

Original Research Article

The Feasibility of Technology-based Business Model for SMEs in Taiwan Travel Market

ABSTRACT

Aims: This study analyzes the feasibility of tourism business model created by Chunghwa Telecom for SMEs in Taiwan considering the model design logic at strategic level and the design elements of content, structure and governance at operational level.

Study design: Mention the design of the study here.

Place and Duration of Study: The study was conducted in the city of Taipei, Taiwan, between May 2013 and April 2014.

Methodology: In-depth interviews practitioners were adopted for this study. To obtain more comprehensive and accurate information, the interviewees included the top-level management and executives.

Results: Chunghwa Telecom managers develop HiNet Travel service and Hicloud Mall (wide range of Mobile management system developer) for SMEs. It utilizes ICT technology and cooperates with domestic six major tourism industries to integrate public and private sector resources offering abundant digital tourism information to conduct B2B2C business. The design logic is HiNet Travel associate with opportunity identification and enactment focus in streaming data integration to incorporate firm level strategic thinking, which takes into consideration the alignment of the organization's resources (Fixed Line, Internet Access, Mobile, MOD, Cloud).

Conclusion: Traditional relevant players in the travel market, from travel suppliers to travel intermediaries up to travel agents, have to adapt their business models to these fundamental changes in the travel industry.

Keywords: Context-awareness service; local-based service; business model.

1. INTRODUCTION

With mobile device getting more popular today, it is easy to access web services, use at anytime and anywhere. Mobile technology has become an integral part of the travel industry. Travelers' have become accustomed to booking airline tickets online and prefer to self-book full travel itineraries. Local-based Service (LBS), Recommendation Techniques, and Near Field Communication (NFC) are most famous technical topic today. Mobile Technologies provide a great platform for Add-on services at the destination, such as local events, local coupon push to the mobile device, and check-in service, etc. This innovative travel technology has potential to change all phases of the travel landscape and can enhance travelers' experience through offer personalized services. Personalized refers to individualizing products, services, and contents according to customer interests and preferences. To capture these opportunities, various business models were sprouting and for sure to be a trend in the near future. Therefore, traditional relevant players in the travel

market, from travel suppliers to travel intermediaries up to travel agents, have to adapt their business models to these fundamental changes in the travel industry.

A business model describes the logic of how a firm creates, delivers, and captures value, in economic, social, cultural or other contexts to generate revenues [1]. George and Bock [2] point that business model as opportunity-centric design, which mean a business model is the design of organizational structures to enact a commercial opportunity. Today, travel services providers need consider the new opportunity in mobile digital context to reach a large number of customers, especially for small and medium enterprises (SMEs) [3]. The new value creation depends on how they using existing or emergent technology to formulate new ways of doing business with minimal costs.

Chunghwa Telecom predicts that mobile communication will have a dramatic impact on the travel experience as well create commercial opportunity. It provides HiNet Travel service in 2013 and Hicloud Mall (wide range of Mobile management system developer) for SMEs. SMEs can grow and compete through appropriate adoption of mobile technology, and they do not have the same burden like large-sized company. Hence, HiNet Travel plays an important role in helping the SMEs to be able to compete with their larger counterparts, particularly in SME travel agencies where IT development is not their core capability.

Hinet Travel provide 6 services that could satisfy travelers daily needs, from acquiring local information within vicinity to getting help in Taiwan. It enables travelers to access reliable and accurate information as well as to undertake travel planning. HiNet booking systems enabled users to engage directly with suppliers and challenging the role of intermediaries. It also allowed users to interact dynamically with suppliers and destinations and often make requests that will enable them to customize their travel products. With rapid data transmission on the mobile devices, the expected response time from suppliers to customers has been greatly reduced. The reaction to online inquiries can thus influence customer satisfactions and booking behavior. As a result, SMEs will increase in mobile ad and Hicloud Mall spending (B2B2C).

Previous researches seldom combine the business model analysis from strategic and operational perspective. This study analyzes the feasibility of tourism business model created by Chunghwa Telecom for SMEs in Taiwan considering the model design logic at strategic level and the design elements of content, structure and governance at operational level. With reviewing literature and interviewing practitioners, this paper focus the platform business model, which business process or activities performed by the focal firm as well as by third parties (partners, suppliers, customers), looking forward to help Chunghwa Telecom analyze and improve their current designs to make them fit for the future to capture the opportunities in travel market. Studying the feasibility of business model can understand the obstacles and issues in tourism industry for SMEs, and rebuild the travel agency network values and formulate a win-win new business environment. This platform business model is not limited to tourism industry but also can be applied to other new web business. Based on the important elements in business model and critical successful factors, enterprise can examine current or new business if it has met the requirement. And help business owner to be aware of potential problems and take referent action plan to reduce business risks.

Our article is structured into four parts. The first part is review of the recent literature on mobile technologies. Part two exams the recent business model for Personalizing recommendation in tourism. The third part would begin by examining the business model design for HiNet Travel model; include design logic and design elements and business process. Finally, discusses the findings and their implications.

2. MOBILE TECHNOLOGIES

2.1 Contextual Aware and Local-based Service

Due to ubiquitous cloud services, mobile users desire for local and remote services to effortlessly access context information for adaptation of activities and event notification. Cloud-based Context-Awareness service is most famous technical topic today [4]. Through sophisticated context aware computing, context-aware devices can predict traveler's needs, and guide travelers through their day in a manner more akin to a personal assistant.

Mobile technology is also having a big impact on destination services. Travel suppliers are offering destination-based content which enhances the ability for the traveler to navigate the location. Hence, LBS provide a great platform for Add-on services at the location, such as local events, local coupon push to the mobile device, and check-in service, etc. The cloud technology significantly affects the agencies and their marketing strategy. It helps them provide a more informed services, while at the same time empower travelers' direct contact with the suppliers [5]. Therefore, travel agency is quite suitable for study the decision of local based in cloud. As mentioned above, successful LBS is based on contextual aware of the relevant information, based on Opt-in information, profile, preferences, itinerary, check-in information, as well as the specific travel needs at the time and at their specific location.

2.2 Recommendation Techniques

Many travelers expect information and personalization whenever and wherever they travel. They are always connected and time is a scarce resource. Therefore, a variety of approaches have been used to perform recommendations in these domains to save travelers' time and efforts [6]. Just like Google has also developed tools for hotel search and for travelers to find local businesses (including places to eat) based on the travelers' locations. Several hotels are beginning to offer check-in services with a Near Field Communication (NFC) enabled mobile phone. Personalized tourism services aim at helping the user finding what they are looking for, easily without spending time and effort.

According Kabassi's [7], there are two approaches to filter data, which are content-based filtering and collaborative filtering. Content-based filtering refers to recommending services based on user's previous actions or purchases, while in collaborative filtering; the services are recommended based on the recommendations of other users. Offer optimization technologies can pinpoint the target travelers and improve the productivity of marketing expense, resulting in high accepting of the presenting offers which is based on user profile and buying behavior.

As the result, searching and buying transactions are made easier than before, and travelers become more depend on mobile devices. Bennett and Lai [5] argued that the travel agencies' power on the distribution channels will diminish unless they can offer complimentary advice which satisfies customers' needs. It means travel agencies have to be more service-based and technologically-oriented in their advisory role to prevent them from disintermediation.

3. TOURISM INDUSTRIES

3.1 The Travel Supply Providers in Taiwan

Poon [8] indicated that tourism is an extremely information-intensive industry. Tourism products include flight tickets, room reservations, package tour bookings, car rental, cruise tickets, and other related services. Travel industry has complicated framework, as figure 1,

from travel suppliers (such as airlines, hotels, and railways) to travel intermediaries (such as consolidators, tour operators, and global distribution systems) up to the travel agents. Those services providers are mostly rely on travel agencies to contact wide range of customers.

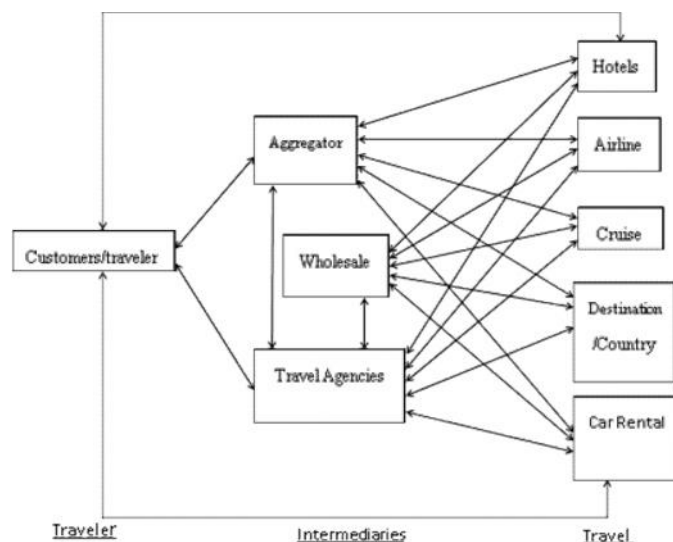


Fig. 1. Travel value chain for independent travel consumers

Travel suppliers are divided into wholesalers and retailers in Taiwan. The retail travel agencies direct contact with tourism products suppliers or indirect contact via wholesale agents. Generally speaking, retail travel agencies are closest to the travelers and assist them on searching and booking their choices of products or services. At the same time, online travel agencies, such as Easy-travel, Priceline, continue to grow fast and are gaining market share. It leads all players in the travel market increasing their efforts to directly sell to the end-consumer through internet or mobile marketing, and climbing the travel trade's value creation ladder. In this way, and by using tie-ups with the travel services of other providers, they are becoming travel intermediaries and even tour operators themselves. For example, Airlines have long depended on travel agencies as their distribution channels to contact wide range of customers, have realized that the internet or mobile allows greater chances to reach customers directly and to cut the cost of intermediaries.

3.2 The change of value chain in travel industry

Due to the advance of mobile technology, travel industry gradually generates a new paradigm shift. This changes the structure of the entire industry and develops a wide range of opportunities and threats for all players. Industry faces challenges of market fragmentation, channel proliferation and new entrants' threats. Mobile technology has become an integral part of the travel industry. It has impacted all phases of the travel lifecycle. Hence, travel intermediaries need to adapt their business models to these changes in travel environment.

With LBS application, travel suppliers increase capability by deploying new mobile device-based services and applications that give connected-passengers access to all their travel needs while on the move. Particularly, context information can be delivered to traveler when he/she is at destination. This context information sends to traveler by several context services through context broker or informdiary, as figure 2. The Context Broker is in charge of selecting appropriate context services to deliver context information to which a context

consumer has required. To a certain degree, this LBS at destination can enhance the traveler experience

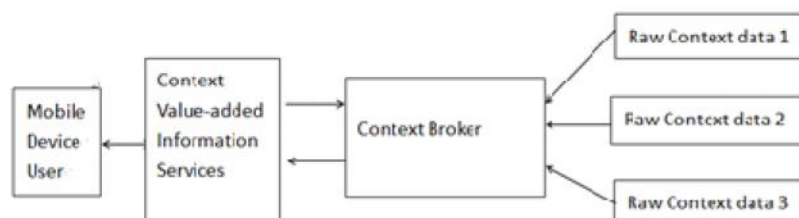


Fig. 2. Framework for local-based personal service

Industry has collected enough personal information, profile and preference about its customers, so it can personalize the user interface as well present the relevant information to its customer based on profile, preference, buying history to improve the customer experience at destination. Therefore, the companies who are actively deploying emerging innovative technologies can gain competitive advantage.

3.3 Business Model for Personalizing Recommendation in Tourism

With the pervasion of internet-enable mobile device over the last few years, such as iPhones, iPads, iPadmini, and Android-based smartphones, mobile users are increasingly requiring services tailored to their context as they are on the move. Our informant unanimously agreed that travel services should be context-aware to deal with the changing environment of the user. According to Dey [9], Context-Awareness web service is “any information that can be used to characterize the situation of entities”, such as the location, time of day, people, devices and services nearby, and user activities. Ubiquitous computing makes use of context-awareness collected from the environment for context definition and service adaptation in real time [4]. Enhancing travelers experience with context and making journey simpler and smooth.

Triposo is a similar kind of open-source travel content aggregation mode. It sells various travel services from within the guides, and doing hotel bookings. It delivers up-to-date information, detailed maps and intelligent recommendations for the entire world. It provides custom real-time recommendations of point of interest (restaurants, museums, shops, parks, etc) to go, just according traveler’s location, time and personal preferences. Downloading a Triposo destination guide to a smartphone, once traveler’s in destination, just check Triposo for real-time information about where you are and what is around you.

Triposo crawls data from the open content (from World66, Wikitravel, Wikipedia, Open Street Maps, TouristEye, Dmoz, Chefmoz and Flickr), apply some algorithms and fully automatically generate travel guides that cover for more than 15,000 destinations in 200 countries around the world. It can make dynamic, personalized recommendations about activities, museums, shopping and shows as well as parks, beaches and places to eat, drink and dance with the locals. Also can book a tour, plan sights to see, consider a day trip and find places to stay and eat. They just charge hotel providers for advertisement.

Another popular emerging travel model is AroundMe. It is an application used in local search, convenient users finding what they want, when they need it. It allows traveler to search for the nearest restaurants, banks, gas stations, book a hotel or find a movie schedule nearby. It integrated the Augmented Reality features and provides GPS-driven direction to user

chosen destination. AroundMe work with Booking.com, Opentable.com, FourSquare, and many localized POI providers. But AroundMe just uses at destination, not like Triposo can use entire travel lifecycle (pre-trip, at destination, post-trip). AroundMe not like Triposo, it has more source of revenue, such as hotel booking (profit share with Booking.com), advertisement from clients, App user.

4. BUSINESS MODEL FOR HINET TRAVEL

What is Business Model? Zott and Amit [10] and Amit and Zott [11] define business model as depicting 'the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities' (p. 219). Today, most of the businesses models are heavily depend on existing or emergent technology. With technology, businesses can reach a large number of customers with minimal costs.

This study follows George and Bock [2] suggestion that business model design involves two parts. The first part is to defining the business logic of a company at the strategic level, the second part refers to the design elements and business process at the operational level.

4.1 Business model design logic for HiNet Travel

In light of SMES being considered as major economic players and a potential source of national, regional and local economic growth [12] software providers' attention have moved to SMEs, offering them a wide range of mobile technology systems which were formerly adopted by large firms only. How Chunghwa Telecom mangers develop a framework for HiNet Travel model to capture the travel business opportunities? Hashim [13] indicate that a virtual business operating environment provides facilities that allow SME owners to build their business in a holistic way. SMEs can find and engage LBS services that match their own needs, compose services if needed, and monitor their business operations over outsourced services.

HiNet Travel predicts that mobile communication will have a dramatic impact on the travel experience as well create commercial opportunity. It provides HiNet Travel service and Hicloud Mall (wide range of Mobile management system developer) for SMEs. SMEs can grow and compete through appropriate adoption of mobile technology, and they do not have the same burden like large-sized company. Hence, Hicloud Mall plays an important role in helping the SMEs to be able to compete with their larger counterparts, particularly in SME travel agencies where IT development is not their core capability.

From figure 3, HiNet Travel enables travelers to access reliable and accurate information as well as to undertake travel planning. HiNet booking systems enabled users to engage directly with suppliers and challenging the role of intermediaries. It also allowed users to interact dynamically with suppliers and destinations and often make requests that will enable them to customize their travel products. With rapid data transmission on the mobile devices, the expected response time from suppliers to customers has been greatly reduced. The reaction to online inquiries can thus influence customer satisfactions and booking behavior. As a result, SMEs will increase in mobile ad and Hicloud Mall spending (B2C2B).

This part associated with opportunity identification and enactment focus in a coherent manner to incorporate firm level strategic thinking, which takes into consideration the alignment of the organization's resources with the environmental factors in achieving competitive advantage in varying combination of cost, quality, time, and flexibility.

4.2 Design elements and business process

Business process and elements design involve a set of interdependent organizational activities centered on HiNet Travel, including those conducted by the HiNet Travel, its partners, vendors or customers, etc. We would like to exam how HiNet Travel's business process has been shaped according to the Design logic. What are the design elements of content, structure and governance to construct the network structure for the platform business model?

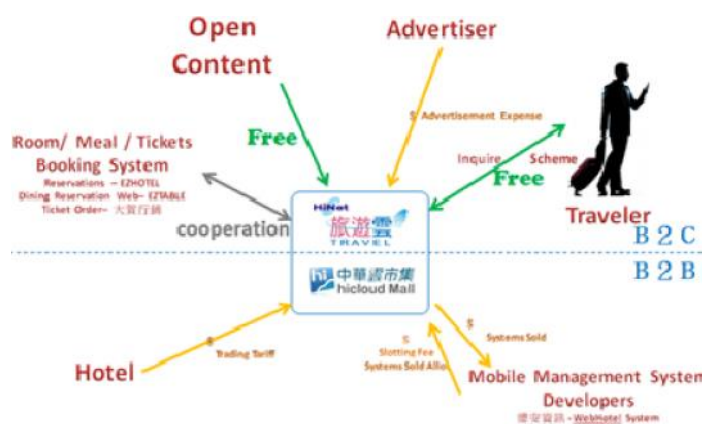


Fig. 3. HiNet business model

HiNet Travel currently collaborate with six industries, including travel agent, hotel industry, restaurant industry, souvenir shops, transportation companies and logistics service industry, offering package tours, hotel booking information and ordering online restaurant reservation service.

In addition, the HiNet Travel trip planner can provide more detailed itinerary just according the time required by various transportation modes. With the streaming data integration of maps, attractions, businesses, lodging, transportation and other types of information, it is convenience for travelers to easily arrange daily trips online and download the itinerary to mobile device before beginning a journey. The six main services provide by HiNet Travel including following:

1. Information: Provides up-to-date travel news and events, as well as the domestic travel agencies enquiry and ordering service.
2. Attractions: Provides information of the attractions in Taipei in both text and audio format based on users' current GPS position. There are 3 display modes to choose from: List mode, Map mode, and AR mode as well as the hottest tourist attractions in Taiwan recommended by China Airlines.
3. Traffic: Provides domestic air tickets query services, as well as the Taiwan Railway and High-speed railway's boarding information.
4. Restaurant : Provides EZTable online restaurant reservation. (Only available in Traditional Chinese.)
5. Accommodation : Cooperation with the largest reservation in the country, EZHOTEL, and provides a variety of accommodation options.
6. Gift shop : Offers hands on information about souvenir for passengers queries.

4. CONCLUSION

With the convergence of business models, all players in the travel industry need to define how they will build and sustain a competitive advantage. Travelers enjoy technology-enabled service delivery. LBS service helps them discover the unexpected and experience travel in destination. Local-based Context-Awareness is a new business concept, currently not yet forming a new industry. But the business model was sprouting and for sure to be a trend in the near future. Therefore, early establishment of this kind of service business model is necessary to grasp business opportunities and create a competitive advantage.

This LBS Business Model is not limited to tourism industry but also can be applied to other new web business. Based on the important elements in business model and critical successful factors, enterprise can examine current or new business if it has met the requirement. And help business owner to be aware of potential problems and take referent action plan to reduce business risks.

REFERENCES

1. Osterwalder A, Pigneur Y. Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers. Wiley; 2010.
2. George G, Bock AJ. The business model in practice and its implications for entrepreneurship research. *Entrepreneurship Theory and Practice*. 2011;35(1):83-111.
3. SMEA (2012). Small and Medium Enterprise Administration, Ministry of Economic Affairs. Accessed 29 March 2012. Available: <http://www.moeasmea.gov.tw/mp.asp?mp=1>
4. Badidi E, Esmahi L. A cloud-based approach for context information provisioning. arXiv preprint arXiv:1105.2213; 2011.
5. Bennett MM, Lai, CWK. The impact of the internet on travel agencies in Taiwan. *Tourism and Hospitality Research*. 2005;6(1):8-23.
6. Montaner M, López B, De La Rosa JL. A taxonomy of recommender agents on the internet. *Artificial intelligence review*, 2003;19(4):285-330.
7. Kabassi K. Personalizing recommendations for tourists. *Telematics and Informatics*. 2010;27(1):51-66.
8. Poon, A. Tourism, technology and competitive strategies. CAB international; 1993.
9. Dey AK. Understanding and using context. *Personal and ubiquitous computing*. 2001;5(1): 4-7.
10. Zott C, Amit R. Business Model Design: An Activity System Perspective. *Long Range Planning*. 2010;43:216-226.
11. Amit R, Zott C. Value creation in e-business. *Strategic Management Journal*. 2001;22(6/7):493-520.
12. Taylor M, Murphy A. SMEs and e-business. *Journal of Small Business and Enterprise Development*. 12004;1(3):280-289.
13. Hashim J. Information communication technology (ICT) adoption among SME owners in Malaysia. *International Journal of Business and Information*. 2007;2(2):221-240.