

# Ice Bucket Challenge, Butterfly Effect, and Hotels' Strategic Configurations- Case of Hotel Industry in China

## 1. Forward

The Ice Bucket Challenge is a charitable initiative to aid patients suffering from amyotrophic lateral sclerosis (ALS). The challenge confronts human networking and the exclusive effect of other charitable initiatives. This initiative informs the public and facilitates research and development for ALS through rational herding behavior (Devenow & Welch, 1996). However, this whirlwind initiative, which is likened to the butterfly effect, metaphorically causes a social tornado (i.e., starting with a small motion, occurring huge effects, and then disappearing quickly). Some issues have been aroused in the event of the Ice Bucket Challenge. The social interactions of businesses that are anticipated to occur is worthy of investigation. Strategic thought can be revealed based on chaos theory (Mann, 1992) through the Ice Bucket Challenge. To see the world in a grain of sand (Bilar, 2000), the Ice Bucket Challenge of hotels' leaders is an event to see through the competitive situations in hotel industry. This study aims to explore the strategic implications from the challenger relationship in the Ice Bucket Challenge within the hotel industry to answer the research questions: what are the implications of nominations of following challengers behind the Ice Bucket Challenge? What are the implications for business stakeholders who participate in the butterfly effect? What are the insights of strategies in this event?

The Ice Bucket Challenge had been spread virally as the butterfly effect, which is a tenet of chaos theory that illustrates how a minor change at the initial stage can induce a series of responses resulting in a chaotic phenomenon, which implies that a deterministic system can lead to random consequences. Chaos theory provides a useful theoretical framework for understanding the dynamic evolution of industries and the complex interactions among industry actors (Levy, 1994). Therefore, we observe an Ice Bucket Challenge with rules of three decision makers, three successors, and responses within 24 hours which was taken by hotels leaders in China. These three decisive rules generate a social phenomenon, which is fueled by new media and randomly spread like a virus. We can observe the macro strategic configurations through the Ice Bucket Challenge based on the phenomenon of fractal foundation of chaos theory. The strategic deployment and future trends are shown in the hotel industry in China. The effect of

the Ice Bucket Challenge has exceeded expectations, similar to the butterfly effect. However, trends can be seen from the butterfly effect of the Ice Bucket Challenge in the hotel industry in China. We depict the trends as strategic configurations when there is little literatures discussed the Ice Bucket Challenge with theoretic framework.

## **2. Ice Bucket Challenge, Butterfly Effect, and Hotel Strategies**

### **2.1 Ice Bucket Challenge**

The ice bucket challenge among hotel leaders had been revealed their strategic configurations in hotel industry. The Ice Bucket Challenge was an activity conducted in the summer of 2014 to promote public awareness and raise donations for ALS patients, which went “viral” in social media initially in the United States and spread throughout the rest of the world including hotel industry in China. The challenge exhibited an obvious influence given the large number of participants, which significantly increased charity donations (Song, 2014). Statistics show the significant effect of the Ice Bucket Challenge for ALS awareness. The challenge resulted in RMB 6.94 million charitable donations for ALS patients prior to Aug 25, 2014 (Song, 2014). The ALS Association in the United States had received \$94.3 million in donations as of August 27, 2014; only \$2.7 million in donations were received for the period from July 29 to August 27 last year (ALS-Association, 2014). The Taiwan ALS Association received 90 times more donations than last year, which is impressive. Nevertheless, we argue that the challenge focuses not on ALS, but on the significant social networks and dynamics of the challengers (i.e., among their business fellows, competitors, investors, partners, or rivals) (Jenkins, 2009).

The enormous social effect of the Ice Bucket Challenge has the following rationales and key conditions: (1) The designated successors and responses within 24 hours weaken the “bystanders’ effect.” American researchers previously conducted a study on a group of people having a discussion when one of them suddenly had an epileptic seizure. How many observers would provide help? How much time will elapse before they provide help? The American researchers reported that when people were deeply involved in the discussion, the less people provide help, and they take a longer time to provide such assistance; this finding explains the low efficiency of charities because social responsibility is scattered (Geng, 2014). (2) The use of new media has allowed the Ice Bucket Challenge to achieve a sweeping effect. Social networking platforms were saturated with videos of people dumping buckets of ice water on their heads to promote public awareness and raising charitable donations for ALS patients. After

starting in the United States, the challenge went “viral” through social media and became a successful and influential fund-raising event; the challenge spread to China, South Korea, Japan, Germany, and France (Song, 2014). The use of new media pushed the effect of the Ice Bucket Challenge and accelerated the evolution speed. In this era of new media, anyone can be a participant and a transmitter of news and events. Transmission costs via the Internet are low. Thus, new media technology and designated successors caused the Ice Bucket Challenge to go viral. Allain (2014) developed a mathematics model with a calculation; according to the model, the entire world population can complete the Ice Bucket Challenge within 35 days when applying a designating mode of the third power of three ( $3^3$ ). (3) The Ice Bucket Challenge reveals interrelationships among people. Facebook founder Mark Zuckerberg forwarded the Ice Bucket Challenge message to three people, namely, Microsoft founder Bill Gates, Facebook chief operating officer Sheryl Sandberg, and Netflix founder Reed Hastings. In addition to the surface behavior of the Ice Bucket Challenge, message of this event stated that the three designated successors had business implications, which implied the paradigm switching of technology domain—from Microsoft to Facebook, the current partnership— stakeholder relationship of the enterprise domain, and enterprise’s future strategic target—the expansion of life media enterprise. The Ice Bucket Challenge spread as a charitable initiative similar to the butterfly effect but with hiding intentions among the challengers. This study is interested in similar strategic intentions among the challengers who are leaders of hotels in China.

## **2.2 Butterfly Effect – Chaos Theory**

The viral spread of Ice Bucket Challenge happened as the butterfly effect (Figure 1). The Ice Bucket Challenge is the behavioral display of chaos theory (Kellert, 1993). Tourism systems have been considered more and more in the light of complexity and chaos theory (Baggio & Sainaghi, 2011). Many authors have employed complexity and chaos theory to tourism, starting from the realization of the “complexity” and instability of these systems (Edgar & Nisbet, 1996; McKercher, 1999). Chaos theory is a qualitative study of unstable aperiodic behavior in a deterministic nonlinear system that analyzes irregular and unpredictable phenomena. This study aims to analyze the butterfly effect of the ice bucket challenge among hotels’ leaders to reveal the strategic configurations in hotel industry.

The chaotic process is definitive but produces non-order and random results (Peng & Goo, 2004). An important idea in chaos is sensitive dependence on initial conditions, which is known

as the butterfly effect; the idea holds that the flapping of butterfly wings in Brazil can cause a hurricane in Miami three weeks later. Sensitive dependence states that extremely small and undetectable influences could have extremely large effects (Koch, 2011). Organizations exhibit the qualitative properties of chaotic systems, and several of these properties such as sensitivity to initial conditions, discreteness of change, attraction to specific configurations, structural invariance at different scales, and irreversibility are used to establish the following six propositions: (1) Organizations are potentially chaotic because of the coupling of counteracting forces. (2) The path from organizational stability to chaos follows a discrete process of change. (3) Small changes could have large consequences that cannot be predicted in the long term when the organization is in chaos. (4) Dynamic stabilities (strange attractors) emerge from chaos, which are assimilated to organizational configurations. (5) Similar patterns are observed at different scales. (6) Similar actions during a single organizational life span or between two different organizations should never have the same result (Thiétart & Forgues, 1995). Coincidentally, the Ice Bucket Challenge of 2014 resembled the butterfly effect of chaos theory in several conditions, processes, and consequences. Tourism phenomena have been found to exhibit disorder, non-linearity, and disequilibrium. Thus, tourism development aspects are intrinsically chaotic (Russell & Faulkner, 1999). It is valuable to explore the chaotic behavior of hotels' strategic configurations, which can be realized as chaotic attractors, through the event of ice bucket challenge.

Insert Figure 1 here. (Lu, Chen, & Zhang, 2002)

### **2.3 Butterfly Effect of Hotel Competitive Strategies**

The Ice Bucket Challenge was ignited in hotel industry of China on August 2014 and caused an opportunity to investigate into the strategic configurations of the hotel industry in China due to the characteristics of butterfly effect. Researchers applied chaos theory for the designating relationships of the Ice Bucket Challenge to understand future trends and potential challenges to the hotel industry in China. Research on chaotic theory and chaotic behavior stemmed from mathematics and pure science areas, expanding to economics and financial areas complicated ecological systems and competitive strategies of tourism areas. McKercher (1999) argued that tourism essentially functions as a chaotic, non-linear, non-deterministic system. However, existing tourism models cannot fully explain the complex relationships among various elements that constitute the tourism system. Chaos and complexity theories provide a valuable perspective to destination development research, especially when combined with the

tourism area lifecycle model (Russell & Faulkner, 2004). Chaos theory provides a viable framework for tourism management (Speakman & Sharpley, 2012). Therefore, chaos theory should be applied in the competitive configuration and strategic development of the hotel industry. As the Ice Bucket Challenge continues to spread in the hotel industry, the current study analyzes key people in the hotel industry who accept the challenge to determine if this activity has important implications to key strategies and strategic configurations of the hotel industry.

The Ice Bucket Challenge in hotel industry of China starts with Ma, Yingyao who is the founder of a budget hotel chain in third-tier cities. Subsequent challenge relationships reveal current strategies and future competitive trends (see Figure 2) (Qiu, 2014). The Ice Bucket Challenge is like a whirlwind in China; it started abruptly and ended just as suddenly. However, the butterfly effect on strategic competition and partnership in the hotel industry kept going. Therefore, we illustrate the key figures in the hotel industry in China who accepted the Ice Bucket Challenge and the main strategic configuration each one represented to explore hotels' strategic configurations in China.

Insert Figure 2 here.

Ma, Yingyao is the owner of a budget hotel chain (Thankyou Inns) in third-tier cities in China with a unique market segmentation. Market occupation in third-tier cities is 82.93%, and the total number of hotels exceeds 1,000. This developing momentum is significant (Anonymous, 2014).

Zhu, Hui, the leader of Pod Inns hotel chain, has outperformed the red-sea competition of budget hotels. Its capsule-like spaces, modern computers, Internet access, low prices, and fashionable design have attracted clients from 18 to 35 years old with incomes ranging from RMB 2,000 to RMB 6,000 (Zhao, 2012). The number of Pod Inns hotels reached 350 in 2014. Moreover, Revenue per Available Room (RevPAR) in Pod Inns increased by 3 RMB when all of the other budget hotels were losing profit (Chen, 2014). The number of mobile phone owners exceeded the number of PC users in June 2012. A total of 7.911 million consumers prefer to make online payments. Pod Inns has 550,000 WeChat followers with an average of 264 daily transactions (Zhou, 2013); this event has started a new era of mobile payment marketing in the hotel industry.

Qiao, Yi is the leader of a human resource website known as DFWS. The website currently has 12,000 members with the largest statistics platform in China's hotel industry. The company excels in data analysis and human resource market segmentation for the hotel industry. DWFS

aims to bridge the gap between human resource supply and demand in the hotel industry. Its mission statement is to assist hotel talent growth and deliver great value for the hotel industry in China (DFWS-group, 2014).

Sun, Jian leads the Inter-Continental Hotel Group (IHG), which is the largest international hotel group in greater China and the largest hotel management company in the world. Its largest market is in the United States, and its second largest market is in China. Two hundred hotels were under IHG in greater China alone in 2013, accounting for 10% of its total number worldwide; 100 more hotels will be built in the coming three years. The development strategy of IHG has evolved from first-tier cities (e.g., Beijing, Shanghai, Guangzhou, Shenzhen, and Hong Kong) to second-tier cities (e.g., Dalian, Nanjing, Chongqing, Kunmin, and Hainan), and gradually to third-tier cities. IHG no longer develops identical products and focuses on market segmentation instead. Therefore, the development difference between second- and third-tier cities is the service difference. For example, Hotel Indigo emphasizes experience, culture, neighborhood stories, customized service, and novel, fashionable design. The strategy of IHG is to assume the leadership position in different segments of the hotel market in China. China is projected to have 220 cities with populations exceeding one million. IHG targets these cities because with its light-asset strategy that relies on investment from others. (Hou, 2013).

Sun, Jian is the CEO of Home Inn, which is also a budget hotel chain. Home Inn is currently developing 400 new hotels annually. Its future planning includes acquiring several regional and feature hotels. However, the direction of its strategic development has changed. The company previously focused on expansion speed and hotel locations. Its future focus is on product innovation and service. The company will also pursue great market segmentation with its current services categorized into family, fashion, business tourism, and sports tourism. However, these segmentations are not absolute and are based on common and customized needs. Current services will be upgraded, and mid-level hotel brands will be developed. For example, Home Inn acquired 100% of the shares of the Fairyland Hotel management company under the Kunmin Department Store with RMB 230 million to supplement its market occupation in the southwest of China. Home Inn also acquired Yitel and converted it into four-star standard hotels in its effort to develop a mid-scale market. The mid-level business hotel market is expected to rapidly develop in the next three to five years and become a key competition area for domestic and international hotel brands. Moreover, Home Inn endeavored to venture into service apartments in first-tier cities, leisure industry centering on lodging service, health industry, and sanatoria industry (Yang, 2014).

Chen, Xueming and Chen Mengchao are in charge of the Jinlin Hotel Group, which is one of the earliest hotel groups in China. The group focuses on active development planning and repositioning to compete with international hotel brands using two major development strategies. From a customer perspective, experiential service is emphasized (e.g., application of Chinese Zen concepts in room and service design innovation). The integration of humans, space innovation, and smart technology is emphasized. From an operational perspective, the mutual connection of interior and exterior Internet platforms is highlighted. For interior management, four platforms are developed, namely, operating and management, marketing, purchasing, and training. The four platforms are integrated to effectively support and manage the company internally and to extend the brand outwardly through the Internet and new media (Feng & Qiu, 2014).

Sun, Wu is the leader of the Hong Kong CTS (China Travel Service) Corporation, which owns nearly 80 hotels with corporate sole investment, joint investment, partnership, and management contract in Hong Kong, Macau, and Mainland China. The hotels are mostly four- or five-star hotels, including the Grand Metropark (five-star), Metropark (four-star), and Traveler Inn (business feature hotels). Heavy asset investments are increased for strategic development. High-end hotels are the main focus. Their international development goals include expanding to Europe, America, and other regions. The opening of a Grand Metropark in West Africa has become the best five-star hotel which illustrates its international market development strategy (Sun, 2014).

Wang, Jimin, the general manager of the Shanghai International Conference Center, stated that the hotel industry should focus on the order of conference, itinerary, planning, and sales to strategically deploy effective policies (Liu, 2009).

Xiao, Qu is an associate professor in the School of Hotel and Tourism Management (SHTM) at Hong Kong Polytechnic University (PolyU). Xiao is an expert in hotel strategy and investment with prior working experiences in Hospitality Advisory Services and J&Q Consulting as vice CEO and regional VP, respectively. SHTM introduced the D.HTM program into Mainland China for the first time. Prof. Kaye Chon, the dean of SHTM, stated that the D.HTM program aims to nurture distinguishing talents under the dynamic global tourism environment and assist students in mastering innovative and high-end analytical, research, and decision-making abilities to compete in the unique Asian environment (Xu, 2013). This program is a timely initiative for the fast-developing hotel industry in China, which desperately needs high-end human resources.

## **2.4 Configurations of Strategies**

Configurations of hotel strategies can be found through the event of ice bucket challenge to understand the booming of hotel industry in China. Miller (1987) defined configuration as the terms “pattern,” “gestalt,” and “archetype” to describe the systemic, interactive connections (mutual influences) among various elements. Three approaches, typology, taxonomy, and configuration as a quality, were introduced to connect configurations to theory. Typologies at their best are memorable, neat and evocative. Among the more prominent of these are those of Burns and Stalker (1961), as well as Miles and Snow (1978). These scholars differentiated among types of strategies. They made distinctions that furthered theory and had implications for important strategic outcomes. Taxonomy scholars employ methods of numerical taxonomy and an assortment of clustering algorithms and hypothesis testing techniques to identify natural clusters in the data (Miller, 1996). The third approach of configuration as a quality, which was applied in this study, can be defined as the degree to which an organization’s strategies are orchestrated and connected by a single theme. Such themes can be found within or across categories. Within the strategy category, one may find strategic configurations going towards cost reduction, marketing, resource synergy, or innovation. For example, small hotels can perform cost down strategy by outsourcing IT function (Paraskevas & Buhalis, 2002) in Europe. Claycomb, Germain, and Dröge (2000) argued that strategic marketing formalization associates with improved market and financial performance. Black and Boal (1994) claimed the resource-based configuration of the firm holds that certain assets with synergy will lead to sustainable competitive advantage. Tseng, Kuo, and Chou (2008) confirmed the positive relationship between the configuration of innovation and firm performance in Taiwanese hotel industry. In order to frame the strategic configurations, five forces analysis was applied for theoretical construction. Although Porter’s industrial organization (five-forces) competitive analysis framework (Porter, 1980) is challenged in resource-based critiques (Barney, 1991; Wernerfelt, 1984), the value chain maintains its central role as a framework for the analysis of firm-level competitive strengths and weaknesses (Stabell & Fjeldstad, 1998).

## **3. Methodology**

Chaos phenomenon can be observed through the fractal parts (Peters, 1994). The butterfly effect is triggered by critical events. The concept is the same as the inferential statistics of



understanding the population through samples. The differences are the former is a nonlinear system and the latter is a linear one. Thus, we tested the nonlinear chaos behavior of Chinese hotel industry by BDS test (Brock, Dechert, & Scheinkman, 1987). Analogy analysis was applied to tell the strategic configurations of Chinese hotels through the butterfly effect in the event of Ice Bucket Challenge.

### **3.1 BDS test**

BDS test employs the concept of spatial correlation from chaos theory to detect serial dependence, nonlinearity, in time series. Nonlinearity is one of the indications of chaos (Brock, Dechert, Scheinkman, & LeBaron, 1996), we may use BDS test to detect such indication. BDS tests the null hypothesis of independent and identically distributed (I.I.D.) against an unspecified alternative. We used data set of listed hotels consists of daily Composite Indices of Shanghai Stock Exchanges (SHSE) from 2010 to 2014 to conduct BDS test for examining chaos behavior of hotel industry in China. The hypothesis of the test is as follow:

$H_0$ : The data are independently and identically distributed (I.I.D.)

$H_1$ : The data are not I.I.D.; this implies that the time series is non-linearly dependent if first differences of the natural logarithm have been taken.

### **3.2 Analogy Analysis**

This study infers the strategic configuration of the hotel industry in China by relating chaos theory to the interrelationships of individuals who accepted the Ice Bucket Challenge using analogy analysis. Observations of 10 hotel's leaders were chosen from the secondary data based on the sequential nominations like snow bowling sampling in the event of Ice Bucket Challenge (Meadin, 2014). Ten hotel leaders are CEO level ranging from budget hotels to five stars hotels that can represent the Chinese hotel industry. Basing on the interrelationship of the Ice Bucket Challenge and chaos theory, we use a simplifying analogy to infer the industry competitive situation and future strategic deployment of the complex and dynamic hotel industry in China. Analogy links the similarity of two or more objects (i.e., mostly analogy of knowledge) by transferring the meaning of an existing object to another object (Dominguez-Péry, 2013). Inferring similarities in other areas based on the similarity of two objects in some areas is logical. The analogy inference method applies the knowledge or theory of a particular subject to another particular subject, which is essential to proposing scientific hypotheses. The analogy inference

method has significant contributions to the natural sciences including the gravity model is inferred from magnetic model and the light wave model is inferred from acoustic model (Peng, 2000). The analogy inference method has been used in simulating legal cases for legal subjects (Cher, Lai, Huang, & Lin, 2012). IBM (2004) applied analogy inference method to improve its analysis model for information management. Jeffery, Ruhe, and Wiczorek (2000) studied the validity of the analogy inference method by comparing the simulation-based estimation and OLS regression methods. Both methods could infer appropriate mathematical models for practical application. Although the analogy inference method has several limitations, it is an important reference for the development of prior models. We observe that the analogy reference method has extended from the natural to the social science domain. Moreover, establishing prior models from analogy reference is a breakthrough in explorative research (Peng, 2005). The analogy reference method includes three types with their respective theories and principles: cause and consequence, mathematical similarity simulation, and similarity simulation. This study adopts the similarity simulation analogy and, thus, only introduces the theories and principles of similarity analogy briefly.

- (1) Subject A has the properties of a, b, c, and d.
- (2) Subject B has the properties of a, b, c.
- (3) Therefore, Subject B has the potential property of d.

A high level of similarity is observed in the criteria and processes among the Ice Bucket Challenge, butterfly effect, and strategies of hoteliers who accepted the challenge (see Figure 3). Therefore, we infer the strategic configurations using the analogy reference method. The configuration approach does not focus exclusively on the hotel environment or internal resources, but on the mutual influence of a set of model interrelationships. The configuration approach requires a dynamic perspective: firm development should be interpreted as a configuration sequence over time. In principle, configurations are unique. However, similar configurations allow us to create typologies. Experience with certain configurations can identify the strategic position of individual enterprises to estimate their prospects for further development (Mugler, 2013). The butterfly effect of chaos theory explains the spread of the Ice Bucket Challenge. Chaos theory displays the strategic configurations of the hotel industry in China through the interrelationship of participants in the Ice Bucket Challenge. This study aims to predict the future of the hotel industry by determining trends and potential challenges based on strategic configurations of the hotel industry in China.

Insert Figure 3 here.

## **4. Results and Discussion**

### **4.1 Results**

Table 1 indicates all the test statistics are greater than the critical values significantly. Thus, we should reject the null hypothesis of I.I.D. The results strongly suggest that the time series of listed hotels in SESE is non-linearly dependent, which is one of the indications of chaotic behavior.

Insert Table 1 here.

This study is not based on hotel strategic groups but on the dynamic evolution of industry strategies. We identify the hotel strategies of leaders in the hotel industry in China through interrelationships in the Ice Bucket Challenge. The nominating process reveals the strategic intention of hotels, which forms the strategic configuration of the hotel industry in China. Dess, Newport, and Rasheed (1993) stated that strategic configuration theory includes three issues, namely, (1) number of domains, (2) causality, and (3) temporal stability. Therefore, the current study analyzes strategic configurations based on how hotels' strategies have formed and evaluated along a period of time (Table 2). The study also discusses the five forces analysis indicated by Michael E. Porter (Porter, 1980), which constitute the strategies of hotels' leaders in the Ice Bucket Challenge to reveal the strategic configurations of the hotel industry in China as follows:

Insert Table 2 here

### **4.2 Discussions**

#### **4.2.1 Scale-Oriented Configuration**

Scale-oriented strategic configuration involves budget and high-end luxury hotels. Budget hotels include ThankYou Inn, Pod Inns, Home Inns, In addition, Hanting, 7 Days Inn, and Jinjiang Inn. The growth rate of budget hotels was 23% in 2009, which increased to 40% in 2011. The total number of budget hotels in China has exceeded 10,000, which engenders the difficulty of foreign capital involvement. Moreover, competition among domestic brands is increasingly intensifying. High-end luxury hotels include IHG, Marriott, Hilton, and Hyatt.

According to Smith Travel Research, 253 out of 458 luxury hotel brands worldwide have plans or are currently constructing hotels in the Asia Pacific; projects in China account for 58% of the total number of luxury hotels (STR-Global, 2014). However, the luxury hotel market currently has more supply than demand because of the large number of brands and continuous expansion of construction. The profit margin decreases, cost increases, and competition intensifies.

Scale-oriented strategic configuration is seeking low cost advantage of scale economy in a five-force analysis. Scale economy generates abundant bargaining power from buyers, which allows the company to lower purchasing costs. The brand effect caused by a scale economy boosts the threat of new entrants. Moreover, given that this strategy can fulfill the needs of two extreme target markets, budget and high-end luxury hotels, the threat of substitute services is low. The challenge for large-scale hotels comes from similar hotel structures with less bargaining power of buyers to become price taker in the market. The bargaining power of consumers is stronger than that of hotels. Thus, scale-oriented strategic configuration shows that hotels' are big, but consumers are even bigger of bargaining power. That means the cost down advantage has less effectiveness in making profit (see Figure 4).

Insert Figure 4 here.

#### **4.2.2 Market-Oriented Configuration**

According to the prediction of the China National Tourism Administration (CNTA, 2014), the hotel industry in China will surpass the United States and become the largest market in the world. The number of hotel rooms can reach 6.1 million, which implies ample room for development but requires right market segmentations that offer right services to customers. Scale-oriented configuration indicates that the high-end luxury hotel market in the first- and second-tier cities involves saturation, whereas budget hotels in the third- and fourth-tier cities are rapidly expanding. Therefore, hoteliers have started to penetrate the new target market using two strategies, namely, market penetration and service penetration. IHG is developing Indigo to penetrate second- and third-tier markets; Home Inns acquires Yitel and develops toward mid-upper scale markets; and CTS occupies the four- to five-star hotel market with Grand Metropark, Metropark, and Traveller Inn to expand into the international market. For service penetration, the hotel industry conducts further segmentation according to consumer needs. Home Inns has started segmenting budget hotels into family, fashion, business travel, and sports tour services.

The Zen concept hotel room of the Jinlin Hotel Group focuses on the cultural tourism service, whereas the International Conference Hotel in Shanghai focuses on the conference tourism service. These examples exhibit strategic configuration based on market segmentation. The acceleration in the economy of China faces a downturn risk. Mid-scale, city, tourism resort, and serviced apartment hotels will continue to grow in the market because of the competitive environment of the hotel industry, and thus form strategies into market-oriented configuration.

Consumer needs are fulfilled under a market-oriented configuration because of the continuous segmentation of market and service. Consequently, the threat from new entrants and substitute services is low. This low-in-number but high-in-diversity industry structure has formed a tripartite confrontation of suppliers, industry competitors, and consumers. These three parities strategically rely on each other. Market segmentation does not guarantee profit, only service recognitions from consumers and service resources supports from suppliers can win in this competitive situation.

Insert Figure 5 here.

#### **4.2.3 Resource-Oriented Configuration**

We have identified two key resources for the hotel industry, namely, human resource and technology. The hotel industry emphasizes the hiring of good personnel; at least 400 to 500 staff members are required to maintain a mid- to high-end hotel operation. Recruitment is easy, but the problem is staff training. Constant communication should be practiced among staff to share the company culture and values. Hotel senior management should have a comprehensive understanding of the hotel industry and a future vision for hotel development. The DFWS Group is the leader of human resource networks in the hotel industry in China and bridges the demand between the hotel industry and different levels of human supply. The group provides the required hotel staff training. The D.HTM program aims to provide strong, high-level human resources for the fast-developing hotel industry in China. The Pod Inns Hotel Group emphasizes modern network facilities, which attracts young consumers. The group facilitates a new era of mobile payment in the hotel industry. The DFWS Group utilizes its human resource website for data collection and model analyses to create value for hoteliers. The Zen concept hotel room of the Jinlin Hotel Group features an integrated experiential service that integrates humans, space, and smart technology. The group also builds integrated platforms that combine internal management and external marketing. We are currently in an era of technology; we cannot catch

up with the strategic wave without using technological resources.

Resource-oriented configuration no longer focuses on monopoly power and zero-sum thinking (e.g., scale- and market-oriented configuration). Instead, it focuses on task specialization and value collaboration based on resources, with a strategic goal of achieving more (larger ventures and more profit) through collaboration.

Insert Figure 6 here.

#### **4.2.4 Service Innovation-Oriented Configuration**

Diversified, custom, and featured service innovation is the future trend of the hotel industry. Value co-creation of hotels, upstream suppliers, and customers are the strategic focus of a service innovation-oriented configuration; a blue-sea strategy is formed through network collaboration when strategic configuration reaches this one. Pod Inns provides inexpensive but fashionable design that is attractive to young consumers through the collaboration with technology suppliers and accepted by consumers. Indigo features experience, culture, and neighborhood stories through the collaboration with local communities. Its light-asset operating philosophy also requires the cooperation of capital providers. Home Inns emphasizes innovation service by providing service apartment, leisure, health, and residential services for mature consumers. Franchisee support is necessary in the supplying end. The Jinlin Hotel Group focuses on customer experiential service with its integrated network platform through collaboration with technology suppliers.

Strategic thinking of a service innovation-oriented configuration requires experiencing consumer life and culture, expanding cooperation and mutual benefits with suppliers, jointing consumer values into hotel service values, and innovative value co-creating with supplier capital. Competitors of the hotel industry can have their own existing values in the value chain to co-exist and prosper in the industry (Figure 7).

Insert Figure 7 here.

#### **4.2.5 Strategic Configuration Matrix**

Basing on chaos theory, the butterfly effect of the Ice Bucket Challenge has been used to illustrate the complex strategic configurations of the hotel industry in China. The type of strategic configurations be identified to a matrix by the strategic perspectives of completion/ collaboration and blue-sea/ red-sea. Figure 8 presents the evolution of strategic configuration

from scale-oriented, market-oriented, resource-oriented, to service innovation-oriented configuration along the time. The lower-left corner exhibits a negative and low-profitting situation, whereas the upper-right corner presents development opportunities for hotels to create innovative value.

Insert Figure 8 here.

The fact that order exists suggests that patterns can be predicted in at least weakly chaotic systems (Mann, 1992). The patterns of strategic configurations in the observations are found through the butterfly effect of the ice bucket challenge. The fractals of chaos theory can further infer the strategic configurations to the Chinese hotel industry (Peters, 1994) when we revealed the fractals of ice bucket challenge happened to the leaders of Chinese hotels.

## 5. Conclusion

According to the *Art of War* by Sun Tzu: “In all fighting, the direct method may be used for joining battle, but indirect methods will be needed in order to secure victory. Indirect tactics, efficiently applied, are inexhaustible as Heaven and Earth, unending as the flow of rivers and streams ... In battle, there are not more than two methods of attack - the direct and the indirect; yet these two in combination give rise to an endless series of maneuvers. The direct and the indirect lead on to each other in turn. It is like moving in a circle - you never come to an end. Who can exhaust the possibilities of their combination?” In other words, the world management guru Peter Drucker has a popular adage: “Innovate or die.” Hotels’ competitive strategies are like battles that need the direct and indirect strategic configurations to gain survival and competitive advantages.

The theoretical contribution is that we have identified the strategic configurations and configuration matrix of the hotel industry through the Ice Bucket Challenge and butterfly effect, which correspond to the chaotic and deep regularities/attractors of chaos theory. The empirical implication is that these self-organizing, self-repeating, and dynamic adjustments are also observed in the hotel competitive situations. The limitation is that we can only collect data of hotel industry in a short period of time to analysis the typology of strategic configurations because the event of Ice bucket Challenge had aroused attentions only during the summer season in 2014. Samples are also limited to the sequential nomination in this event. Future study may apply linear quantitative analysis in addition to this non-linear analysis method of chaos behavior to exam the strategic configurations in Chinese hotel industry. The challenges are that

hotel groups are hard to position themselves to any strategic configurations to gain competitive advantages in the dynamic tourism systems. Hotels' operations are to survive and surpass this complex system and dynamic competition under the strategic configurations and configuration matrix, which entails co-operation in the industry structure and pursuit of the blue-sea strategy through individual service innovation.

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