such as ambidexterity and punctuated equilibrium (Gupta, Smith, & Shalley, 2006). Punctuated equilibrium argues that organizations mitigate these tensions by temporarily separating these activities (Adler et al., 2009; Victor, Boynton, & Stephens-Jahng, 2000). In other words, exploration follows exploitation or vice versa. In contrast, the ambidexterity literature argues that organizations can undertake both these activities simultaneously (Jansen et al., 2009; O'Reilly & Tushman, 2004). Recently, however, a paradoxical view was applied to inspire the idea of "leadership ambidexterity" (Raisch & Birkinshaw, 2008). Paradox refers to the "contradictory yet interrelated elements that exist simultaneously and persist overtime" (Smith & Lewis, 2011). This approach encourages managers to embrace or "live with" paradox, and find a means of accepting them simultaneously. Thus, it is connected to the cognitive pattern or the decision-making style of top management teams.

2.3. Organizational ambidexterity and firm success

There is consensus that ambidexterity is not easy to achieve due to the requirements of different organizational architectures and processes (Smith & Tushman, 2005), and different organizational learning models (Argyris & Schön, 1978; Benner & Tushman, 2003), which leads to tensions and trade-offs in organizations (March 1991). Hence, there is a need by the top management to balance the resource allocation between exploitation and exploration (Birkinshaw & Gupta, 2013; O'Reilly & Tushman, 2013). In addition, it is more likely to occur under conditions of environmental dynamism, which means that when the firm's environment is more dynamic, higher is the likelihood of ambidexterity (e.g., Lee, Lee, & Lee, 2003; O'Reilly & Tushman, 2008; Raisch, 2006).

Considering the challenges in managing ambidexterity, studies have suggested that organizational ambidexterity is associated with longer survival (Cottrell & Nault, 2004), better financial performance (Derbyshire, 2014; Govindarajan & Trimble, 2005; Kitapçı & Çelik, 2013), and improved learning and innovation (Eriksson, 2013; Holmqvist, 2004). Thus, although ambidexterity is a difficult managerial challenge, when executed in the appropriate strategic contexts, these complex designs are associated with sustained competitive advantages.

It is our expectation that organizational ambidexterity is indispensable for the survival and long-term development of companies competing in a VUCA environment. Although several studies have identified marketing orientations as the antecedents of ambidexterity (Alpkan, Şanal, & Ayden, 2012; Herhausen, 2016), the determinants and consequences of ambidexterity, particularly the mechanism of the interrelated elements, are not fully probed into. Considering the premise that various modes of ambidexterity could be combined, it is suggested that contextual ambidexterity must co-exist with either sequential or structural ambidexterity (Kauppila, 2010; O'Reilly & Tushman, 2008). However, for high tech organizations, ambidexterity literature with a "both-and" point of view becomes more relevant as these organizations cannot temporally separate exploration and exploitation to remain competitive (Chandrasekaran et al., 2012), which is characterized by an "either-or" perspective. Thus, structural ambidexterity and contextual ambidexterity are observed and analyzed in this paper. Furthermore, we expect to pay special attention to the cognitive aspect of top management teams, in a way that environmental conditions can prompt changes in "interpretive schemes" or cognitive models of the world that may lead to organizational restructuring, which is indispensable in the strategic management process (Barr, Stimpert, & Huff, 1992; Huff & Schwenk, 1990). Thus, a theoretical model is proposed for generating more inspiring ideas.

3. Methodology and data

The research was based on a qualitative, dual-case study. The "how-nature" of the research question combined with the focus on contemporary events in strategic management suggests that a case study approach is appropriate (Yin, 1994). As we expect to elicit some new trends and probabilities within the real-life context of the managerial practice, this methodology is recommended as it refers to the current issues and situations where the researcher only observes the facts, attempts to

understand them, and systematize them. Moreover, our attention to the process conditions of a longitudinal approach allows us to follow the dynamics of multiple interactions of organizational ambidexterity. A longitudinal case study has been argued to fit a process research as it creates the opportunity to follow how changes unfold in organizations over time. As a result, we use two longitudinal case studies of Chinese Internet companies to reveal the nature of some new trends and probabilities under a “VUCA” environment.

3.1. Case selection

In order to reveal the nature of organizational ambidexterity and its application in the strategic management process, this paper set a target on the Internet industry in China, which went through the fluctuating period of rising, spuming, recession, recovery, and prosperity in the past 20 years. The ebb and flow of the Internet industry in China was a vivid reflection of the VUCA environment, which also provides an exciting and refreshing research context and offers large opportunities for theory construction. Two high tech giants are chosen as our research objects, namely, Tencent and Alibaba. According to the latest edition of the Annual Internet Trends Report provided by Kleiner, Perkins, Caufield, and Byers, 21 years after the inaugural “The Internet Report” was first published in 1995, 7 Chinese Internet companies were among the top 20 Internet companies globally, among which Tencent and Alibaba topped the Chinese ranking list.

We choose Alibaba and Tencent as the research objects due to the following reasons. First, as the most valuable and promising companies in China, Alibaba and Tencent have witnessed the whole evolutionary process of the Chinese Internet industry, which provides the opportunity to chronically investigate the rules of their growth. Second, embarking on a different route of development, Alibaba and Tencent have successfully overcome the recession of large enterprises and they continuously rejuvenate themselves in the changing environment which is a contrast for eliciting some general rules. Finally, being the most successful business icons in China, the two companies have attracted tremendous media attention, and have generated ample information and media reports for case analysis. The main profiles of Alibaba and Tencent are provided in [Table 1](#).

3.2. Data collection

In order to reflect the strategic management process of the two companies, data and events are listed in chronological order to generate integral developing processes or stories of the research objects ([Eisenhardt, 1989](#); [Yin, 2003](#)). The main sources we rely on are the archives data that is available to the public. The corporate events as well as newspaper reports were collected between the year 1998 and 2016, which originated from popular Chinese database, such as China National Knowledge Infrastructure, China Stock Market and Accounting Research Database, and foreign media reports, such as The Wall Street Journal, Times, and The Guardian. All the information was classified according to the years that the key events occurred in to obtain the longitudinal development of the two companies.

As discussed further, the difference between contextual and structural ambidexterity, and the roles in managing the tensions between exploitation and exploration, books in biography categories vividly describe some daily interactions and common practices of the two companies, which are all used for analysis. Finally, speeches and interviews of top management teams, particularly their personal micro-blogs, were analyzed to extract the cognitive pattern of their manifestation in leadership ambidexterity. Other background information were also collected to show the development of the Internet industry, including the annual industry report from China Internet Network Information Center (CNNIC) and other reports from third-party data service providers. The main sources and content of the information collected are listed as follows ([Table 2](#)).

Table 1
Main profile of Alibaba and Tencent.

Name	Alibaba	Tencent
Founded (year)	1999	1998
Founder	Jack Ma (MaYu)	Pony Ma (Ma Huateng)
IPO date	Listed in Hong Kong in 2007. Listed on NYSE in 2014.	Listed in Hong Kong in 200.
Main business	E-commerce	Social network
Business scope	Logistics, finance, big data, cloud computing, advertising, and entertainment	Technical design, computer network services, information service, advertising, and online games
Market share	\$14.67 billion, with year-on-year growth of 33%	\$21.9 billion, with year-on-year growth of 48%

Table 2
Main sources and content of the data.

Names	Content	Sources
Strategic endeavors	Roadmaps of the two companies, major strategic intentions	Newspaper reports, books, and Internal mails
Ambidexterity behavior	Display of contextual, structural, and leadership ambidexterity	Newspaper reports, books, official/personal micro-blogs, and Internal mails
Background information	Industry information and environmental characteristics	Industry report from CNNIC and Iresearch INC

4. Data analysis

4.1. Roadmaps of Alibaba and Tencent

Founded in 1999 by Jack Ma, Alibaba is China's largest E-commerce service provider that operates the world's largest online marketplace for both international and domestic trade. From business-to-business (B2B) to consumer-to-consumer (C2C) and then business-to-consumer (B2C), Alibaba has now built a complete ecosystem. In the past 20 years, suffering from the Internet bubble, SARS crisis, Southeast-Asian financial crisis, and other major environmental changes, Alibaba has successfully integrated and upgraded itself to meet the challenges of the dynamic environment, and to stay away from the recession and decay that is destined for large enterprises. Currently, it is the largest seller of online goods in China, as well as the largest payment processor and cloud storage business. On the fine morning of Sep 19, 2015, Alibaba made its market debut in a \$22 billion public offering on NYSE, making it bigger than its closest American analogue, Amazon, and one of the biggest initial public offerings (IPOs) of all time. Along with the gross domestic product growth and rise of the emerging middle class consumers in China, Alibaba tapped into various industries and developed into a giant Chinese conglomerate. The roadmap of Alibaba is depicted in Fig. 1.

Tencent has also witnessed the development of the Internet industry in China. Founded in 1998, Tencent is one of China's biggest Internet service provider, and has the largest number of customers that are Internet companies in China. It enjoys wide and comprehensive lines of online products and services, including media, entertainment, payment systems, and Internet and mobile phone value-added services, while it also operates online advertising services both in China and overseas. Guided by the corporate mission of "being the most respected Internet company in China," Tencent is gradually extending its business territory. Currently, being the largest Internet company in China, it is also the largest gaming company in the world and includes many services such as social networks, web portals, E-commerce, mobile games, and multiplayer online games. Its offerings in China include the well-known instant messenger Tencent QQ and one of the largest web portals, QQ.com. The mobile chat service "WeChat" has helped Tencent to bolster its continued expansion into smartphone services. The roadmap of Tencent is listed in Fig. 2.

4.2. Display of organizational ambidexterity

Alibaba has embarked toward ambidexterity ever since its establishment. It has never stopped splitting and integrating on its way toward development. Due to the perfect execution of its strategic plan by its top management teams, organizational ambidexterity was obviously laid inside the group throughout the different stages of the firm's growth. The key businesses of Alibaba were scheduled and settled at least 3–5 years ahead of the industry development, and were supported and equipped with sufficient corporate resources. Even considering the period of wild development of its B2B business, Jack Ma has already pictured a plan for future growth for the next 10 years of the group. Similar to what he stated in the year 2005, during the early stages of its first IPO reparation, "the big brother Alibaba is just a 'bolar man,' doing whatever he can to support the other members in the family, in which Tabao was a lively girl who got beautiful dresses from her brother's money, while Alipay was only at primary school, but with courage and aspiration to stand out with the help of the big brother." Until now, the successful spilt of Tabao and Alipay has laid the foundation of the overall infrastructure of the group, strengthening the absolute advantages in E-commerce and banking, respectively. Jack Ma also announced the establishment of Ali Cloud on the 10th

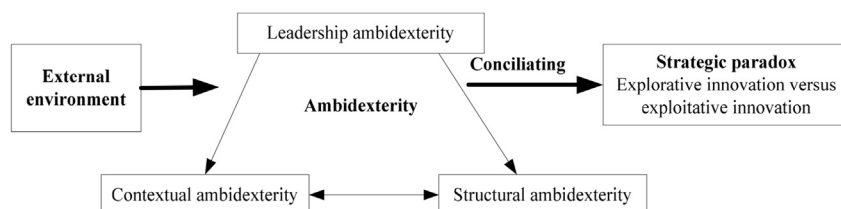


Fig. 1. Theoretical framework.

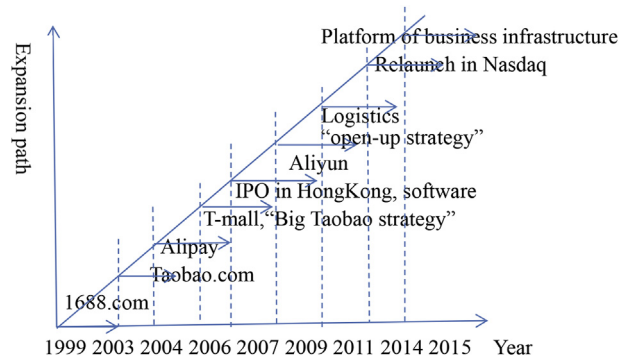


Fig. 2. Roadmap of Alibaba.

anniversary celebration of the group in 2009. During the first few years of its establishment, no one exactly knew what the company was doing, except its own president Wang Jian. However, large amounts of money were being invested annually as a priority among the group. Alibaba has also set up the position of a Chief Data Officer in its top management team in 2012 to promote the transformation of a data sharing platform of the group, which is expected to pay off to make profit and pave the way for future development of the group. Not only did innovative endeavors help in building up its own logistics system called Cainiao, Alibaba has also tapped into various industries, such as films, music, tourism, and retail among others, to spread a strategic ecosystem based on E-commerce. This is in line with what Jack Ma said in 2015, "Alibaba is no longer an E-commerce company in the narrow sense. What we are working on is the establishment of a platform of business infrastructure which is open, transparent, and also collaborative. Half of the workers of Alibaba will deal with new businesses, such as logistics, Internet finance, big data and cloud computing, advertising platform, and even health and digital entertainment in the next 10 years, as we call it the "double H" industry, which refers to health and happiness."

While structural ambidexterity is achieved along the way of its development due to the vision and assertiveness of the top management teams, contextual ambidexterity is also treasured and encouraged at the operational level of the company. To deal with the small traders in various industries, and to solve all sorts of strange and odd questions from customers of traditional industries, execution and efficiency, with care and hardwork are the golden rules of survival. This is the reason why Alibaba has been described as "the wolf culture" by the public. Innovations at the grassroots-level were encouraged and initiated to improve consumer experience, and thus to survive competition in the initial stage of its business development. Alipay was merely an achievement which was the result of the interaction with customers. To facilitate the experience of online shopping and solve the problem of guarantee and credit that puzzled C2C development in China, Alipay rushed out and gradually grew into the most central node that connected the whole ecology of the Alibaba group. Another example was the birth of an instant message called Wangwang. Derived from the front-line practices, it was developed with the purpose of better connecting buyers and sellers, and thus facilitating the shopping process. At one time, Alibaba was depicted as a combination of Amazon and eBay, but it has gone further beyond. Centered on consumer demands, Alibaba has rejuvenated itself into a large empire, promoting the integration of a whole ecosystem, and also featured by a network organization where innovations are undertaken anywhere in the ecosystem. The evolutionary journey, coupled with the split and integration of the group, was merely a trial and error process derived from the entrepreneurial practices, where contextual ambidexterity served as an important impetus.

In comparison to its competitors, Tencent has embarked on a rather different road of development. It is not owing to the prudent strategic design of the top management teams, but the bottom-up innovations that pushes Tencent forward. Featured with a strong sense of engineering culture, the spirit of multiple iteration and continuous improvement is deeply rooted in its genes. In the first few years, Tencent was severely criticized for imitating and copying from its competitors. The innovation that it was involved in was like building blocks from the existing technology and skills, but with minor and continuous improvement to better fulfill the users need. It is the successful application of this micro-innovation strategy that delivered some star products of Tencent, such as QQ and Wechat, which gradually established a clear lead over its competitors. The essence of the strategy is to focus on user experience and hence respond rapidly to quickly marketize and popularize new technologies which are preferred by users. It is carried out largely by the spontaneous innovation of its employees, where structural ambidexterity manifested itself in a competing manner. The divisions that survived in internal competition were provided more resources and entitled with priorities of development. Although resulting in some imperfect products and sometimes resource redundancy, Tencent never cut-off the imaginations and inspirations of its employees. Much of its promising products such as QQ Show and online games are not strategic designs from the top management, or even the proposals of product managers, but are the inspirations of the first-line staff members.

The strategic design of Tencent appears casual and absent. Similar to what its Chief Executive Officer (CEO) Pony Ma once said, "As long as you satisfy the requirements of users, the business model will manifest itself in a profitable way. Unlike other Internet companies, Tencent has been slow, off the mark in making money, but it is required that every Tencent guy would have a strong sense of crisis, which is deeply rooted in its corporate culture." The bottom-up innovations have gained their

Table 3

Ambidextrous behavior of the two cases.

Company Name	Dimension/ Typology	Organizational Ambidexterity
Alibaba	Exploitative innovation	Existing customers/markets; refinement, production, efficiency, execution, “the wolf culture”; market/operational oriented
	Explorative innovation	Improve the consumer experience; tapped into various industries; variation, experimentation, flexibility, trial and error; platform strategy
	Structural ambidexterity	Strategic design; spilt and integration; set up new department/position; sense of crisis; schedule ahead of; support the other department; On one hand ... on the other
	Contextual ambidexterity	Grassroots innovations; encouraged and initiated; network organization; trial and error process; central node that connect with; innovations are undertaken anywhere
Tencent	Leadership ambidexterity	Traditional ancient Chinese culture; Tai Chi; not only ... but also; an array of visual symbols; vision and assertiveness of the TMT
	Exploitative innovation	Imitation and copy; blocks building skills; minor and continuous improvement; strong cashability at present; response of speed
	Explorative innovation	Focus on user experience; popularize new technologies; micro-innovation strategy; product development; platform strategy
	Structural ambidexterity	Different competing divisions; entitled with priorities of development; resource redundant; cut-off weak departments
	Contextual ambidexterity	Engineering culture; bottom-up innovations; spontaneous innovation in a competing way; advocate of appropriate waste
	Leadership ambidexterity	Casual and absent; a strong sense of crisis; control from top-down; deliberate control of TMT; delicate design of systems and culture; anxious for future; not only ... but also

competitive edge, while simultaneously generating resource wastes and wild innovation to some extent. It calls for the urgent need of control from the top-down. The success of Wechat with QQ is an example of a bottom-up innovation, but with the support of the top management team and company resources, it stands out to create a fabulous business miracle. The burst of Wechat paved the way for the development of Tencent from personal computers to the mobile Internet age, but also taught the team a good lesson, the separation of its organizational structure that delayed the opportunity for change which calls for more synergy and collaboration from the management teams. Ever since, Tencent has made significant change to its organization structure and operational businesses. It cut-off some weak departments, such as search, E-commerce, and other minor businesses to trust its partners, focusing only on two things: connector and content. Since 2014, Tencent has concentrated on its own advantages that make the best use of them. Considering the future, Tencent has identified itself to be a technology company with significant emphasis on new technical trend, such as artificial intelligence, to meet the ever-changing environment. To summarize, based on the micro-innovation strategy, Tencent has demonstrated its strong ability in product development, but this bottom-up innovation is enhanced by deliberate control of its management teams. It is the balance of tension that pushes the company forward, or in other words, the combination of contextual ambidexterity and structural ambidexterity that makes it successful.

Alibaba and Tencent have embarked on two different roads of development. While strategic planning is adopted by Alibaba, the organization also enjoys freedom of innovation from every point of its ecosystem. Tencent is famous for its grassroots-level innovation, which also benefits from the balance and control of management teams. From the two cases, we know that contextual ambidexterity and structural ambidexterity are both indispensable for the growth of enterprises. While structural ambidexterity is often pushed forward from the top with emphasis on the separation of the conflicting tasks in the form of sub-units, contextual ambidexterity is carried out at the functional level as a result of the delicate design of processes and cultures that foster innovation. The two types of ambidexterity are facilitated by or generated from the leadership of its top management teams with a more integrated strategic intent to conciliate the competing parties. The nature of it lays in the cognitive ability or cognitive pattern of the top managements that accept conflict and paradox, try to deal with them, and make the best use of them, which is a type of cognitive ambidexterity in nature (Neck, 2001; Sadler-Smith, 2009). For example, the culture of Alibaba is characterized by the traditional ancient Chinese culture Tai Chi, which advocates paradox and conflict. As its CEO Zhang Yong stated, “Alibaba is a company with great imagination, but also a company down to earth. It is a company based on traditional Chinese values, but also draws on the experience of modern western management and technology, which are all deeply rooted in the management philosophy of Alibaba.” In the western eyes, Jack, Ma, who is not well-known outside finance and tech circles, is a wonderfully quirky chief executive. According to The Guardian, Ma “used a dizzying array of visual symbols to describe his management philosophy, including fish in a pond and gold bars falling from the sky.” As Ma stated, his thought combines precepts from Taoism, Buddhism, Confucianism, and Tai Chi. Strategically, Alibaba is a company that works for now, invests for tomorrow, and incubates for the future. This is similar in Tencent. It has been advocated several times by the top management teams that appropriate waste is indispensable in generating creative ideas, which is also rooted in its corporate culture. Unlike Jack’s gregarious and eloquent style, Pony is a moderate and prudent guy, who brings up the gentle and restrained engineering culture of Tencent. However, they are totally different companies considering their markets and customers. The core of the spirit that Tencent advocates is the response of speed. In Tencent, if your creative ideas are applicable through market tests, the company will support you with all related resources to ensure the success. It is the atmosphere of spontaneous innovation and the call for operational efficiency that has brought Tencent to its

current position, or made the micro-innovation strategy a striking success. Thus, the seemingly uncontrolled innovation from the bottom-up has been conciliated by the delicate design of systems and culture that carries out the strategic intent from the top. While demonstrating strong cashability in online games at present, particularly with a sharp rise of profits growth at 48% in 2016, Tony Ma has reemphasized the position of the technology company of Tencent. As he stated, “We are always anxious for the future, only the ones who keep up with the most advanced technology will enjoy its privilege in strategic activities.” As a result, hypothesis 1 is generated.

H1. Organizational ambidexterity is achieved through structural ambidexterity and contextual ambidexterity with leadership ambidexterity as its root, which results in both exploitative and explorative innovations in organizations.

The ambidextrous behaviors of the two cases are shown below (Table 3).

4.3. Mechanism of organizational ambidexterity

Considering the two cases, it is also observed that successful innovations can be consumer driven rather than resource or technology driven, and consumer knowledge can play a key role in entrepreneurial idea discovery or strategic management activities. Addressing not only consumer needs and market orientation, creative ways of meeting such needs could shed new light on organizational ambidexterity in exploitative and explorative innovations. In Alibaba and Tencent, innovation is not only observed in the use of new technology or the performance enhancements of products, which is generally defined in product exploration or exploitation, the upgrade of customer experience could also generate a new source of explorative innovation. For example, most of the new products of Tencent (e.g., QQ, Wechat) are by no means new in technology, or in other words, blocks building activity in nature. However, it has satisfied the customer need or enhanced customer experience in a more productive manner or in a more convenient manner, which has resulted in more customer value creation. Another example is the crossover innovation of Alibaba. The birth of Alipay is by no means a new product. It merely expands and changes the usage scenario, which makes the online shopping more convenient, thus obtaining new customers in a profitable manner. It extends the definition of market innovation with market exploration and market exploitation, but with customer value creation as a main source of advantage. Hence, hypothesis 2 is generated.

H2. With a focus on market orientation and customer value creation, exploitative innovation and explorative innovation could be interconnected where incremental innovation could result in an indisruptive innovation. When we look back at the developing process of Alibaba and Tencent, being different as they were, they look increasingly alike in a mobile Internet era. First, they both emphasize on exploitation and exploration in a structured manner, with careful strategic planning and resources disposition. Following the traditional way of strategic planning, executing, and controlling, the competitiveness of incumbents are maintained and enhanced. Second, they both create contextual conditions (e.g., support, culture, performance appraising system) to carry out exploitation and exploration at the disposal of employees themselves. From an organization with one single business to building an entire ecosystem, both the organizations are probing into possible opportunities with creative entities of the platform. They hold the belief that in an ever-changing environment with cross-border intruders everywhere, only the one with a strong sense of perception and adaptability, or in other words, the one with innovation genes will triumph. With more flexible and exploring organizations expected to be born, companies would evolve into self-organized entities with self-development and evolution, where strategies are not only planned, but where they also emerge. Hence, hypothesis 3 is generated.

H3: Organizational ambidexterity would result in both strategic planning and strategic emerging in a “VUCA” environment.

From the above, the process of how organizational ambidexterity affects strategic management can be depicted in Fig. 3.

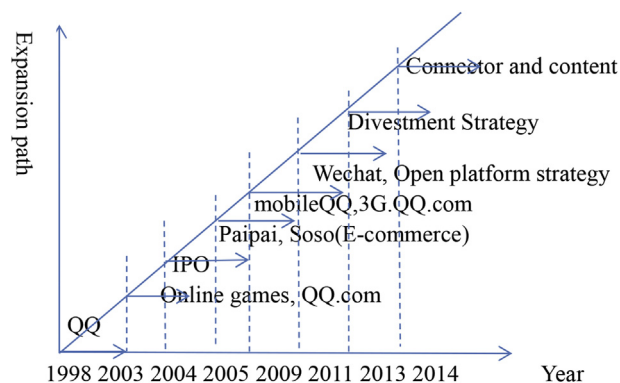


Fig. 3. Roadmap of Tencent.

5. Discussion and contributions

Our study probes into the details of organizational ambidexterity and its mechanism in the strategic management process of organizations, which has contributed to the ambidexterity theory. Scholars recognize the challenge of managing the dual goals of exploration and exploitation (Adler et al., 2009; Gupta et al., 2006) and the role of ambidexterity in firm success (Lavie et al., 2010; Stadler et al., 2014). However, research has not provided a comprehensive understanding of how organizational ambidexterity affects under a VUCA environment. As evidenced by the two high tech giants in China, organizational ambidexterity are perfectly applied, with both exploitative and explorative innovations that make them capable of reacting to a changing environment. Considering the idea that interpretive schemes or cognitive models of TMT could generate organizational restructuring (Barr et al., 1992; Huff & Schwenk, 1990), we argue that leadership ambidexterity plays a fundamental role in different levels of ambidexterity in the strategic management process. With an integrated strategic intent from the top management teams to embrace conflict and paradox, structural ambidexterity is applied and achieved by the separation of strategic arrangements in different departments at the operational level. The integrated behaviors of employees are also generated as a result of a supportive system and culture where contextual ambidexterity is provided. As a result, the nature of organizational ambidexterity is displayed in the interrelated system from multi-levels, thus the structure and functioning of ambidexterity are explored.

Second, the results of our study also contribute to the innovation literature. Prior studies have placed much emphasis on the producer side, eg incremental innovation or radical innovation which is measured by technological advancement in nature. From our study, it is observed that successful innovations can be consumer driven rather than resource or technology driven, and consumer knowledge can play a key role in entrepreneurial idea discovery or in strategic management activities. Addressing not only consumer needs (Blocker, Flint, Myers, & Slater, 2011) and market orientation (Alpkan et al., 2012; Herhausen, 2016), creative ways of meeting such needs could shed new light on organizational ambidexterity in exploitative and explorative innovations. Whether it is the practices of Wechat or Alipay, it has overturned the traditional definition of innovation more from the consumer side rather than the producer perspective, where incremental innovation could result in disruptive innovation. Borrowing from the traditional Chinese culture of Yin-Yang, which emphasizes on the ability to manage paradoxes (Faure & Fang, 2008), the paradoxical view of exploitative and explorative innovations is maintained and achieved with a shift of perspective from the customers. Hence, it may redefine the concept of product/market exploration/exploitation in a more broad sense and from customer value creation. Responding to the demand-side perspective in strategic management research (Priem, 2007; Priem et al., 2012) and extending the more common emphasis on value capture strategies, this paper has underlined product markets as key sources of value-creation strategies for firms.

Finally, extending the current literature on the measurement of ambidexterity and performance (Gupta et al., 2006; Cao, Gedajlovic, & Zhang, 2008), this paper probes more details of the dynamics of organizational ambidexterity and its interaction

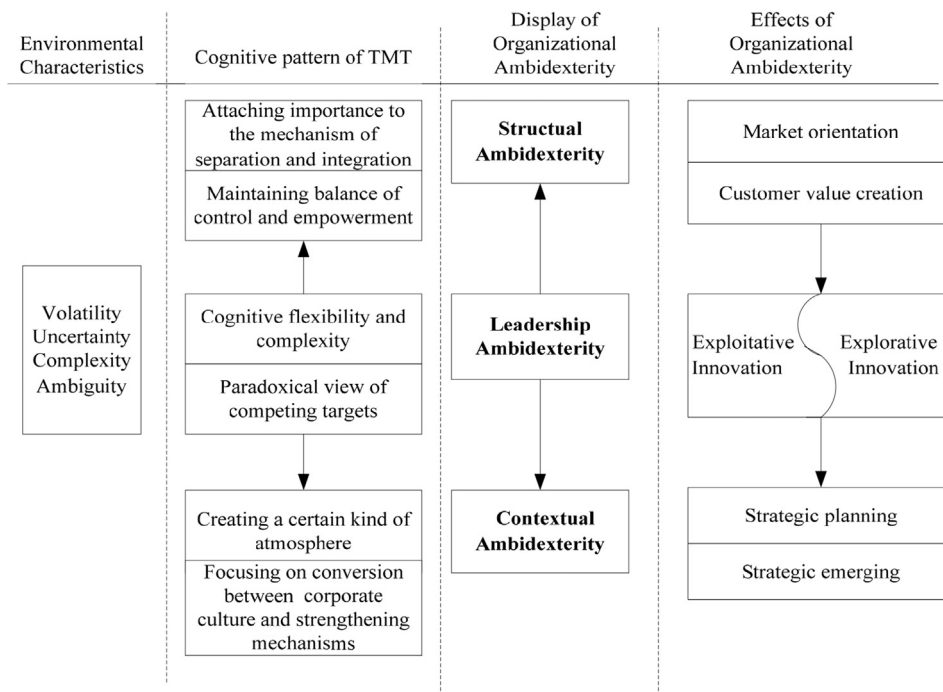


Fig. 4. Applying organizational ambidexterity in strategic management process.

process in strategic management activities. Considering the reality of cross-border competition and heterogeneous consumer needs, only the ones with fast response and learning capacity will survive. It challenges traditional organizations in that a more dynamic and flexible structure is needed. Borrowing from the literature of complexity approach (Holland, 1995), strategic emerging and strategic planning could coexist within an organization, with an advanced form of self-organization (Scholten & Scholten, 2012). However, another and perhaps more modern view is that change is to a large extent endogenously initiated and many companies themselves try to change the rules of the game by transforming the environment (Sarasvathy, Kumar, York, & Bhagavatula, 2014), which provides new thoughts on the practice of strategic management activities in a VUCA environment.

The findings provide some practical implications for companies who expect to sustain competitive advantages in today's highly competitive environment. While open innovation is favored by increasingly more number of enterprises, everyone can be involved in business innovation, which provides opportunities for enterprises to use the talents of its employees and customers. For innovation managers who are interested in transforming external resources into reconfigured internal resources, the key is to foster a conversation between enabling atmosphere and strengthening mechanisms. As a pioneer in open innovation strategy, Haier's adoption of six radical innovations has turned itself into a more organic organization, transforming the whole group into small entrepreneurial teams (Lewin, Välikangas, & Chen, 2017). Second, to realize the full potential of accessing a broad scope of external technologies and industrial trend, a company must routinely develop dynamic capabilities in response to the enlarged exposure to external knowledge sources. As is evidenced from the case, platform strategy is preferred by leading companies in China, using the synergy of large numbers of start-ups within the ecosystem. It is evident that executives have to navigate a constantly changing competitive arena that is no longer defined by physical or even digital dimensions, which encompasses the global networks and ecosystems within which the firm competes (Zahra and Nambisan, 2011). It also manifests itself in the creation of a new organization or venture that is capable of simultaneously creating and discovering opportunities, while creatively and profitably exploiting other opportunities. In order to manage environmental uncertainty, leading companies in China are embarking toward self-challenging and self-subversion, to evolve into a more organic and flexible organization (see Fig. 4).

6. Limitations

The main limitations of this theoretical sampling process are threefold. First, we use retrospective data for analysis, while we observe a contemporary phenomenon in which the cases are still evolving. Although our exploration offers promising results, the descriptive potential of the process needs to be further validated. Second, multiple case studies are used in this research to provide more compelling evidence and produce more robust conclusions. Although the problem of reliability and validity were taken into full consideration, a deep analysis of encoding is required to generate more concrete results. This could be realized to employ more quantitative analyses in the future. Finally, this study deals with large, established companies that introduce creative ways of customer value creation in parallel to their core innovation processes. As a result, insights from their experiences may not hold for all types of companies and settings. Promising avenues for further analysis that go beyond the scope of this research (Eisenhardt, 1989) could thus include variations in the success of introducing organization ambidexterity, in the size and age of companies, and further variations in the industry setting.

Conflicts of interest

The authors declare no conflict of interest.

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