Research on evaluation of innovative 3-tier business model on online travel agency

Kuo Tsung-Nien*
Feng Chia University, Taichung City, Taiwan

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INTRODUCTION
The rapid development of Internet and mobile communication technology has made us a fundamental change in the innovative business model conditions. The future success of enterprises will inevitably be closely related to the innovation effectiveness of business models, not only the services derived from the IoT but also the integration of business opportunities. And led to the business model in recent years, the management of the academic community is becoming a major analysis, to provide a systematic level, comprehensive view of enterprise development. Such as Amazon, Facebook, Google, Alibaba and others, offering new services through technology, are booming at an alarming rate, not only with their market value at record highs, but also in the network ecosystem (Eco-System) that has reached into everyone's lives and created more economic output. While emerging internet companies such as Airbnb, LINE, Uber, YouTube, Netflix etc., are also catching up with the trend of rapid popularity of action networks and community services, with communication services and e-commerce rapidly changing the level of people's lives, information services are no longer just empty slogans and technology of the web bubble, but one after another from 1 and 0 in the virtual world out, affecting the real economy operation of a new business model. New apps, new service, new platforms, new data and new devices have become a...
crowded playground for all kinds of companies that want to tap emerging chances. And they need to develop new business models that work in the digital world and create value for connected customers. Business model innovation has arguably become a critical way to innovate, but its success factors are poorly understood. Lacking of tools allowing the examination of business models in their entirety combined with the complex relationship between business model changes and market outcomes makes this especially difficult. This paper introduces an innovative comprehensive framework that addresses these issues, by providing an integrated, overall synergy view of all of the critical components of the business model. This paper aims at providing such a comprehensive review of academic publications on the emerging concept of business model innovation. Furthermore, in response to the lacking theoretical foundation of research on business models, this paper aims at discussing potential underlying theoretical foundations suitable to research on business model innovation. Based on the derived understanding of the concept itself and its extant streams of research as well as the suggested theoretical foundation, an integrative research agenda for future research on business model innovation is suggested. The paper reviewed the focal literature focusing on the actions and evolution of a firm and built a synthesis that describes the different components of a business model. And drawing from the tourism and hospitality literature, this paper highlights the main research on trajectories and themes in the context of OTA, and by the analyses show that research on websites, blogs, and social media on tourism is experiencing accelerated growth, so that also use main path analysis to investigate the development trend of the synergistic relationship between innovative e-tourism applications and the new technologies.

LITERATURE REVIEW
The Perspective on Business Model
The term "Business Model" began to appear in the literature of management research around the mid-1970s and was first coined by the scholar Konczal (1975), which was defined as "describing the connection and structure of business data and business processes." Then Dottore (1977) research followed up using the word business model, but the real discussion was that by the mid-1990s, due to the rise of e-commerce, and through the dotcom bubble, the lack of stable and sustained profitability, so that the management community began to think about its way out for e-commerce enterprises. No generally accepted definition of the term “business model” has emerged. Diversity in the available definitions poses substantive challenges for delimiting the nature and components of a model and determining what constitutes a good model. It also leads to confusion in terminology, as business model, strategy, business concept, revenue model, and economic model are often used interchangeably. Moreover, the business model has been referred to as architecture, design, pattern, plan, method, assumption, and statement. As the scholar Zott and Amit (2010), within such a framework a business model may be considered as a "system of interdependent activities" which enables the value creation for the customers based on the in depth planning of the system design architecture and interrelated activities. It “articulates the logic and provides the data and other evidence that demonstrates how a business creates and delivers value to customers, and outlines the architecture of revenues, costs and profits associated with the business enterprise delivering value” (Teece, 2010) and comprises choices and consequences (Casadesus & Ricard, 2011). The success of a business depends as much on business model design and implementation as it does on the selection of technologies and the operation of tangible assets and equipment, as the link to profits makes clear. The business model provides a pathway by which technological innovation and knowhow combined with the utilization of tangible and intangible assets are converted into a stream of profits (Ayuningrat, Noermijati, & Hadiwidjojo, 2016; Teece, 2010).

A business model describes an industry itself used to better understand or develop a new model or design a new model. There are many discussions in the management field of business model, which is to discuss the way of profitability of enterprises. How the enterprise body and the enterprise network should operate in order to enable the enterprise to continue to grow, and through the continuous introduction of new services, enhance customer value and consolidate competitive advantage. Business models are also the focus of stakeholders and venture capital, as well as new developments and venture capital. The significance of discussing the business model lies in that it is not only the basis for the enterprise to maintain its operation, but also the source of competitiveness for long-term development. A business model is a conceptual tool that encompasses a set of elements and their relationships that illustrate the business logic of a particular entity, the value that can be provided to customers, and elements such as internal structures, partners, and relational capital to realize this value and generate sustainable profitable income (M. P. Kuo & Chen, 2015; Rafiah & Ariyanti, 2017; Staber,
Deconstructing the Innovative 3-tier Business Model

This paper introduces a comprehensive framework that addresses an innovative 3-tier business model (T.-N. Kuo, 2019) as shown in Figure 1, by providing a competitive advantage phase, and the 2-tier business model (Huarng, 2013) which includes a concept model and a financial model, based view of all of the critical components of the business model. And the framework is applied to be used to show how the framework enables the entrepreneurs and managers to envisage the dynamics of business model innovation.

FIGURE 1. Innovative 3-tier business model

Competitive advantage phase

Competitive advantage has been a cornerstone concept in the field of strategic management (Baaij, Greevena, & Dalen, 2004; South, 1981) since it explains what accounts for differences in performance among firms (Ceccagnoli, 2009; Zott & Amit, 2007). The scope of business strategy, on the other hand, is to define the long-term plan of action a firm may pursue to achieve its performance goals (Zahra & Covin, 1993). For that reason, competitive advantage is widely accepted in strategic management courses and textbooks as an essential concept in business strategy (J. B. Barney, 1997; Grant, 1998). Indeed, even though there is a great number of statements in the literature of competitive advantage, a precise and clear definition has always been quite elusive (Arend, 2003; Ma, 2000; O’Shannassy, 2008; Rumelt, 2003). By applying a new business model, a business can implement different strategies. Coupling strategy and business model analysis to protect competitive advantage resulting from new business model design is important (Teece, 2010).

The competitiveness of a firm comes from its unique and superior competitive advantage, allowing it to generate a higher market share or profit margin relative to its competitors. Porter (1985) suggests that the competitive advantage of an enterprise comes from three basic competitive strategies: cost guidance strategy, differential strategy and centralization strategy. Cost guidance strategy is to focus on improving the internal operations process and reducing waste to reduce the cost of the product or service. The strategy focuses on innovation of products or services, enhancing the functionality of products or services, and enhancing the brand’s image. The centralization strategy locks in specific market segments to make the most efficient use of resources.
Many scholars have pointed out that studying the competitive advantage of business models is to analyze the interaction between various elements in business models (Benso-Rea, Brodie, & Sima, 2013; Morris, Schindehutte, & Allen, 2005; Tikkanen, Lamberg, Parvinen, & Kallunki, 2005; Teece, 2010; Schneider & Patrick, 2013). If this interaction has strategic specificity, it will make competitors difficult to imitate, which is the source of strategic competitive advantage (Morris et al., 2005), while Teece (2010) more clearly proposes the formation of interactions from business models. The isolating mechanism prevents competitors from imitating and is a source of competitive advantage in business models said by Teece (2010).

In 2006, Pohle explains that within corporate practice, business model innovation has been identified as a promising approach for firms to respond to changing sources of value creation in times of high environmental volatility. This underlines the necessity to derive a better understanding of the phenomenon as well as it drives and legitimates the rising academic interest in the topic. In consequence, the need for an overview of extant literature, the identification of prevalent patterns within extant contributions, a suitable theoretical foundation, and a structure guiding future academic research in the field becomes obvious (Schneider & Patrick, 2013). Based on the above review of the widely ramified literature, we would propose a generic business model that includes the following causally related components and corresponding examples, starting at the conceptual model level, each of these critical drivers enhances the total competitive advantage potential of a business model and once when combined, they can be even more powerful.

(1) Innovation: Innovation is widely regarded as a critical source of competitive advantage in an increasingly changing environment. (Dess & Picken, 2000; Tushman & O’Reilly, 1996). According to management scholars, innovation capability is the most important determinant of firm performance (Mone, McKinley, & Barker, 1998).

(2) Resource: Exploring the practical intersection of operations management and strategy from resource-based view by evaluating and developing the sustainability level of operational competitive advantage, that how well the resource-based strategy can support its operations. According to Resource Based Theory (RBT), firms that possess valuable, rare, imperfectly imitable, and non-substitutable resources gain competitive advantage, owing to firm heterogeneity in the distribution of these resources and their imperfect mobility across firms (J. Barney, 1991).

(3) Value: These scholars, Adner (2006), Carbonara (2005), Devesh and Kingshuk (2002), Gale (1994), Suzuki and Ko-dama (2004) all believe that the re-adjustment of organizational strategy should be a customer value transfer that tends to advantage, Wood (2004) pointed out with the change of time and environment, customer value will be the source of competitive advantage in the 21st century. They found that there are many companies that successfully manage the organization’s operational performance through customer value.

(4) Market: Driving Market competition could encourage businesses of high innovation in order to achieve a sustainable competitive advantage. Sustainable competitive advantage can be seen from the accuracy of the company in the market to provide products in response to consumer demands of product quality, customer needs, procurement of new markets and product innovation. Scholars such as Kohli and Jaworski (1990), Narver and Slater (1990) seminal works have been widely used to denote the importance of a firm’s market-oriented behaviors in sustaining competitive advantage. If we can target the right markets, with the right innovations, this can also lead quite naturally to disruptive innovation and sustainable competitive advantage.

The 2-tier Business Model (Huarng, 2013)

The conceptual model

The conceptual model aims to describe a business, comprising of key components, including innovation, resource, market, and value 1. The model starts with the innovation. Innovation is one of the key elements for entrepreneurship (Audretsch, 2012; Huarng & Yu, 2011; Stearns & Hills, 1996). Chaston and Scott (2012) manifest the relationship between innovation and business performance. “Each new venture is an innovation” (Vesper, 1994). An innovation can be an innovative idea, business concept, or any one of the 12 dimensions of business innovation (Sawhney, Wolcott, & Arroniz, 2006). The business concept may derive from the analysis of market opportunity, product and services, competitive dynamics, or strategies (Applegate, Austin, & McFarlan, 2003). Firm resources and sustainable competitive advantages have strong links (J. Barney, 1991; Wernerfelt, 1995). Hence, resource is another component in the conceptual model (Canina, Palacios, & Devece, 2012; Huarng, Mas-Tur, & Yu, 2012; Ribeiro & Montoro-Sanchez, 2011). The resource shows how a business must align its internal systems to deliver the benefits of the value (Rayport & Jaworski, 2001). Market is always a concern (Rayport & Jaworski, 2001), revealing why a business operates in a specific environment with the given legal framework, technology, (potential) customers, competitors, and resources (Petrovic, Kittl, & Teksten, 2001). And the overall objective...
of a firm’s business model is to exploit a business opportunity by creating value for its stakeholders (Zott & Amit, 2010). Value creation is the ultimate goal of a business model (Afuah & Tucci, 2001; Applegate, 2001; Huarng & Yu, 2011; Petrovic et al., 2001). In summary, the innovation describes what a business will do; the resource addresses how a business will fulfill the innovation; the market specifies who will become the target customers; and the value represents why a business can survive and sustain.

**The financial model**

The essence of a business model is in defining the manner where a business delivers value to customers, entices customers to pay for the value, and converts those payments to profit (Teece, 2010). Hence, only the conceptual model cannot fully describe the real situations or reflect the sustainability of a business. A business model should be able to reflect financial conditions in a business (Dubossen-Torlay, Osterwalder, & Pigneur, 2001). In other words, a business model should be able to translate the conceptual model into numbers (Meyer & Crane, 2010). Hence, a financial model, consisting of cost, revenue, and profit, serves as the second tier of the two-tier business model. The cost (Chesbrough & Rosenbloom, 2002) monetizes all kinds of resources that need to realize and support the innovation. How much capital does a new business require (Shane, 2003)? Christensen, Parsons, and Fairbourne (2010) show that startup capital recovery time is a critical factor for a successful entrepreneurship, which confirms that the cost is an important financial component. The revenue (Afuah & Tucci, 2001; Alt, 2001; Applegate, Austin, & Soule, 2009; Betz, 2002; Zott & Amit, 2010) includes all possible incomes from the products or services a business supplies. Simply put, the profit is equivalent to the revenue minus the cost. Or the profit can be the financial performance for subtle analysis. In the analysis of a business, the profit often gains higher profile (Itami & Nishino, 2010). The solid line in Figure 1 shows that both the cost and the revenue affect the profit (Betz, 2002; Chesbrough & Rosenbloom, 2002).

**The two-tier view**

The conceptual model describes the idea of a new business which is useful to explain a business. The financial model provides the numbers of the new business which makes the business model accountable and measurable. The two-tier business model is more applicable in that on one hand, the model addresses the conceptual and financial issues separately to avoid confusion; on the other hand, the model integrates both the conceptual and financial models to provide a complete view of the business. Each of the conceptual and financial models provides the relationships among their components. In addition, the two-tier business model shows the relationships between both models. This study realizes the business model by the application of Internet. The cost and revenue are the other (monetary) side of a coin for resource and market, respectively. When a business delivers the value to its customers, hopefully the business can get enough revenue and turn the revenue into profit. A business needs profit to stay in business (Mariotti, 2006). A win–win situation happens when customers obtain the value and the business makes the profit. The dash lines in link the two tiers of analyses where these dash lines show the correspondences between the components in the conceptual model and the components in the financial model. The cost, revenue, and profit are the corresponding financial component for the resource, market, and value, respectively.

**Description on OTA**

Lee, Qu, and Kim (2007) explained that Internet travel service is using the Internet e-commerce as its media, to form a new type of tourism enterprise operation pattern on the basis of construction of information technology. The evaluation model of Internet travel service business model constructed in this paper mainly includes value group, product and service, resource allocation and profit pattern. On this basis, the integration of internal and external resources of the enterprises is carried out, finally to realize the development strategy for online tourism industry to gain excess profits.

E-commerce has impacted the sales of tourism products and services, often resulting in higher profitability (Chu, Leung, Hui, & Cheung, 2007; Palvia, 2009); further, e-commerce offers benefits such as around-the-clock availability, accessibility, speed of access, wider selection of goods and services, and international reach (Tech Target, 2005). Tourism suppliers and agencies offer products and services online and also offer the benefit of reducing service costs, providing more high-quality services and attracting customers (Lu, Lu, & Zhang, 2002).

The evolution cycle of the business model of online travel enterprises is the repeat alternately of the construction process and structure process of the business model. The structure process of the business model includes the emergence of new business profit pattern, the competition between old and new business model and the disintegration of the old business model. While the new business model recarry out the generation of pattern creativity, the formation pat-
tern structure, testing and evaluation of business model, and ultimately to achieve the scale of the model. Internet travel services enterprises continuous developing in the process, broaden the market space of Internet travel services, at the same time provide more consumption options and travel experience for tourist, thereby create more value for tourism industry (T.-N. Kuo, 2019).

One such new business model was the one for “OTA”, better known as OTA. At first, OTAs were the logical evolution of traditional travel agencies, going from the brick-and-mortar offices to the online space. OTAs have replaced traditional travel agencies offering customers a broad scope of booking services related to their travels (e.g., hotels, car rental, flights). As global competition increases and product differentiation becomes increasingly difficult, OTA have begun moving from a product centric to customer-centric strategy. The interactivity of Internet technology brings with it a range of opportunities and challenges for the marketer aiming to build customer relationships. It is argued that in the Internet market the competitive environment is close to pure competition, and that the seller has no market power. Therefore, more than ever, the customer is the natural focus of attention in a business process that aims at surviving in long run. However, this can be achieved by improving relationship quality and maintain customer loyalty.

Today OTA manages the majority of hotel reservations that are made online. Online travel-related content websites allow travellers to share their experiences and express their recommendations about hotels, destinations and point of interests, and they play a crucial role in forming hotels’ online reputation by leveraging the electronic word of mouth of the ‘crowd’ of travelers. OTAs and users’ review aggregators increasingly play a crucial role in creating economic value in the hospitality industry and in shaping the rules of competition. Specifically, infomediaries assume the role of the least replaceable players and of the ‘guardian of quality’ in the value chain, and they bring more competition for hotels because of the reduction in the search costs for the end customers. Infomediaries thus create value by certifying quality and by favouring lower prices and larger sales volume (Lepak, Smith, & Taylor, 2007).

To sum up, OTAs provide various travel options in one spot and also exposed the travelers to the options that they may not have thought of before. Hence, it broadens their horizon of what type of travel arrangements are available to them and enables them make a right decision. Another pro for using an online travel agent website is the wide variety of products that they offer. Not only can a customer browse airfare, car rental, and hotel options, travel insurance, air-

CASE STUDY
Life is like a snowball, it’s important to find wet snow and long slopes. - Warren Edward Buffett, American business magnate, investor, and philanthropist, Chairman and CEO of Berkshire Hathaway. In the early stages of the small snowball rolling, also need to use the push of external forces, when the snowball is large enough to rely on its own inertia to advance, as the snowball rolling, contact with the ground contact surface will repeat this situation countless times, so the snowball will roll larger and larger.

Ctrip Co-Founder, Chairman and CEO Liang Jianzhang and his Ctrip are such a snowball - from October 1999 to 2019, Ctrip has been a 20-year journey. From a startup to a global “super travel app”, Today’s Ctrip Group is snowballing every day. With the development of the past 20 years, Ctrip Group’s market position in China and the world’s tourism industry is indisputable. Initially, Ctrip faced fierce competition as it was only one of a number of OTAs and an enormous number of offline travel agencies. In contrast to traditional travel agencies, Ctrip offered a 24-hour-a-day online platform, where consumers could compare prices and service details for a variety of travel products, book or purchase those products, request help from virtual consultants, and receive after-sales service. Effectively, Ctrip served as a platform aggregator of offerings from various other providers, thereby relieving travelers of the necessity of searching several sites. The Chinese travel market changed in the late 2000s with the introduction of the smartphone, which brought hundreds of millions more Chinese online.

Contemporaneously, Chinese travel tastes changed, as they began to prefer individual travel over organized group travel. Both changes resulted in even more rapid growth in OTA businesses as they were increasingly accepted by Chinese travelers. By 2017, habits had also changed, as nearly 73% of Chinese travelers preferred to book airline tickets, hotels, and tour services online, and 77.5% of the web bookings, most of which are made on a smartphone, were made on OTA platforms. These markets shifted were extremely important, as the OTAs would capture a larger segment of the rapidly growing tourism business in China.

The creation of an enormous market and the adoption by Chinese consumers of online travel platforms provided a unique entrepreneurial opportunity. One of the most
prominent beneficiaries of these developments is Ctrip, the leading Chinese online travel platform. This paper examines the birth, development, and globalization of Ctrip, as it became one of the largest travel sites in the world, behind only the US firms Expedia and Priceline.

Ctrip has always wanted to do some efforts in this regard, both to have a centralized purchase price, but also to maintain a good experience, but also have the free sense of customers. There are some trips that are team operation, but there is plenty of room for free movement. Liang Jianzhang said, "In short, Ctrip will take advantage of the national coverage advantage, focus ingress national traffic." For example, to Hawaii's products, it has a lot of lines, there are many islands, we can focus the national volume on one island, so that we can centralize procurement. Local services, hotels can be centralized procurement, but also in-depth arrangements for a variety of special itineraries. This is taking advantage of the company's size."

Cost is apportioned by scale advantage, like these expressions of "scale advantage", which are not mentioned for the first time. At Ctrip's annual meetings, Liang always said the world's largest market meant the company had the opportunity to innovate the world's leading industries, "which can be big enough to disrupt new business models in the industry, or a bit of a customer experience." We further decentralize innovative decision-making and motivation to enable more grass-roots employees to be more creative and benefit from it. " In Chairman Liang's view, "the positive factor is the huge market size created by the current demographic situation." In terms of innovation, the larger the market, the more advantageous it is. "At that time, he gave an example, the same amount of investment, the personal cost of innovation would be low by sharing be-

As for how to pursue a valuable enterprise, Ctrip Group began to think carefully and systematically after 20 years of establishment, and finally decided to become a "valuable enterprise" to provide "high-quality" services for user travel, and continuously deepen the "high-quality" strategy. Twenty years after its founding, Ctrip is still on the road to "super travel apps" around the world, creating value for users and shareholders.

As above, regarding the competitive advantage, Porter (1985) considers it to be a unique and superior competitive position of the company in the industry for a long time. It is a high market share or better profitability. The conclusion of this case study fully shows that Ctrip successfully and sustainably focuses on online and mobile marketplaces which
targets small and medium-sized enterprises and other businesses in global markets, and provides the use of win-win low operating costs (both sides affordable) B2B website or mobile APP clients to get closer to the customers to complete business transactions which allows companies to expand their business through innovation and technology and be in the best position to compete in the domestic or global market and become the global leader. The distinct capabilities due to its uniqueness and scarcity in the market give a competitive advantage to the firms who possess it. These key factors also match with Porter’s suggestion that performance of a firm in competitive environment is due to its unmatched competitive advantage in that particular environment, and also meet the three distinct strategies for gaining competitive advantage namely low cost, differentiation advantage and a successful focus strategy.

CONCLUSION
Up to the present time, unprecedented pace of technological innovation has created a business environment that is more complex and turbulent than ever. Such characteristics severely impede traditional sources of competitive advantage and favor flexibility and speed, which, in turn, demand new forms of organizing value creation. Thus, although technology innovation as such is critical to meeting the demands of today’s complicated markets, it must be accompanied by Business Model Innovation to allow firms to compete successfully.

The business model has become a new way to conduct innovation, run strategies and even being a subject of innovation by itself. The relationship between the business model with innovation and strategy has produced emerging concepts such as Business Model Innovation, Strategic Business Model, and Strategic Business Model Innovation. This paper analyses the business model, innovation, and strategy from a holistic approach. It provides a self-assessment tool to help firms to improve or renew their current business model. This study may suggest conceptual insights to further develop the concept of Strategic Business Model Innovation, and a guide to its practical application. Nevertheless, it will be necessary conduct empirical research to validate the framework. Further research, quantitative and qualitative studies, is needed to validate and to get a better understanding of Strategic Business Model Innovation process.

There is no doubt that our urge to develop and refine the notion of competitive advantage is to have practical use of this term which will be used by managers to devise more appropriate strategies for their firms. We feel that unless we do not have a taxonomical framework for competitive advantage it will be a merely a theoretical concept and will be less helpful for managers to use it for their strategy making. We think that superior economic performance is not the result of any single source, strategy, capability and conditions rather it is outcome of amalgamation of all these. The notion of competitive advantage is vital for supreme economic performance and managers must have adequate knowledge about the past, present and future of all those factors and conditions which generate competitive advantage for their firm, and to pay attention that no single strategy, competency and resource can guarantee competitive advantage. To devise a strategic path which will yield superior economic performance for the firm managers have to enlist those factors which have their highest share in the superior economic performance for their organization.

The evolution cycle of the business model of online travel enterprises is the repeat alternately of the construction process and structure process of the business model. The structure process of the business model includes the emergence of new business profit pattern, the competition between old and new business model and the disintegration of the old business model. While the new business model re-carries out the generation of pattern creativity, the formation pattern structure, testing and evaluation of business model, and ultimately to achieve the scale of the model. Internet travel services enterprises continuous developing in the process, broaden the market space of Internet travel services, at the same time provide more consumption options and travel experience for tourist, thereby create more value for tourism industry.

The paper provides firms a taxonomical structure of innovation three-tier business model for identifying sources of competitive advantage. It helps managers to make a check list for gaining and sustaining competitive advantage. The underlying taxonomy is based on conceptual mind map and based on the generalized logic on which all firms operate. We however do not claim that these taxonomies are final and no more further point can be added to the proposed taxonomies. We believe that these taxonomies are merely guiding check lists just like a patient uses the physical checklist in the hospital. But availability and careful study of checklist does not mean that it will make you pilot. For a manager this taxonomical framework help to identify the main source of competitive advantage relevant to his/her firm. From this taxonomy managers will be able to devise competitive strategies to gain sustainable competitive advantage which is the ultimate goal of a managerial job.
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