



In collaboration with

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## 1 EXECUTIVE SUMMARY

The hospitality industry is under strong pressure to avoid profit loss due to the effects of globalization, competition and the harsh economic environment (Mamaghani, 2009). The internet in the last 10 years changed dramatically the way the customer looks and books for hotels (Elliott & Meng, 2011) and caused the hospitality industry to encounter a non-reversal change in the way the hotels create value and are able to sustain a competitive advantage in the Internet era.

This work project proposes, to the hospitality industry, new strategic and managerial approaches to create sustainable competitive advantages based on the empowering of the hotel direct online channel (i.e. the hotel website). We propose to evolve the hotel web site from a brochure kind of website to a customer oriented and interactive virtual front-desk website.

We define the “*hotel virtual front-desk*” as a process of direct, seamless and instantaneously coordination and collaboration between the online customers and the hotel staff to satisfy the customer needs, supported by computers permanently connected to the Internet.

The problem statement “*Can a hotel virtual front-desk lead the hotel to a sustainable competitive advantage?*” was set to understand if this strategic approach based on the empowerment of the direct online channel can effectively lead the hotel to the creation of sustainable competitive advantages.

However with the purpose of removing ambiguity we replaced the “*hotel virtual front-desk*” with the equivalent expression “*direct online channel that has a customer oriented and real-time integration with tacit knowledge*” and this resulted in the researched problem question, namely: “*Can a direct online channel that has a customer oriented and real-time integration with tacit knowledge lead to a sustainable competitive advantage?*”

The work project focused in delivering the hotel managerial perspective (e.g. the Hotel business) and not the software provider perspective (e.g. the HotelASP business). The strategic perspective defense was supported by the state of the art (i.e. academic literature) and not by empirical specific studies (e.g. such as surveys or interviews).

Regarding the business methodologies and to appropriately tackle the managerial problem we chose the methodological approaches and models proposed by *Porter* and *Barney*, namely the *Porter’s* value chain (Porter, Competitive Advantage: Creating and Sustaining Superior Performance, 1985) and the *Barney’s* sustainable competitive advantage model (Barney, Firm Resources and Sustained Competitive Advantage, 1991).

We concluded the work project by confirming that the hotel virtual front-desk approach can lead the hotel to a sustainable competitive advantage through the development of an enhanced customer service capability that is valuable, rare, imperfectly imitable and without substitutes.

## 2 PROBLEM STATEMENT

The vision is to bring new strategic and managerial approaches in how the hotel managers can create and appropriate value from their direct online channels (i.e. hotel websites) and help them to create sustainable competitive advantages.

We want to answer questions such as, How can we create a hotel virtual front-desk? How can we evolve the hotel website to a hotel virtual front-desk to create a better engagement with the customer? How can we transform a stand-alone content and transactional hotel website into a virtual and real-time customer interaction hotel front-desk?

The hotel industry today and its customers are heavy users of the Internet. Customers have been increasingly using the Internet to search for accommodations on hotel websites (Elliott & Meng, 2011). Almost three-fourths of online travel buyers used search engines prior to making their purchases (Mamaghani, 2009). The internet allowed the hotels to reduce their distribution costs, reach a larger potential target market and facilitate the communication between the customers and the hotels (Elliott & Meng, 2011).

The hospitality customers can be found and engaged in the Internet, for example, 95 per cent of web users have searched the Internet to gather travel related information (Mamaghani, 2009). This makes the online channels essential tools to engage and acquire customers (Hsu, Zhu, & Agrusa, 2004).

We know the hospitality customers are online and we also know that hotel service is an important factor in the customer decision process. For example, the success of the *Tripadvisor* site (TripAdvisor, 2013) reinforces the idea that the online customers want to know more about the hotel service rather than only the standard information about price or the product itself.

Why not complement that customer demand for information with a real customer service experience when customers interact with the hotel website?

### 2.1 THE DIRECT ONLINE CHANNEL EMPOWERMENT

The Internet created conditions for the hotel to empower his direct online channel, also known as the hotel website. For the purposes of this paper we consider the hotel “direct online channel” equivalent to the “hotel website” and the term “electronic commerce”, frequently used in the academic literature, to designate the more commonly industry term of “reservation or booking engine”.

In the other hand, the Internet brought the commoditization of technology, for example the globalization and proliferation of the cloud services, making the hotel websites look more undifferentiated in the customer perspective. This brought to the hotel a pressure to find new ways to differentiate from competition and if possible gain a competitive advantage.

It's clear, in our perspective, that the Internet and consequently the hotel direct online channel (i.e. hotel website) is a fundamental and permanent part of the modern hotel business strategy.

In the other hand there is evidence that the hotels don't have a consistent perception of the value associated with the direct online channel (Gilbert, Beveridge, & Lee-Kelley, 2005). The hospitality industry can still exploit better the information systems in order to improve competitiveness (Espino-Rodríguez & Gil-Padilla, 2005).

The hotels must recognize that their direct online channels are no longer simply an online brochure with prices and product information. They need to plan and implement new customer relationship strategies (Bai, Hu, & Jang, 2007).

The hotels should proactively use their customer service knowledge to engage and acquire online customers. It's hard to fulfill that objective if the hotels maintain a reactive and a non-proactive approach, even if relevant knowledge is already codified in the customer relationship management systems. The hotel employees must proactively engage in real-time with their online customers the same way they engage with their non-online and physical present customers.

They need to put all their knowledge, in particular the informal knowledge, to interact with online customers. In our understanding the competitive difference will be in how the hotels use their informal knowledge to acquire online customers and establish a successfully differentiation strategy.

## **2.2 THE OPPORTUNITY AND THE QUESTION**

We believe that there is an opportunity for the hotels to gain a competitive advantage by developing differentiation and cost leadership strategies build on top of a better integration between the online customer and the hotel employees.

The hotel virtual front-desk concept tries to answer questions such as; What if we could deliver to the online customer the same service experience than an in-site customer receives when arrives at the hotel reception desk? What if we could use the hotel tacit knowledge to engage with the direct channel users?

The general objective is to help the hotel manager to develop competitive advantages by a better integration between the online customers and the hotel employees. The work project objective is to understand if a specific managerial approach between the online customers and the hotel employees can theoretically lead to a sustainable competitive advantage.

We want to understand if a hotel manager that implements a customer oriented and real-time integration between the direct online channel and the hotel employees, more specific the hotel tacit knowledge, can lead, at least theoretically, to a sustainable competitive advantage.

The work project problem statement is to answer the question:

- *Can a direct online channel that has a customer oriented and real-time integration with tacit knowledge lead to a sustainable competitive advantage?*

By answering this question we are also answering if a virtual hotel front-desk can lead the hotel to a sustainable competitive advantage.

## 2.3 DEFINITIONS

We define the hotel virtual front-desk as a process of direct, seamless and instantaneously coordination and collaboration between the online customers and the hotel employees to satisfy the customer needs, supported by computers permanently connected to the Internet.

The term “enhanced direct online channel” and the “hotel virtual front-desk” are equivalent and are used in an interchanged way during this work project. The following describes also some important definitions related with our understanding of the problem statement meaning. These definitions help to decompose the several aspects of the question and relate each of the aspect to the methodology used to answer the question.

Customer oriented means a group of actions taken by a business to support its sales and service staff in considering the client needs and the satisfaction of their major priorities (BusinessDictionary.com C. O., 2013). Real-time means a response that appears to take place instantaneously or in the same timeframe as its real world counterpart action (BusinessDictionary.com R. T., 2013). Integration means a process of attaining close and seamless coordination between several departments, groups, organizations and systems (BusinessDictionary.com I. , 2013).

For the purpose of this work project we define “customer oriented and real-time integration” as a process of close and seamless coordination between people and systems that happens instantaneously to support the customer needs.

Direct channel means a distribution channel in which a producer supplies or serves directly to an ultimate user or consumer, without any middleman (BusinessDictionary.com D. C., 2013). Online means a computer or device connected to a network (such as Internet) and ready to use (or be used by) other computers or devices (BusinessDictionary.com O. , 2013).

We define “direct online channel” as a distribution channel in which the producer, in this case the hotel, serves directly the customer using a computer that is connected to a network (i.e. Internet).

Tacit knowledge means unwritten, unspoken, and hidden knowledge held by a person, based on emotions, experiences, insights, intuition, observations and internalized information (BusinessDictionary.com T. K., 2013). The hotel tacit knowledge means capabilities, skills and information that the hotel employees have that is difficult to express, formalize, or share. It's the opposite of explicit knowledge, which is conscious and can be put into words (Lubit, 2001).

The purpose of this work project is to search for an answer, even if theoretically, to the problem statement question and assist the hospitality industry and management in general to find new sustainable strategies to create and appropriate value using the direct online channels.

### **3 RELEVANCE TO THE HOTEL INDUSTRY**

The enhancement of the direct online channel is a strong managerial concern not only in the hospitality industry but in many other businesses that depend on their direct distribution channels to sell products and interact with customers.

Hotels have been using electronic distribution channels for decades to sell their rooms and services. However, the growing popularity of the Internet, along with other emerging technologies, is disrupting those long standing distribution arrangements (Gilbert, Beveridge, & Lee-Kelley, 2005). The Internet replaced the electronic distribution channels (based on computer batch data interchange) by the online distribution channels (The 24 hour and 7 days a week universal network connection).

The traditional non electronic distribution channels (i.e. traditional travel agencies) were considerably replaced by the online agents due to the increasingly familiarity of the customers with the Internet (Mamaghani, 2009) and travel and tourism marketing strategies were forced to adapt and match the information technology advancements and the new customer usage patterns (Mamaghani, 2009).

#### **3.1 ONLINE CHANNELS**

The Internet and the online channels are today fundamental and intrinsic tools in the execution of the modern hotel businesses strategies. The hotels that fail to fully utilize the benefits of the Internet risk to lose market share and long term profitability (Hsu, Zhu, & Agrusa, 2004).

There is strong evidence that the Internet and the online distribution channels are highly relevant for the hotel industry. By proposing new approaches based on the integration of the hotel website and the hotel knowledge we are aiding the hotel manager with new ideas that may lead to the creation of sustainable competitive advantages.

The hotels that do not fully understand how to benefit from the Internet have more difficulty to compete in the hospitality industry (Mamaghani, 2009). The hotel industry is clearly allocating more time and resources to the Internet to promote and interact with customers (Elliott & Meng, 2011).

The direct channels, such as direct calls or the hotel website, are perceived by the hospitality industry as the most profitable channels (Kang, Brewer, & Baloglu, 2007) but the direct online channel is the one that is most likely to grow significantly in next years. On the other hand, indirect channels, such as the traditional travel agencies, would probably and gradually disappear (Kang, Brewer, & Baloglu, 2007).

Regarding all online channels, direct and indirect, the direct channel is most probably the only online channel that will experience high growth. Also the direct channel is the least costly sales channel and is the one most capable of generating the largest profit among the various online channels (Elliott & Meng, 2011).

### **3.2 THIRD PARTY ONLINE CHANNELS**

It's common knowledge in the hospitality industry that the direct online channels are more profitable than going through third party channels (MYUNG, LI, & BAI, 2009). Regarding the indirect channels, Hotels still view third party channels as competitors that may control their pricing decisions and erode brand images (MYUNG, LI, & BAI, 2009).

On the other hand, third party channels can help to increase revenue, promote global distribution, increase visibility of the hotel and offer the ability to push the inventory through their aggressive media advertisements (MYUNG, LI, & BAI, 2009).

The third party online channels include not only the online travel agencies and the travel advice sites but also standard blogs and social networks. We consider that all websites that are non-controlled directly by the hotel and can be a vehicle of promotion and selling of the hotel services are online third party channels.

We think that the use of third party online channels and their commoditization in the last years only brings residual differentiation to the hotel.

### **3.3 THE DIFFERENTIATION QUEST**

A differentiation approach is not possible if the competition also have access to the same benefits provided by the indirect channel. This makes the hotel one of many hotels that are exposed inside the third party website shell. Inside the third party website the hotels compete by price, room offering, and user generated content without any ability to control the online customer. The hotel has very limited power to enforce a differentiation strategy because the online customer is a customer of the third party channel and not from the hotel itself.

If hotels want to implement a successful differentiation strategy they need to focus in what they can directly control, namely their direct channels. Even if they don't have the resources to promote and acquire customers, as the third party channels have, the hotels can always implement low cost customer relationship strategies in their direct channels, for example special marketing campaigns for their recurrent customers.

We don't intent to replace indirect online channels with the direct online channel. The hotel will always have in their distribution channel portfolio a mix of direct and indirect channels and a mix of online and traditional channels. Our intention is to achieve a more reasonable balance between the direct and the indirect channels in a way that creates higher value to the hotel.

Therefore and based on the facts and arguments presented, we conclude that the direct online channel is highly relevant to the hospitality industry.

But how relevant and important is for the hotels to find new ways to create advantages by using their direct online channels? What opportunities exist to enhance the hotel websites? What type of strategies they are using to differentiate them and create competitive advantages?



The direct online channel has evolved in the last years. It started with a content site, brochure like approach, with a phone number and an email to presently something more transactional, namely electronic commerce. But the transition of a content orient approach to a transactional oriented approach is not enough for the hotels to have a competitive advantage.

It's not guaranteed that the customers will book online when they first visit the hotel website, but customers are more likely to stay at a website that provides sufficient, relevant, and meaningful information about the hotel services (Lee & Cranage, 2010). For example room related information such as room availability, amenities, and pictures are the most likely to be investigated on the hotel website before the customer makes the reservation decisions (Jeong, 2004).

The problem is that an only focus electronic commerce approach, namely the delivering of only content and transactional features such as bookings and payments, is too common. The customers already expect a hotel to have a website with electronic commerce but that is not an enough condition for the customers to decide. The customer needs more information to decide, such as reputational and user generated content given by sites such as *Tripadvisor.com*, and also they need to trust the hotel.

It's true that the electronic commerce brought new business opportunities to the global travel and tourism industry. Consumers now have more options regarding vacation and budget planning (Mamaghani, 2009). The electronic commerce has induced many firms to develop a web presence and exploit the opportunities offered by the Internet (SAEED, GROVER, & HWANG, 2005) thus commoditizing the electronic commerce and creating more pressure in finding new ways for the firms, and in this case the hotels, to differentiate themselves.

### **3.3.1 The Next Step**

The next step to enhance the direct online channels is to improve the engagement with the customers and forge new relationships and partnerships (Bai, Hu, & Jang, 2007). For example, the hotel can use customer data to evaluate and reward behavior in an effort to increase customer loyalty or boost share of wallet (Piccoli, 2008).

Customer relationships have become the key to success in the increasingly commoditized travel and tourism industry (Mamaghani, 2009) and customer centric systems are helping the hotels to building long term customer relationships (Racherla & Hu, 2008).

But even a direct online channel that integrates electronic commerce and a customer relationship management system (CRM) is not enough to succeed if information cannot be translated into a successful customer experience.

There is evidence that the hotels are having trouble in using customer management systems. Even after one decade of experience with customer relationship management systems, the majority of hospitality organizations still fail to achieve successful information technology adoption and implementation, and subsequently earn the benefits of using such systems (Racherla & Hu, 2008).

The good news is that hotel customers are often willing to provide personal information that allows better, more tailored service even considering that most hotels have found it difficult to make full use of this personal information (Piccoli, 2008). The data captured by the hotels during the delivery of the customer service experience can be used to create economic value (Piccoli, 2008).

## **4 LITERATURE REVIEW**

The research conducted for this work project did not find any literature that addressed directly and specifically the work project managerial problem, namely: if a direct online channel that has a customer oriented and real-time integration with tacit knowledge can lead the hotel business to a sustainable competitive advantage.

Consequently and to address correctly the managerial problem we decided to organize the review of the literature in three main areas of study, namely direct online channels, tacit knowledge and the conceptual frameworks related with the sustainable competitive advantage, and by understanding the state of the art in each of the areas we will be able to properly answer the question.

The first and second topics address the main subject of the problem, namely: direct online channels and tacit knowledge. The third and last topic is related with the conceptual frameworks used to validate the question, namely: the value chain, resource based view model and the sustainable competitive advantage.

There is also relevant literature that relates the direct online channel with the social networks, mobility and location based solutions. However for the purpose of this work and considering the size limitations associated we opted to focus in the aspects that, in our perspective, shed more light about possible answers to the specific research question.

### **4.1 DIRECT ONLINE CHANNELS**

The objective of this chapter is to review the state of art related with direct online channels in the context of the hospitality industry. The literature typically uses the terms “electronic commerce” and “websites” to designate the online channels. The term “hotel website” is commonly used to define the direct online channel.

The term “electronic commerce” is somewhat ambiguous because in some situations is used has a direct channel and in other situations is used has an indirect channel. Nevertheless, for the purpose of this work we considered only the literature that, in our perspective, is more close to the direct channel definition.

The standard direct online channel is typically composed by three major features, namely: content, bookings and payments. The academic literature regularly uses the term electronic commerce to designate the booking and payment engine capabilities of the hotel website, these features are also commonly called in the hospitality industry as “booking engine”.

There are many authors that reinforce the importance of the hotel direct online channels. According to *Kang* the hotel direct online channel is perceived by the hospitality industry as the most profitable channel (Kang, Brewer, & Baloglu, 2007), *Hsu* refers that the online channel is an essential tool to engage and acquire customers (Hsu, Zhu, & Agrusa, 2004) and finally *Myung* states that it's common knowledge in the hospitality industry that the direct online channels are more profitable than going through third party channels (MYUNG, LI, & BAI, 2009).

The need for differentiation and to create new approaches in the use of the direct online channel is commented by many authors. *Hsu* points to the need for the hotel to find new ways to turn website visitors into customers and go beyond the transactional capability, such as electronic commerce (Hsu, Zhu, & Agrusa, 2004). *Bai* says that the next step in the hotel websites is to improve the engagement with the customers and forge new relationships and partnerships (Bai, Hu, & Jang, 2007).

However there are some authors that alert that although the online channels are claimed to create value for firms, the record shows that firms have been slowly in adopting these solutions (Dai & Kauffman, 2002). The reasons are related to the difficulty in changing the legacy business processes to adopt these new technologies and approaches (Saanen, Verbraeck, & Sol, 1999).

The implementation of new distribution channels, direct or indirect, online or not, normally implies the revision of the business strategies and operational models. Several hotels still lack strategy and business competences. Some hotels are still having difficulties in gaining advantages through the online channels, largely because they cannot distinguish between a customer strategy acquisition and a short-term profitability strategy (Gilbert, Beveridge, & Lee-Kelley, 2005).

There are hotel managers that still think that information technology, and consequently the use of online channels, in the hospitality industry is an ancillary, supporting role in the hotel business (Paraskevas & Buhalis, 2002).

The state of art research about direct online channels was focused in four main areas of study, the enhanced content and services, booking and payments capabilities, customer centric capabilities and finally customer orientated and real-time integration.

#### **4.1.1 Enhanced Content and Services**

There is a common saying that *"if is thought to get the attention of a customer in the physical world then in the virtual world that task is much tougher when the customer can go away in a click of a mouse"*. The existence of quality and well-designed content is a fundamental condition for getting the customer attention but not enough to make the customer purchase.

The purpose of a well-designed, complete and updated content is to create a trustworthy, transparent and knowledgeable relation between the hotel and the customer that can ultimately lead to a customer booking and purchase.

Customers expect to find in the hotel websites certain types of content such as room and location related information (Jeong, 2004) and certain types of services such as planning, booking and

payments (Mamaghani, 2009). A well-designed website with complete and updated content is Key to grab the attention of an online customer and is the first step to develop a trustful relationship between the customer and the hotel.

Quality content and a well-designed site create trust and enjoyment. *Hwang* talks about the importance of trust as a central dimension in the adoption of electronic commerce by the customers (Hwang & Kim, 2007). *Mukhopadhyay* says that customers will demand higher trust level if they are considering buying high value services (Mukhopadhyay, Mahmood, & Joseph, 2008).

Customer's value hotel content that is sufficient, relevant and meaningful (Lee & Cranage, 2010) and according to *Jeong*, customers expect to be able to find room related content, such as room availability, amenities, and pictures (Jeong, 2004). The completeness of the information is an important aspect to reduce uncertainty in the customer (Lee & Cranage, 2010).

Several authors say that a differentiation strategy, in particular in high value customer services, can be achieved by the way the online channel deals with some important customer psychological aspects, such as trust, anxiety and playfulness. The perceived web quality with service contents is supported by a customer experience based on trust, enjoyment and reduced anxiety (Hwang & Kim, 2007).

Also trust is connected to reputation and reputational assets, such as brand image, are among the most important a firm can develop (Galbreath, 2005). The reputation is an important differentiating factor for the hotel website but it takes time to create and is very difficult to be bought (HALL, 1993).

The importance of usability and perceived website quality is also referred by *Hsu* when he says that an excellent service quality may increase customer satisfaction and their purchase intention (Hsu, Chang, & Chen, 2012) also is known that customers give high importance to the ease of making reservations (Yavas & Babakus, 2003).

Service satisfaction or even trust can be also created by providing self-service capabilities in the hotel website (Hwang & Kim, 2007). The self-service capabilities offered by the direct online channel can influence the customer enjoyment and control and reduce the anxiety (Hwang & Kim, 2007).

The delivery of complementary services in the direct online channel, such as reservations for nearby restaurants or entertainment, is also valued by the online customers (Frels, Shervani, & Shvastava, 2003).

Some authors point also to the importance of a tight integration between the direct online channel and the customer electronic word of mouth and reputational user generated content (Lee & Cranage, 2010). The breadth of services and information offered by the hotel, such as after-sale service or return policies, can have a positive impact in the online customer (Mukhopadhyay, Mahmood, & Joseph, 2008).

The hotels can achieve high growth, through the acquisition of new customers, by offering value creating and enhancing services related with the purchase decision process (SAEED, GROVER, &

HWANG, 2005). High quality websites are fundamental, through customer loyalty, for the hotel to improve short-term, as well as long-term, performance (Hwang & Kim, 2007).

#### **4.1.2 Booking and Payment Capabilities**

The booking and payment capabilities of the hotel website are synonymous of electronic commerce in the hospitality industry.

The importance of online channels with transactional capabilities, such as electronic commerce, is highly referred in the literature and clearly confirms its importance. Customers will purchase using electronic commerce if they perceive that those services will be more convenient than buying from non-online travel agencies (Mukhopadhyay, Mahmood, & Joseph, 2008).

Several sources convey that the electronic commerce is a vehicle to deliver value added services (SAEED, GROVER, & HWANG, 2005), encourages firm economic growth with accessibility, collaboration, automation and flexibility capabilities (Mamaghani, 2009) and firms that possess high electronic commerce competence can demonstrate superior performance (SAEED, GROVER, & HWANG, 2005).

According to *Karakaya*, electronic commerce can generate cost effectiveness, market penetration, improved customer service and is an important tool to expand sales to a wider geographical region (Karakaya & Shea, 2008).

The literature refers that the direct online channel with electronic commerce capabilities, also known as booking capabilities, can meet customer expectations (Elliott & Meng, 2011) but is also clear, in our perspective, that only content and electronic commerce capabilities are not enough to effectively acquire customers.

#### **4.1.3 Customer Centric Capabilities**

The relevance of customer centric strategies in the hospitality industry is frequently found in the literature. *Bai* refers that building customer-centric communities is an effective way to sustain customer loyalty (Bai, Hu, & Jang, 2007). The hotels can improve customer loyalty and long term performance by enhancing the online customer experience (SAEED, GROVER, & HWANG, 2005).

A customer centric system can leverage customer acquisition and retention by managing long lasting customer relationships (Racherla & Hu, 2008). According to *Stone* a customer centric system helps the hotel to identify and capture value added opportunities, reduce churn rates and increase purchase recurrence (Stone, Hobbs, & Khaleeli, 2002).

A customer centric strategy such as personalization is appropriate for an industry such as the hospitality that has high repurchase frequency and a high degree of customizability (Piccoli, 2008). *Hsu* mention the importance of using the hotel customer databases to strength the relationships with recurrent customers (Hsu, Zhu, & Agrusa, 2004) and *Piccoli* reinforce that message by saying that customer data can help to acquire online customers (Piccoli, 2008).

#### **4.1.4 Customer Oriented and Real-time Integration**

A customer oriented and real-time integration is a process of close and seamless coordination between people and systems that happens instantaneously to support the customer needs. Real-time means a response that appears to take place instantaneously or in the same timeframe as its real world counterpart action (BusinessDictionary.com R. T., 2013).

This chapter addresses the technologically differentiator factor that enables the delivery of the hotel tacit knowledge to the online customer, via the direct online channel, and thus creating a sustainable competitive advantage. This chapter also searches for literature related with the two fundamental pillars in the success of a technical implementation of this kind of integration, namely: the all in one tool and the cloud based software service.

The combination of a cloud based service model with a customer oriented and real-time integration features opens effective opportunities for the hotels to develop cost leadership and differentiation strategies.

Real-time integration allows a more tightly collaboration and exchange of information between the customers and the hotel. The close and seamless coordination between people, in this case between the customer and the hotel, is in our understanding a process of collaboration. The value creation will be greater and faster in firms that create value collaboratively (FJELDSTAD, SNOW, MILES, & LETTL, 2012).

To provide a real-time, meaningful and seamless customer experience it's important also a tightly integration with the hotel primarily business activities such as, marketing, sales, service and operations. The integration of the online channels with the hotel management systems in a single service platform (Gruber, 2011) can dramatically improve the customer experience and simplify the management of information technology by the hotels (Schneider, 2012).

The integration of business activities along the value chain is important to create value (Dai & Kauffman, 2002) and allows the hotel to leverage synergies, to improve the quality of services and to minimize costs (FRANCALANCI, WILLCOCKS, & KERN, 2001).

The real-time ability to interact with the customers is referred by several authors. *Bai* says that customers tend to have a certain level of perceived anxiety before they purchase and that instant online conversations can reduce this anxiety and convert a potential customer to a booker (Bai, Hu, & Jang, 2007).

Also the direct online channel permits a real-time and effective yield management implementation that facilitates price discrimination and revenue management. This real-time hotel differential pricing can be efficiently applied to different customers and different amounts of room purchases (Wei & Lee, 2009). A modernized revenue management system would likely increase a company's revenue by an additional four to eight percent (Wei & Lee, 2009).

Real-time communication tools such as instant chat, video conferencing (e.g. *skype*) or electronic bulletin board (i.e. forums) allow the customers and the hotels to share information publicly and interact with each other and thus build long-term customer relationships (Bai, Hu, & Jang, 2007).

Also there are several authors that recommend the implementation of customer relationship management systems to strength the interactivity between the hotels and customers and facilitate the real-time collection and integration of disparate sources of information (Racherla & Hu, 2008).

From the literature readings we conclude that a customer oriented and real-time integration between online customer and the hotel staff is highly dependent of the capability of the hotel to adopt not only new specific web based technologies but also to adopt a new technology paradigm such as the use of cloud based software services.

A successful implementation is not achieved only with specific and independent real-time features, such as instant messaging or video conferencing, but also needs real-time integration with all the systems that interact with the customers and the hotel employees. This means integrating in one tool the marketing, sales, customer service and operations in a unique and universal software tool.

Many hotels, in particular the small and medium sized hotels, don't have specific staff to deal with the direct online channel and with the time and availability that a real-time interaction with online customers requires. Our proposal is that the front-desk hotel staff should start engaging with the online customers the same way it interacts with the in-site or non-online customer by using an extended hotel management system that incorporates these new customer oriented and real-time functionalities.

The real-time integration is achieved by real-time communications tools, such as videoconferencing and chat, integrated and embedded with the hotel website and the hotel marketing, management and operational system.

#### **4.1.4.1 Technological Feasibility**

A universal implementation on the hospitality industry, in particular in the small and medium sized hotels, of the hotel virtual front-desk can only be possible using cloud based software services.

Otherwise in our opinion it will be not feasible or very difficult for the small and medium sized hotels to access this type of technology due to the cost and complexity of the technology.

The technology, such as the one provided by [www.hotelasp.com](http://www.hotelasp.com), is delivered as a cloud service and integrates in one service, the marketing, sales, services and operations of the hotel (Ribeiro, 2013).

The technological feasibility is guaranteed by the use of cloud based software services technology and also by the important fact that the hospitality industry is strongly embracing the cloud based hotel software services model and thus facilitating the technology adoption.

The direct online channel can strongly benefit from the low-cost, availability and expandability of the cloud based software services model. This model creates strong opportunities for the hotels to develop cost leadership strategies.



There are a significant number of literature references to the importance of the utilization of cloud based services in the hospitality industry. Cloud based hotel software services has the potential to offer hotels increasingly simplified IT departments and allows for immediate growth without having to deal with IT growing pains (Schneider, 2012). Cloud based services allows firms to use computing resources that they do not own or maintain, and thereby reduces cost of information systems and computing (Gai & Li, 2012).

On demand software services are presently known as cloud computing. Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources that can be rapidly provisioned and released with minimal management effort or service provider interaction (NIST, 2013).

According to *Aljabre* the correctly and efficiently use of cloud computing in a business can increase profits for a firm (Aljabre, 2012) and Schneider expects that the adoption of cloud computing by the hospitality industry will have a major impact on the way that information and computer resources are handled by the hotels (Schneider, 2012).

The benefits of cloud computing include low-cost, network availability, innovation, high expandability and user friendly (Gai & Li, 2012) also *Briscoe* states that the growing popularity of Cloud Computing is related with its convenience (Briscoe & Marinos, 2009). Cloud computing can be delivered on demand and charged per use (Castejón, Gavras, Gonçalves, Moiso, Undheim, & Zoric, 2011).

The cost reduction is one of the major advantages (Paraskevas & Buhalis, 2002). However there are some issues related with control, safety, confidentiality and legacy interfaces that constrain some hotels (Paraskevas & Buhalis, 2002) from adopting this kind of services. Also there is some evidence that the more important is the IT to the hotel the more difficult is the adoption of these services (Espino-Rodríguez & Gil-Padilla, 2005).

## **4.2 TACIT KNOWLEDGE**

The approach to the literature research was to understand what types of knowledge exist in the hotel business, to confirm that tacit knowledge is the most valuable and differentiating knowledge in the hotel and finally to establish a clear connection between tacit knowledge and the creation of competitive advantages.

According to *Lubit*, people acquire tacit knowledge when they observe or participate in a situation and see how the actions, and the actions of others, affect the outcome (Lubit, 2001). The literature confirms that the hotel tacit knowledge is one of the most valuable and differentiating resources a hotel manager can have to create a competitive advantage (Bouncken, 2002).

The implementation of a customer oriented or personalization strategy requires personnel interaction and understanding and allows the transfer of tacit knowledge (Bouncken, 2002).

Employee's know-how is one of the most important contributors to business success and is also one of the most durable resources (HALL, 1993). Most of that know-how is considered tacit knowledge and

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is stored in routines, such as regular and predictable behavior patterns (Lubit, 2001), that are difficult to codify (Balconi, Pozzali, & Viale, 2007) and because it's much harder for a competitor to copy than explicit knowledge, the ability to capture and transfer tacit knowledge is the key to developing a sustainable competitive advantage (Lubit, 2001).

According to *Bouncken*, the hotel knowledge can be categorized in task-specific knowledge, task-related knowledge and guest-related knowledge (Bouncken, 2002).

The task-specific knowledge contains the specific procedures, actions and strategies to fulfill a task and contains a high rate of tacit knowledge that allow less cognitive attention and reflection to a specific task (Bouncken, 2002).

A strong task-specific knowledge improve guest service by enhancing the hotel staff mental capacity to listen to the guest, fulfill specific preferences, act friendly and develop new or alternative service operations (Bouncken, 2002). Task-related knowledge is associated with tasks accomplish by teamwork and not by the individual. Guest-related knowledge includes the knowledge of what a specific customer expects, wants and wishes (Bouncken, 2002).

We can consider that tacit knowledge is at work when the exchange of texts or verbal instructions is not enough to allow for a full knowledge transfer (Balconi, Pozzali, & Viale, 2007). Tacit knowledge can be spread within a firm but is very difficult for competitors to copy (Lubit, 2001).

The management of online channels can also create tacit knowledge and that knowledge may enable the firm to improve organizational processes and routines that enhance customer value (SAEED, GROVER, & HWANG, 2005).

The tacit knowledge is significantly influenced by the organizational assets, such as culture, human resource management policies and corporate structure (Galbreath, 2005). The firm network relations, internal or external, can also positively influence the tacit knowledge (Duschek, 2004).

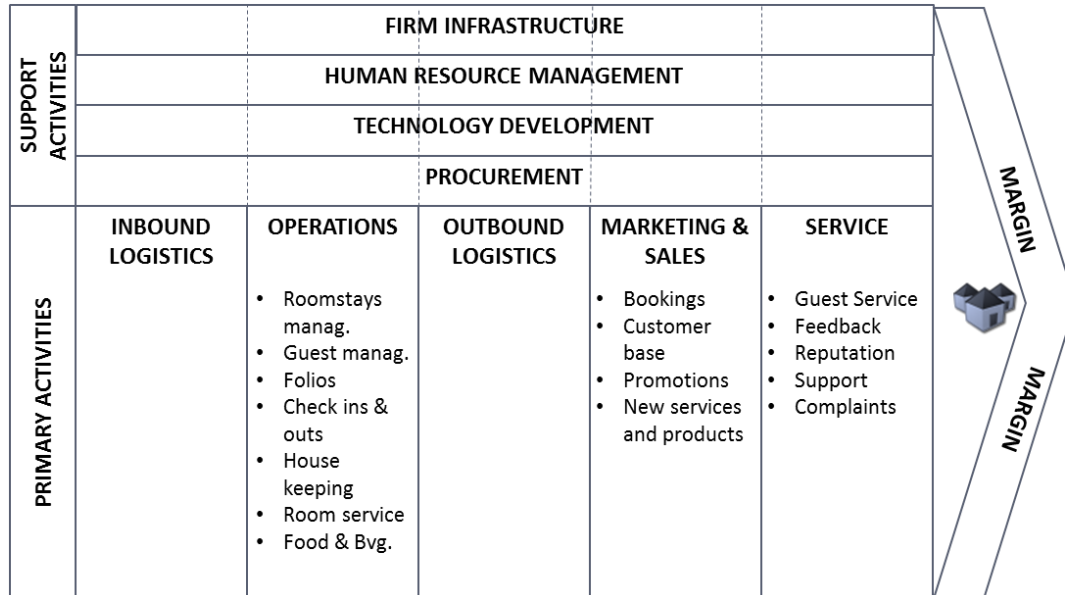
### **4.3 SUSTAINABLE COMPETITIVE ADVANTAGE MODEL**

The sustainable competitive advantage literature review was centered in the Porter's value chain and the resource based view model. The *Porter's* value chain (Porter, *Competitive Advantage: Creating and Sustaining Superior Performance*, 1985) was used to identify the resources generated by the proposed direct online channel features and the *Barney's* sustainable competitive advantage model (Barney, *Firm Resources and Sustained Competitive Advantage*, 1991) was used to understand how certain resources can lead to sustainable competitive advantages.

#### **4.3.1 Value Chain**

The Porter's value chain (Porter, *Competitive Advantage: Creating and Sustaining Superior Performance*, 1985) is an important tool to understand how firms create value and in this specific case understand how the integration between the online channel and the hotel staff impacts the value creation. The value chain allows the hotel to identify sources of competitive advantages by showing the activities that have access or generate relevant resources.

The hotel value chain, illustrated in the next figure, establishes operations, marketing & sales and service as the most relevant primary activities for the hotel value creation. *Porter* states that a competitive advantage can be created when a firm performs certain value added activities at a lower cost than its competitors or in a unique way that creates value to the customer (*Porter, Towards a Dynamic Theory of Strategy, 1991*).



**Figure 1 – Hotel Value Chain (Source: Own)**

The hotel virtual front-desk affects all the main primary activities of the hotel value chain. The literature review done in the previous chapters (“Direct Online Channels” and “Tacit Knowledge”) supports the conclusion that the direct online channel that has a customer oriented and real-time integration with tacit knowledge (i.e. hotel virtual front-desk) has a strong impact in the hotel value chain primary activities, namely: operations, marketing, sales and service, by lowering the cost of technology and increasing customer service in all of those activities.

The term virtual in “hotel virtual front-desk” is tightly connected and supported by the cloud based software services technology. The reduction of the technology total cost of ownership, as supported and defended in the “Technological Feasibility” topic of the “Direct Online Channels” chapter, creates conditions for the development of cost leadership strategies and consequently to the development of cost efficiency capabilities. The integration between the direct online channel and the hotel tacit knowledge creates better customer service, as supported and defended in the “Direct Online Channels” chapter, and leads to the development of differentiation strategies.

Therefore we conclude that these new direct online channel features leads to the development of an enhanced customer service resource and also to the development of an enhanced cost efficiency resource. Because these resources are essentially related to how skills and competences are combined or integrated to create value we decided to call them capabilities instead of the more generic term resources.

Enhanced customer service is the hotel staff ability to transform the proposed direct online channel technology into customer added value using their tacit knowledge and social skills.

Enhanced cost efficiency is the hotel staff ability to effectively use the proposed direct online channel technology to reduce cost in customer related interactions and to reduce the technology total cost of ownership.

The term enhanced is prefixed to the customer service and cost efficiency capabilities to indicate that both capabilities are improved due to the benefits of using a direct online channel that has a customer oriented and real-time integration with tacit knowledge. Hereafter both capabilities will be called enhanced customer service and enhanced cost efficiency.

### **4.3.2 Resource Based View Model**

An information processing system, such as the one that is proposed in this work paper, that is deeply embedded in the firm, such as the hotel, informal and formal management decision-making process may hold the potential of sustained competitive advantage (Barney, Firm Resources and Sustained Competitive Advantage, 1991).

Until now our work lead to the conclusion that the first part of the work project question (i.e. “*Can a direct online channel that has a customer oriented and real-time integration with tacit knowledge lead to ...*”) does create, at least theoretical, enhanced customer service and cost efficiency capabilities.

The next question is if those enhanced resources are enough to lead the hotel to the creation of sustainable competitive advantages based on cost leadership and differentiation strategies.

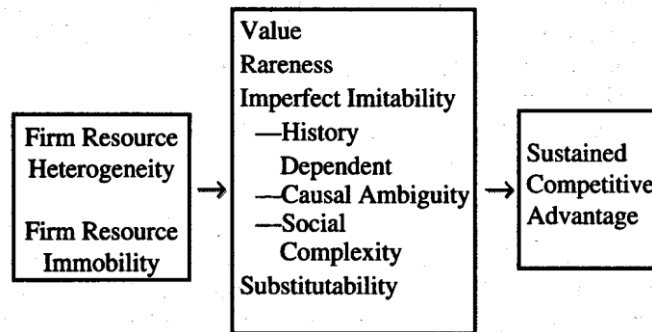
The literature defines resources as all assets, capabilities, organizational processes, firm attributes, information and knowledge controlled by a firm that enable the firm to implement strategies that improve its efficiency and effectiveness (Barney, Firm Resources and Sustained Competitive Advantage, 1991).

The know-how of employees is an intangible resource (HALL, 1993) and can contribute more significantly to the firm success than tangible assets (Galbreath, 2005). Capabilities involve how skills and competences are combined or integrated to create value. Capabilities, such as customer service and cost efficiency, can contribute more significantly to firm success than either intangible or tangible assets (Galbreath, 2005).

A competitive advantage can more easily be obtained from the exploitation of a valuable resource-capability combination (NEWBERT, 2008), such as the enhanced cost efficiency capability that result from a combination of cloud based technology and the hotel staff capability to use that technology. Both identified resources (e.g. customer service and cost efficiency) are a combination of technology and capabilities but for simplicity we decided to use only the term capability to identify both resources.

According to the literature, a hotel has a sustainable competitive advantage when implements a value creating strategy that is not simultaneously being implemented by competitors and those competitors

are unable to duplicate the benefits of the strategy (Barney, Firm Resources and Sustained Competitive Advantage, 1991).



**Figure 2 - Sustained Competitive Advantage Model (Source: Barney, 1991)**

These capabilities results from a mix of tacit knowledge, technology and social complexity. The outcome of this combination leads to heterogeneous and immovable resources and consequently good candidates to apply the sustained competitive advantage model, as illustrated in the previous figure.

The enhanced customer service and cost efficiency capabilities to generate a sustained competitive advantage must have four attributes, specifically: they must be valuable, they must be rare among the hotel competitors, they must be imperfectly imitable and there cannot be strategically equivalent substitutes for those resources that are valuable but neither rare nor imperfectly imitable (Barney, Firm Resources and Sustained Competitive Advantage, 1991).

The next topics addresses each of the four attributes (i.e. valuable, rareness, imperfect imitability and non-substitutability) that a resource must have to lead the hotel to the creation of a sustainable competitive advantage.

#### **4.3.2.1 Valuable**

Resources are valuable when they enable a firm to implement strategies that improve its efficiency and effectiveness (Barney, Firm Resources and Sustained Competitive Advantage, 1991).

According to *Hall* the firm staff know-how is one of the most important contributors to business success (HALL, 1993). The hotel staff interaction with the online customers, via the direct online channel, can create tacit knowledge and that knowledge may enable the hotel to improve organizational processes and routines that enhance customer value (SAEED, GROVER, & HWANG, 2005).

The literature confirms that the proposed enhanced customer service capability is valuable. The enhanced customer service, as validated in the “Direct Online Channels” chapter, can significantly increase the business performance. According to *Kang* and *Myung* the direct online channel is the most profitable channel (Kang, Brewer, & Baloglu, 2007) and (MYUNG, LI, & BAI, 2009).

*Saeed, Hsu and Hwang* say that the delivery of high quality websites based in customer enhanced services can lead to a high growth process (SAEED, GROVER, & HWANG, 2005), (Hsu, Chang, & Chen, 2012) and (Hwang & Kim, 2007). *Francalanci* and *Fjeldstad* state that integration and collaboration creates value (FRANCALANCI, WILLCOCKS, & KERN, 2001) and (FJELDSTAD, SNOW, MILES, & LETTL, 2012).

Almost all authors refer that the direct online channel is a valuable tool to improve the business performance. *Karakaya and Mamaghani* reinforces that the direct online channel, with transaction capabilities, can improve performance (Karakaya & Shea, 2008) and (Mamaghani, 2009).

The literature confirms that the proposed enhanced cost efficiency capability is valuable. The enhanced cost efficiency, as validated in the “Technological Feasibility” topic of the “Direct Online Channels” chapter, can significantly decrease the technology cost of ownership. Cloud based services allows to reduce the cost of information systems and computing (Gai & Li, 2012). *Aljabre* states that the use of cloud based services in a business can increase profits by cost reduction (Aljabre, 2012)

#### **4.3.2.2 Rareness**

Valuable and rare organizational resources can only be sources of sustained competitive advantage if firms that do not possess these resources have considerable difficulty in obtaining them (Barney, Firm Resources and Sustained Competitive Advantage, 1991).

The review of the literature did not find any evidence that demonstrated that the hotels, at the present time, are using systematically customer oriented approaches in their hotel websites or using cloud based software services. At most there is some evidence that hotels typically have a website and that some of them have transactional capabilities.

The rareness of visible proof that hotels are using a systematically customer centric approach to their direct online channels or using cloud based services, at least in the public domain, suggests that the hotels are still not adopting customer centric or cloud based hotel software solutions and therefore these resources are still rare capabilities in the hospitality industry.

Another perspective is based in the literature review where there is some evidence that this type of approach and technology is still difficult to be acquired, learned and explored by the hotels due to the advanced technology and complex process reengineering. This means that these kinds of resources are still rare in the competition or in the hospitality industry in general.

According to *Gilbert, Saanen and Dai*, some hotels are still having difficulties in gaining advantages through the online channels (Gilbert, Beveridge, & Lee-Kelley, 2005), (Saanen, Verbraeck, & Sol, 1999) and (Dai & Kauffman, 2002) and *Paraskevas* refers that some hotels still consider the online channels as ancillary (Paraskevas & Buhalis, 2002). This difficult of the hotels to adapt to new technological environments, in particular the small and medium sized, means that these resources are still rare and cannot be easily found in the hospitality industry.

We conclude that both capabilities, enhanced customer service and enhanced cost efficiency, are valuable and rare and therefore it's possible the hotel to gain at least a temporary competitive advantage if the hotel can effectively achieve a successful and long lasting implementation of these capabilities.

#### **4.3.2.3 Imperfect Imitability**

Using the Barney's model (Barney, Firm Resources and Sustained Competitive Advantage, 1991) and adapting it to the hospitality industry we can say that the enhanced customer service and cost efficiency capabilities are imperfectly imitable, or difficult to copy, if at least one of the following hypotheses is true: (a) the ability of the hotel to obtain these resources is dependent upon unique historical conditions, (b) the link between the resources possessed by a hotel and the hotel sustained competitive advantage is causally ambiguous, or (c) the resources that generates the hotel advantage are socially complex.

Firm's resources may be imperfectly imitable if they result from very complex social phenomena that are beyond the ability of firms to systematically manage and influence (Barney, Firm Resources and Sustained Competitive Advantage, 1991).

A successful implementation of the enhanced customer service capability requires technology savvy hotel employees that can accomplish real-time social multi-tasking processes between the in-site customers, the online customers, the other hotel staff and the hotel management.

The ability to maintain profitable social relationships, in-site or online, between so many actors in the hotel cultural and business environment are capabilities that are difficult to develop and even more to imitate due to the complex social phenomena that is associated.

This type of capabilities cannot be directly created or influenced by the hotel managers and thus we can conclude that the enhanced customer service capability, if acquired by the hotel, is imperfectly imitable.

Our conclusion corroborates *Barney* when he says that the exploitation of physical technology in a firm often involves the use of socially complex firm resources (Barney, Firm Resources and Sustained Competitive Advantage, 1991).

The casual ambiguity can be applicable to the enhanced customer service capability because the link between the hotel resources and its sustained competitive advantage is poorly understood due to the dependence of the hotel staff tacit knowledge. It is difficult for competitor hotels that are attempting to duplicate a successful hotel strategy through imitation of its resources to know which resources it should imitate (Barney, Firm Resources and Sustained Competitive Advantage, 1991), thus we can conclude that the enhanced customer service capability is imperfectly imitable due to highly dependence of the hotel staff tacit knowledge.

Regarding the enhanced cost efficiency capability, we consider that this capability also requires technology savvy hotel staff but does not need people capable of handling social multi-tasking interaction in real time such as the people needed for the enhanced customer service capability.

We believe that sooner or later most people, including the later generations, will easily handle web based technology (e.g. know how to use a web browser, such the internet explorer or chrome), thus concluding that the enhanced cost efficiency capability is not imperfectly imitable.

A unique historical condition, or first mover advantage, is not applicable in both proposed capabilities because these resources are not obtained from the hotel unique path through history (Barney, Firm Resources and Sustained Competitive Advantage, 1991). Nevertheless, some authors refer that the hotels that brings market innovative products, such as the one proposed, ahead of competitors can generate various benefits in economic, preemptive, technological and behavioral factors (Castro & Desender, 2010).

In conclusion, enhanced customer service capability is imperfectly imitable due to the social complex phenomena and to casual ambiguity. The enhanced cost efficiency capability is not imperfectly imitable.

#### **4.3.2.4 Non-substitutability**

The enhanced customer service capability, as explained in the previous chapter, requires the hotel to have specific tacit knowledge to deal with technology and real-time social complex multi-tasking processes. This capability highly depends of the hotel staff tacit knowledge to deal with multiple customer oriented social relationships supported by cloud based software services. Also this capability when acquired is very difficult to transmit to other persons due to the fact that it's strongly related with the person capacity to deal with customer facing interactions in the specific environment of the hotel.

The implementation of similar customer differentiation strategies using alternative or substitute resources is not possible because there are no alternative resources to this specific hotel tacit knowledge that are not rare and imitable. The ability to successfully interact in the same timeframe with in-site customers and online customer is a rare resource. It's difficult to find people or equivalent substitutes capable of such abilities and consequently the enhanced customer service capability does not have any strategically equivalent valuable resources that are themselves either not rare or imitable (Barney, Firm Resources and Sustained Competitive Advantage, 1991).

Therefore we conclude that the enhanced customer service does not have substitutes that are non-rare or imitable.

Finally, we can conclude that the enhanced customer service is valuable, rare, imperfectly imitable and does not have substitutes and thus is a resource that can lead the hotel to a sustainable competitive advantage.



## 5 METHODOLOGY

The general methodology applied to this work project consisted in defining the problem, understand the relevance and managerial implications of the problem and propose an answer supported by the review of the academic literature. These methodology steps are illustrated in the document work project table of content included in the beginning of the present document.

The work project focused in delivering the hotel managerial perspective (e.g. the Hotel business) and not the software provider perspective (e.g. the HotelASP business). The strategic perspective defense was supported by the state of the art (i.e. academic literature) and not by empirical specific studies (e.g. such as surveys or interviews).

The work project conclusions to the problem statement are embedded in the “Literature Review” chapter. This approach makes more clear and easy to link and defend our conclusions with the literature author’s opinions.

Regarding the business methodologies and to appropriately tackle the managerial problem we chose the methodological approaches and models proposed by *Porter* and *Barney*, namely the *Porter’s* value chain (Porter, *Competitive Advantage: Creating and Sustaining Superior Performance*, 1985) and the *Barney’s* sustainable competitive advantage model (Barney, *Firm Resources and Sustained Competitive Advantage*, 1991). Both are detailed and explained in the literature review chapter.

## 6 DISCUSSION AND CONCLUSIONS

The technology proposed for the enhanced direct online channel (i.e. hotel virtual front-desk) is already available, such as the one provided by HotelASP, but technology alone can hardly create any customer oriented competitive advantage without the presence of customer centric people that are able to successfully use that technology to create value and improve the business performance.

We concluded that a direct online channel that has a customer oriented and real-time integration with tacit knowledge (i.e. hotel virtual front-desk) can lead the hotel to a sustainable competitive advantage through the development of enhanced customer service and cost efficiency capabilities.

We defined the hotel virtual front-desk as a process of direct, seamless and instantaneously coordination and collaboration between the online customers and the hotel staff to satisfy the customer needs, supported by computers permanently connected to the Internet.

A successful implementation implies that the hotel virtual front-desk must cohabit with the in-site front desk and this means a deep change in the hotel operational and managerial processes and thus requires a business reengineering process to adapt the actual business workflows to this new concept. This additional work can be a constraint to hotels that don’t have enough determination or resources to change their legacy business processes.

Also relevant is the fact that hotels, in particular the small and medium sized hotels, don’t have specific staff to deal only with direct online channel and even if they had human resources available to



fulfill that task (e.g. online booking staff) it's our opinion that a successful online customer interaction must be done by the people that are used to engage with hotel customers and possess the valuable and rare guest oriented tacit knowledge, namely the hotel front-desk staff.

Therefore we propose, in the context of a virtual front-desk implementation, that the actual front-desk hotel staff engage with the online customer the same way it engages with the in-site customer, and thus developing social multi-task skills in different channels, such as the online and in-site. This social multi-task ability and the empowerment of the actual front-desk staff allows to transform most of the hotel actual guest tacit knowledge into a valuable customer service to the online customer.

Likewise the tacit knowledge acquired from the interaction with the online customers can be used to create value for the non-online customers. The mix of in-site and online guest tacit knowledge can lead to unique and valuable customer based differentiation strategies.

In one hand we agree that these tacit knowledge dependent capabilities are not easy to find or develop by the hotel, mainly because they highly depend of people with specific social skills and tacit knowledge, such as the capability of handling multiple social interactions in real time through online and in-site channels. For example: the employees must be technology savvy and capable of accomplishing real-time social multi-tasking processes between the in-site customers, the online customers, the hotel staff peers and the hotel management.

But in the other hand we believe that is possible for people, in particular the younger generations familiarized with the internet based technologies, to develop the ability to transform the hotel virtual front-desk technology into customer added value using their tacit knowledge, social skills and technology fluency.

We conclude this work project with the statement that hotels can create customer oriented differentiation strategies based in the concept of the virtual front-desk and that a direct online channel that has a customer oriented and real-time integration with tacit knowledge can lead the hotel to a sustainable competitive advantage. This competitive advantage is secured by an enhanced customer service capability that is valuable, rare, imperfectly imitable and without substitutes.

## **7 SELF-EVALUATION**

As a person that worked in the past as a hotel front-desk clerk and as the person responsible for the design and implementation of the HotelASP technology and business model, I do believe that the hotel virtual front-desk concept can bring new thrilling and innovative ways to the hotel, an in particular to the people that work in front-desk reception and engage every day with customers.

This work project strongly complemented the work developed during the MBA internship by giving a clear strategic perspective to the HotelASP business and deeply clarified important strategic concepts learned during the MBA strategy course related with the internal environment of the firm, such as value-chain analysis and resource based view of the firm. Also I had opportunity to apply concepts learned during the marketing, operations and consumer behavior MBA courses.

## 8 APPENDICES

The appendices available are only the bibliography associated with the present work project.

### 8.1 BIBLIOGRAPHY

- Aljabre, A. (2012). Cloud Computing for Increased Business Value. *International Journal of Business and Social Science*, Vol. 3 No. 1; January 2012.
- Bai, B., Hu, C., & Jang, S. (. (2007). Examining E-Relationship Marketing Features on Hotel Websites. *Journal of Travel & Tourism Marketing*, 21:2-3, 33-48.
- Balconi, M., Pozzali, A., & Viale, R. (2007). The “codification debate” revisited: a conceptual framework to analyze the role of tacit knowledge in economics. *Industrial and Corporate Change*, Volume 16, Number 5, pp. 823–849.
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, Vol. 17, N°1, 99-120.
- Barney, J. (1995). Looking inside for competitive advantage. *Academy of Management Executive*, Vol. 9 No. 4.
- Bouncken, R. B. (2002). Knowledge Management for Quality Improvements in Hotels. *Journal of Quality Assurance in Hospitality & Tourism*, Vol. 3, N° 3/4, pp. 25-59.
- Briscoe, G., & Marinos, A. (2009). Digital Ecosystems in the Clouds: Towards Community Cloud Computing. *3rd IEEE International Conference on Digital Ecosystems and Technologies*. IEEE.
- BusinessDictionary.com, C. O. (2013, 03 24). Retrieved 03 24, 2013, from BusinessDictionary.com: <http://www.businessdictionary.com/definition/customer-orientation.html>
- BusinessDictionary.com, D. C. (2013, 03 24). Retrieved 03 24, 2013, from BusinessDictionary.com: <http://www.businessdictionary.com/definition/direct-channel.html>
- BusinessDictionary.com, I. (2013, 03 24). Retrieved 03 24, 2013, from BusinessDictionary.com: <http://www.businessdictionary.com/definition/integration.html>
- BusinessDictionary.com, O. (2013, 03 24). Retrieved 03 24, 2013, from BusinessDictionary.com: <http://www.businessdictionary.com/definition/online.html>
- BusinessDictionary.com, R. T. (2013, 03 24). Retrieved 03 24, 2013, from BusinessDictionary.com: <http://www.businessdictionary.com/definition/real-time.html>
- BusinessDictionary.com, T. K. (2013, 03 24). Retrieved 03 24, 2013, from BusinessDictionary.com: <http://www.businessdictionary.com/definition/tacit-knowledge.html>
-

- Castejón, H., Gavras, A., Gonçalves, J. M., Moiso, C., Undheim, A., & Zoric, J. (2011). Towards a Dynamic Cloud-enabled Service Eco-system. *15th International Conference on Intelligence in Next Generation Networks*. IEEE.
- Castro, C., & Desender, K. (2010). Analyzing Porter's Ideas: Horizontal Differentiation and Product Innovation. *The IUP Journal of Knowledge Management*, Vol. VIII, No. 3.
- Dai, Q., & Kauffman, R. J. (2002). B2B E-Commerce Revisited: Leading Perspectives on the Key Issues and Research Directions. *Electronic Markets*, 12:2, 67-83.
- Duschek, S. (2004). Inter-Firm Resources and Sustained Competitive Advantage. *management revue*, vol 15, issue 1.
- Elliott, K. M., & Meng, J. (2011). HOTEL WEBSITE INFORMATION: HOW SATISFIED ARE CUSTOMERS WITH WHAT HOTELS PROVIDE? *INTERNATIONAL JOURNAL OF BUSINESS STRATEGY*, Volume 11, Number 1.
- Espino-Rodríguez, T., & Gil-Padilla, A. M. (2005). Determinants of Information Systems Outsourcing in Hotels from the Resource-based View : an Empirical Study. *INTERNATIONAL JOURNAL OF TOURISM RESEARCH*, Res. 7, 35–47.
- FJELDSTAD, Ø. D., SNOW, C. C., MILES, R. E., & LETTL, C. (2012). THE ARCHITECTURE OF COLLABORATION. *Strategic Management Journal*, 33: 734–750.
- FRANCALANCI, C., WILLCOCKS, L., & KERN, T. (2001). Internet and the Horizontal Integration of IT Businesses. *European Management Journal*, Vol. 19, No. 2, pp. 145–156.
- Frels, J. K., Shervani, T., & Shvastava, R. K. (2003). The integrated Networks Model: Explaining Resource Allocations in Network Markets. *Journal of Marketing*, Vol. 67, 29-45.
- Gai, K., & Li, S. (2012). Towards Cloud Computing: A Literature Review on Cloud Computing and its Development Trends. *Fourth International Conference on Multimedia Information Networking and Security* (pp. 142-146). IEEE.
- Galbreath, J. (2005). Which resources matter the most to firm success? An exploratory study of resource-based theory. *Technovation* 25, 979–987.
- Gilbert, D. C., Beveridge, D. W., & Lee-Kelley, L. (2005). Electronic Distribution of Hotel Rooms – An Exploratory Study of the European Hotel Industry. *Journal of Hospitality & Leisure Marketing*, Vol. 12(3).
- Gruber, G. (2011, June 21). *Six questions hoteliers should ask providers of cloud-based systems*. Retrieved from tnooz.com: <http://www.tnooz.com/2011/06/21/news/six-questions-hoteliers-should-ask-providers-of-cloud-based-systems/>
-

- HALL, R. (1993). A FRAMEWORK LINKING INTANGIBLE RESOURCES AND CAPABILITIES TO SUSTAINABLE COMPETITIVE ADVANTAGE. *Strategic Management Journal*, Vol. 14, 607-618.
- Hsu, C.-L., Chang, K.-C., & Chen, M.-C. (2012). The impact of website quality on customer satisfaction and purchase intention: perceived playfulness and perceived flow as mediators. *Information Systems and e-Business Management*, 10:549–570.
- Hsu, K., Zhu, Z., & Agrusa, J. (2004). Turning Click-Through Visitors into Customers: A Study of Chinese Hotel Websites. *Journal of Hospitality & Leisure Marketing*, 11:4, 81-91.
- Hwang, Y., & Kim, D. J. (2007). Customer self-service systems: The effects of perceived Web quality with service contents on enjoyment, anxiety, and e-trust. *Decision Support Systems*, 43 : 746–760.
- Jeong, M. (2004). An Exploratory Study of Perceived Importance of Web Site Characteristics: The Case of the Bed and Breakfast Industry. *Journal of Hospitality & Leisure Marketing*, 11:4, 29-44.
- Kang, B., Brewer, K. P., & Baloglu, S. (2007). Profitability and Survivability of Hotel Distribution Channels. *Journal of Travel & Tourism Marketing*, 22:1, 37-50.
- Karakaya, F., & Shea, T. (2008). Underlying Motivations for Establishing E-Commerce Business and Their Relationship to E-Commerce Success. *Journal of Internet Commerce*, Vol. 7(2).
- Lee, C. H., & Cranage, D. A. (2010). Customer Uncertainty Dimensions and Online Information Search in the Context of Hotel Booking Channel. *Journal of Hospitality Marketing & Management*, 19:5, 397-420.
- Lubit, R. (2001). Tacit Knowledge and Knowledge Management: The Keys to Sustainable Competitive Advantage. *Organizational Dynamics*, Vol. 29, N° 4, pp. 164-178.
- Mamaghani, F. (2009). Impact of E-commerce on Travel and Tourism: An Historical Analysis. *International Journal of Management*, Vol. 26 No. 3, 365-375.
- Mukhopadhyay, S., Mahmood, M. A., & Joseph, J. L. (2008). Measuring Internet-Commerce Success: What Factors are Important? *Journal of Internet Commerce*, Vol. 7(1).
- MYUNG, E., LI, L., & BAI, B. (2009). Managing the Distribution Channel Relationship With E-Wholesalers: Hotel Operators' Perspective. *Journal of Hospitality Marketing & Management*, 18:811–828.
- NEWBERT, S. L. (2008). VALUE, RARENESS, COMPETITIVE ADVANTAGE, AND PERFORMANCE: A CONCEPTUAL-LEVEL EMPIRICAL INVESTIGATION OF THE RESOURCE-BASED VIEW OF THE FIRM. *Strategic Management Journal*, 29: 745–768.
-

- NIST. (2013, 04 25). *Final Version of NIST Cloud Computing Definition*. Retrieved 04 25, 2013, from www.nist.gov: <http://www.nist.gov/itl/csd/cloud-102511.cfm>
- Paraskevas, A., & Buhalis, D. (2002). *Outsourcing IT for small hotels: the opportunities and challenges of using application service providers*. University of Surrey.
- Piccoli, G. (2008). A Framework for Evaluating the Business Value of Customer Data in Hospitality. *Journal of Hospitality & Leisure*, 17:1-2, 4-29.
- Porter, M. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance*. New York: Free Press.
- Porter, M. (1991). Towards a Dynamic Theory of Strategy. *Strategic Management Journal*, Volume 12, pp. 95-117.
- Racherla, P., & Hu, C. (2008). eCRM System Adoption by Hospitality Organizations: A Technology-Organization-Environment (TOE) Framework. *Journal of Hospitality & Leisure Marketing*, 17:1-2, 30-58.
- Ribeiro, M. (2013, 03 28). *Hotel Software Services*. Retrieved 03 28, 2013, from HotelASP: <http://www.hotelasp.com>
- Saanan, Y. A., Verbraeck, A., & Sol, H. G. (1999). Snapshot of e-commerce's opportunities and threats. *Electronic Markets*, 9:3, 181-189.
- SAEED, K. A., GROVER, V., & HWANG, Y. (2005). The Relationship of E-Commerce Competence to Customer Value and Firm Performance: An Empirical Investigation. *Journal of Management Information Systems*, Vol. 22, No. 1, pp. 223-256.
- Schneider, A. (2012). The Adaptation of Cloud Computing by the Hotel Industry. *UNLV Theses/Dissertations/Professional*, Paper 1330.
- Stone, M., Hobbs, M., & Khaleeli, M. (2002). Multichannel customer management: The benefits and challenges. *Journal of Database Marketing*, Vol. 10, 1, 39–52.
- TripAdvisor, W. . (2013, 03 24). Retrieved 03 24, 2013, from Wikipedia.com - TripAdvisor: <http://en.wikipedia.org/wiki/TripAdvisor>
- Wei, W., & Lee, H. (2009). Hotel Revenue Management Theories and Applications. *International Conference on Business Intelligence and Financial Engineering* (pp. 853-856). IEEE.
- Yavas, U., & Babakus, E. (2003). What Do Guests Look for in a Hotel? A Multi-Attribute Approach. *Services Marketing Quarterly*, Vol. 25(2).
-