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# The effects of trends in technology on the hotel industry: a case study of Scandic Hotel Simonkenttä and Hilton Hotel Kalastajatorppa

Bernaldo, Ruth Jane  
Tamang, Surya Maya

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The effects of trends in technology on the hotel industry: a case study of Scandic Hotel Simonkenttä and Hilton Hotel Kalastajatorppa

Ruth Jane Bernaldo, Surya Maya Tamang  
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Bernaldo, Ruth Jane; Tamang, Surya Maya

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The hotel industry continues to develop through innovations of technology. Trends in technology are evident in various forms, such as software and operating systems, high-tech devices and equipment, and social media networks. These can improve a hotel's competitive advantage and increase customer satisfaction.

The objective of this research project was to examine the effects of technological trends in hotels and as perceived by the employees (the technology users) and to find out if there is a need to adhere the quick change of technology in hotel industry. In this case study, the researchers have applied both qualitative and quantitative research methods such as interviewing and giving out questionnaire to hotel employees in order to accomplish the targeted goals.

The case hotels for this study are Scandic Hotel Simonkenttä and Hilton Hotel Kalastajatorppa both located in the Helsinki area. In addition, the researchers reviewed the technology that are available on case hotel premises and the effectiveness of it among technology users. Moreover, the researchers review related literature, internet articles and journals to gain an adequate understanding to the research topic.

The results of the research show, that the hotel employees perceived that trends in technology are more advantageous rather than disadvantageous. Innovations due to technology have improved their working life and given additional value to the customer experience, despite also producing new challenges for users. Neither the hotel management nor the user can predict the benefits and circumstances, unless they utilize the product. Acquiring the most innovative technology by a hotel requires a significant amount of investment and may become out-dated soon after purchase.

**Keywords:** Effects of trends in technology, Hotel Industry, High-tech accommodation, User experience, Usability, Social media, Software, High-tech device, Hotel worker

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## 1 Introduction

Technology as evolving and ever increasing rate, hotel industry is having difficulty to stay level with all the innovations and emerging trends. For the hotels to become successful nowadays, the use of technology is significant and cannot be ignore. It is basically considered that hospitality sector has primarily affected in the progress of technology.

In early 1950's information technology was introduced into the-hotel sector. Since then it became progressively grow and reformed. High tech devices, Internet, and social media is a now a part of everyday life. The used of technologic software and device in hotel operation such as reservation system, property management system, security cameras key card encoder, etc. into the workplace; completely changed the way hotel sector do business. Adoption of technology has support the hotel industry to become efficiency and improve the quality on day to day activities. But the impact of technology does not line in the technology itself rather, it lies in the utilization and self- efficacy of new technology.

The research conducted in two known hotels in Helsinki region, which are in Scandic Hotel Simonkenttä and Hilton Hotel Kalastajatorppa to investigate and expand further knowledge. The analysis includes the trends of technology that are available on their premises and the effectiveness of it.

The researchers' objective is to identify the effects of technology in case hotels, and to find out if it's necessary to adhere the quick change of technology at all times or not. The close link between hotels -technology and its challenges will be discussed in this paper.

The research chapter 2 to 4 are aligned with the theoretical background significant to the research topic includes the study about hotel industry, classification, the milestones of hotel technological advances and the types of trends in technology such as gadgets, social media, software and high tech accommodation. We also include on the study about the user experience and usability to understand more the topic.

Chapter 5, briefly introduce the two case hotels (Scandic Hotel Simonkenttä and Hilton Hotel Kalastajatorppa) and Chapter 6 and 7 described the process of collecting data and the methodology use in the research that contains the research plan, timeframe of the research and approach taken to collect data. Chapter 8 presents the analysis and findings of the questionnaire that are given in the two case hotel. The final part of the research is the conclusion where all the gathered information and discussion are synthesized to answer thesis question. In addition a list of reference materials used to complete the project are included at the last part.

The main research questions are

1. What are the effects of technology trends in hotel industries and, the pros and cons of innovative technology in case hotels?
2. Is it necessary to adhere the quick change of technology and how the employees cope with the changes?

## 2 History and Background

On this chapter, the researchers introduce related information and supporting facts for the research topic. Relevant ideas are taken into consideration to achieve the objective of the research paper. Knowledge in the literature will help the researcher to analyze and carry out their research questions.

In order to validate the findings of the study, the focus of the researcher is on the hotel sector. The researchers include basic facts about the start of technology in hotel management, the researchers choose Scandic Hotel Simonkenttä and Hilton Hotel Kalastajatorppa. Although the hotels are both in Helsinki region, the geographical location of the hotels are different. Furthermore, the hotel location greatly determines the profile of its guest and the level of competition of its size in the market. For the researchers those three facts have the strong impact in the adaptation of technology in hotel.

The hotel technology adaptation trends can be linked to their guest expectation about the additional value of technology that the hotel can provide. Therefore, hotels are becoming more submissive to adopt technology with regards to technological gadgets/equipments, social media & software. Thus, based on the location, profile of the hotel visitors and the competition level, hotels may have different levels of technology adaptation (Law & Jogaratnam 2005).

### 2.1 Hotel Industry

The hotel industry is the type of business that provides accommodation facility for travelers. It caters the basic needs of the target customer such as sleeping accommodation, food, beverages and other services that makes the guest comfortable during the stay. Hotels sector has been developed from its beginning in supplying the necessity of accommodation into a vast variety of services that are interrelated in providing service to the guest (Dittmer 2002, 209).

Moreover, hotels offered a secure, comfortable, a welcoming place for a temporary stay to a guest whether they are travelling with families and friends, business people and group of tourist. Usually hotel rooms are equipped with bed, bathroom, linens, grooming kit and basic

features for example television and telephone. Addition to that, hotels commonly provide housekeeping services and the extent of the services are varies from property to property. Some hotels provide wide range of services including laundry services, concierge, gift shop, bar and restaurants and others provide nothing beyond the basic (Dittmer 2002, 209).

In hotel industry quality is the most desirable things, they strive mostly for guest satisfaction. Due to that, hotels are classified into different classes that based on the operational criteria of their customer segment such as considering the type of services they will provide, the facilities they will include and what type of accommodation they will cater (Dittmer 2002, 209).

Today, with the fast growing technology that made traveling even easier and eminent. Many people not only for business purposes but also for leisure reasons move to travel. Indeed, hotel industry are necessary all over the world. Due to the enormous competition among in the hotel sector, hotels provide much more than accommodation itself but nowadays they like to personalize the services to make a good impression and memories to the guest. "Home away from home" is the usual tag line of most of the hotels (O'Fallon& Rutherford 2011, 174).

## 2.2 The History of Hotel

Accommodation facilities plays a vital role in the tourism image of a country. The hotel history are associated with world civilizations. Lodging that offers guest comfort has been seen since biblical times. In ancient Greece, visitors are invited to stay in the dwellings of noblemen and it was considered as a gift to have a place to stay, food and bath. This explain the existence of Greek's thermal bath that are designed for recovery and rejuvenation. As traveling become more frequent Romans built a mansion called Inns to provide accommodation for travelers who left his home and need accommodation at the destination. In early times, Inns are considered to be the first accommodation entity that caters the need of the travelers. As the Roman Empire perceived about that development of this kind of accommodation are not needed in such a reason that people travelled infrequently- the Inns lost its value (Atul 2008, 182).

Travel grew again after the advent of Christianity for the religious excursion purposes. Many people move and visited to the religious centers and the need for lodging are again increase. Monasteries took the responsibility of accommodation. In 15<sup>th</sup> century, Inns gradually appears again and developed in most in Europe, particularly in France and England. In the United States of America, the 'tavern'- a lodging unit was opened around 1634 and became the popular meeting point to come for dinning, drinking and some (Atul 2008, 184).

In early 14<sup>th</sup> century the hotel institution started. The first Hotel has been created in Paris during 1312, then continuously built in France, Italy, Germany, Holland and many countries. With the continues growth in travel in the 18<sup>th</sup> century hotels take over the town as it increased the number of hotels and resorts in many countries (Atul 2008, 187).

During the year 1820 the word 'Hotel' acknowledge as the term to described a place where travelers/people stayed overnight with meals with pay. The first tourist hotel was built in Switzerland in the 1820s. Since then the evolution of hotel grew up in many important destinations. The hotel soon established near the main railway and major towns. The accommodation demands of the travelers influence the development of the hotel during 19<sup>th</sup> century and immense of variety of facilities and services (Atul 2008, 188).

### 2.3 Hotel Departments

The division of hotel departments, uncovers the different organizational area that are not mainly visible to a hotel guest. The hotel departments can vary depending on how big the hotel is. A full service hotel have Reception department which is called the front office -they are the most visible department in a hotel where hotel guests are being welcome and being registered. Reception attendant are responsible for assigning room to the guest, answering inquiry about hotel available services, facilities, and the city landmarks or tourist surrounding area and also reception person deals all the matters when the guest have to check out (O'Fallon et al. 2011, 123).

The back office or the Sales and Marketing area or a tandem work with the accounting department are responsible for receiving and processing reservation requests for accommodations and hotel packages such as meeting services, organizing events and conference. The task is not limited to hotel room sales, communication with travel agencies, advertising and public relations (O'Fallon et al. 2011, 306).

Another department that is important to Hotel industries is the Housekeeping department. Housekeeping department keep the rooms clean and neat and usually housekeeping attendant have in contact with the guest whenever they have special request or need for room clean-up. Hotel guest usually give feedback about the cleanliness of the hotel and their rooms and hotel customer satisfaction are usually base in this criteria (O'Fallon et al. 2011, 167).

Another department in the hotel is Food and Beverages department whereas possible outlets are hotel restaurant. The food and beverage division offers hotel functions and serving as room service, catering, bar lounges and banquet planning. According to O'Fallon & Rutherford (2011, 257), hotel food and beverages department should adopt the local food of the country and also know how to be different with local competition.



The Human Resources department also known for personnel management are responsible for recruitment and employment. They are dealing with the employee relations such as compensation, benefits and labor matters, safety and possible trainings. Due to the societal issues facing nowadays for example liability concerns and lawsuits, the human resource department significantly should know how to handle legal aspects (O'Fallon et al. 2011, 434).

Engineering or the maintenance department also plays important role in hotel industry. Engineering and maintenance department are accountable for maintaining the hotel property. It is also deal with electrical and mechanical ground equipment. As it mention in the book by O'Fallon et all (2011, 199), the engineering department are vital in hotel as it can control property's total operation budget in dealing with good energy saving method.

## 2.4 Hotel Classification

Hotel can be categorized in different ways, it can be classified by its location, price, type of facilities they offer, and in the basis of ownership. Moreover, some accommodation properties may consider which customer segment they will focus. It could be hotel properties that may cater mostly business people and or families on holiday. Sometimes hotel classification denotes the status of of traveler in a society and also reflects the demands of high standard of service. The following discussion are the main classification of accommodations.

### 2.4.1 Basis of Location

Airport Hotel as the name impose to, it is located few meters from the airports. The airport hotels usually have a high occupancy rate due to the large number of travelers arriving and departing from the airports. The guest segment is fuse such us business travelers, leisure and also passengers that have long overlays and late night flight would choose to stay near terminals (Dittmer 2002, 209).

Airport hotels also cater the need not only for people mentioned above but also for those airport crew as well as to offer convenience to the airline workers. This hotel are generally offer full service and sometimes can arrange meeting facilities for their guest who wish to minimize land travel. Frequently travelers choose the airport hotel because of the accessibility, less transfer cost from airport to hotel and very competitive price.

Another location for hotel is in Commercial/ City Hotel. These hotels are primarily located in the downtown or business district area. This property is usually specialized and caters the needs of business travelers. Amenities of this hotel are enormous such as complimentary newspaper, breakfast, free local telephone calls and many more. They can also arrange some

access to business and convention center with high technology support. Mostly the price of the commercial hotel is expensive than the others.

Resort Hotel, is an accommodation that features recreational activities for their guest. There is a lot of activities to choose from such as entertainment, and for health purposes. Resort hotels are always located in a destination where beauty of the scenery, climate, and historic interest can be found. Nearby on the seashore and mountains are the favorable location. This type of hotel has an extensive service especially in food and beverages and the restaurant services are available (Dittmer 2002, 213).

#### 2.4.2 Basis of Ownership

Hotels can also be categorized by its affiliation and ownership. Chain Hotels have the records for high percentage of world's hotel room inventory. This type of ownership centralize organization and have the stronger control on their property. Chain hotel have high standard, policies and rules to obey in affiliated hotel chain. They are very careful about their image and they have very strict control in a matter such us management, design, and the architecture of the affiliated properties.

In the other hand, independent hotel is not connected with any famous hotel company. The ownership of this type of the hotel could be an individual, a family or a group of private investors. The management, hotel policies, financial obligations and marketing are independently managed by its hotel owner. One of the advantages of being independent hotel is very self-governed or autonomy. The decision making in this type of ownership is quick.

Franchise, this type of ownership operates as one of the member of the chain of the hotels under the franchise agreement. The owner of the hotel ca used the chains trademark, operating and reservation system in return for a percentage of the revenue of the hotel. In hospitality industry, Franchising is an approach that allows the hotel company to expand rapidly by using other people's money. Moreover, the franchisee has an operational contract in running the hotel, restaurant in accordance with the guidelines set by the franchisor. In this kind of business both franchisee and franchisor have benefits, for a franchisor it will increase market recognition and expand the business quickly and for the franchisee that is not expert or have enough experience will get assistance.

#### 2.4.3 Basis of Star Qualification

Hotel classification base on star rating system are widely recognized in hospitality industry yet rankings are different from one country to another. The classification system are used to provide indicator for the guest and negotiator such as travel agency and booking sites to pro-

mote and market the hotel. It also gives platform for the guest to foresee immediately what services they can get in the hotel with the star classification system. The following are the admissible ratings that can give to the hotel (hotelstar.eu 2015).

★ Properties meet the basic needs of the guest such as rooms with shower and toilet, daily room cleaning, soap or body wash at the wash basin, bath towels, reception, and deposit possibility (hotelstar.eu 2015).

★★ Properties manage the hotel attributes while showing some more improvements in room decor and furnishing. Amenities includes breakfast buffet, Internet access in the public area, payment via card, offer sanitary products, provide body wash or soap and shelves for clothes (hotelstar.eu 2015).

★★★ Hotel properties demonstrate improvement in physical aspect, offering guest more services and comfort. Supplementary facilities and services are offered and amenities are as follows; reception with bilingual staff, lounge area and luggage service, Minibar, telephone in the room, hairdryer, adequate cabinets, additional pillow and blanket, laundry and ironing service (hotelstar.eu 2015).

★★★★ Hotel properties provide an exceptional service and they are queen to details while offering deluxe facilities and lavish amenities. The 4 stars hotel have the following; Reception with hotel lobby with seats and beverage service, Breakfast buffet and or breakfast menu card via room service, Minibar, chair/couch with side table, bathrobes, slippers, hair-dryer cosmetic products (shower cap, cotton swabs) heating facility in the bathroom, swimming pool (hotelstar.eu 2015).

★★★★★ Hotel facilities and operation are in its best and and high standard of excellence and meeting the guest expectations in service and hospitality. These properties are luxurious and extravagant amenities such as; 24 hours reception with multilingual staff, valet parking service, concierge, spacious reception hall and beverages service, personalized greeting for the guest ( flowers, cards, chocolate),Mini bar and 24 hours room service, branded personal care products, internet access in the room, safe in the room, laundry and ironing service, shoe polish service, wakeup call, offers facilities such as swimming pool, saunas, spa, gym (hotelstar.eu 2015).

### 3 Milestone of Technology in Hospitality Industries

According to Bonvin 2003, "the history of the hotels is connected to the civilizations". Hospitality offering accommodation facilities are being seen early biblical period. The trends in technology changed the structure in hotel business in issues such as reservations, marketing, food and beverages, accounting system and hotel entertainment worldwide. Considering the

beginning of technology in hospitality business are useful to gain more insights how does technology change in time (Bonvin 2003).

January 1, 1947 this year consider as the beginning of the computer age, where transistor invented by William Shockley, John Bardeen and Walter Brattain from Bell Labs. The transistor are the main components in computers, radios and other electronic gadgets. And in 3 years' time March 29, 1950 New Room entertainment are released, the first electronic color television tube. In the year 1953 September American Airlines & IBM introduce the electronic brain to improve the reservation system which the result became the semi-automatic business research environment or popularly known as SABRE. This is considered as the first global distribution system GDS (Timecast 2009).

In early 1970's, the dot-matrix printer invented, food processor, the liquid-crystal display (LCD) invented by James Ferguson and videocassette (Timecast 2009). Addition to that refrigerators for in house room use are invented. In 1972 introduction of first models of telephone system are released. Airconditioning, color TV in guestroom and electronic air cleaners are started to use between 1975- 1979(Hotel Technology 2015).

In the year 1980's the following invention and changes arise in hotel room technology such as, mechanic coded- plastic room key card (1980), Satellite television (1982), Satellite movie on demand system, Voice mail systems and electronic door keys (1986). The Year 1990's brought out electronic in room safe/ wake-up call system and interface between TV system and PMS. During 1993 Remote check in and out system are being used and 1995, high speed wired internet is used and after just a year the wireless high speed internet launched (Hotel Technology 2015).

Year 2000, The website reservations with an internet booking engine, third party site and software packages arises, High definition TV & cameras, touched screen doors, HVAC system, self-adjusting hotel facilities technology. Among the period within the structure of technology arises, there is no doubt, that technology is an endless possibility (Hotel Technology 2015).

#### **4 Trends in technology**

Nowadays, the hype of environment focused on technology, the hotel industries are striving the best to cope and see the advantage of latest trends. The hotel guests are getting more creative and resourceful in making decisions in terms of their travel needs. And technology is one of the attributes that increase guest satisfaction and to get their attention. Moreover, on this paper the researchers include consideration for hotel employees are also take into account while analyzing the relevant information. The advancement of the technology in hotel business is changing the daily work. In the employee's perspective, effects of the trends in

technology can be seen on how the work is performed. Moreover, those changes alter the way employees think, and the used of technological devices, software, gadgets and equipment to accomplish the goals in workplace can be stressful to the workers.

#### 4.1 Social Media

The commence of Internet, allows the society to do boundless amount of things in the digital word. A person is not limited to received just an email or obtain information accessible in the world wide web. Nowadays the world wide web had extensive platform where people can share information, communicate, socialize and build business connections.

Social media can be defined in distinctive way, but in general it is an online communication channels that are designed and enable everyone to interact, sharing of web content and collaborate in means of audio, video or data on the web (WhatIs.com 2016). The Hospitality sector have identified the advantages of using social media it includes low cost expenditure in terms of marketing, direct customer communication and brand information, presently social media serve as a truthful testimony of people rather than television or commercial advertisement (Hailey 2010).

The Hospitality industry have anticipation with regards to the social media, the fears that could hinder the productivity of the employees or the possibility of hotel reputation manipulation. Despite the fact that social media are indispensable at this time, it can also be used to harm the hotel business if handled inappropriately. Nonetheless, providing adequate policy on social media usage for the employee are needed to provide better understanding and maintaining to avoid implications of social media at work (Yazdanifard &Yee 2014, 2-4)

In general, social media is a device. It is a device used for communication and transmission of information via electronic media. Examples of social media are facebook, twitter, instagram and pinterest are websites used for commercialization and social networking; Youtube and Vevo are used for video sharing; While LinkedIn is a professional networking to keep their profession contact; In addition, Tripadvisor and Booking.com are intended for travelers and it is mainly used by Hospitality industries as it collects reviews and experiences in concerns with accommodations (Tripadvisor 2015).

Mowat (2010) mention that the adaptation of social media, has initiate different channel and opportunities to listen to the hotel guest needs and concerns. Moreover, the role of social media plays important role in consumer experience in the hospitality sector, and yet rely up-on on the word of mouth and opinions in social network. According to PhocusWright, failure

to adopt the most powerful forces of today's social media could lead to a fatal problem in the business.

#### 4.2 Software

Software is crucial in hotel management because it provides all the necessary tools to support IT in hotel operation. It plays important role in effective and efficient operation of hotel business. Some of the functions of software are managing reservations, online booking, housekeeping, guest information, restaurants and bars, and business activities. Moreover, software helps in making work simpler and lessen the problems.

Software is used in the following sector of hotel management:

- Front desk
- Pricing and billing
- Conference and group bookings
- Room cleaning and house maintenance
- Restaurant and bar
- Accounts and management information
- Sales and marketing and customer
- Client server technology
- Interfacing technologies (Hansworld 2016).

The case companies for this research topic have applied Citrix and Micros software which will be explained in the following paragraph.

##### **Citrix System, Inc.**

The case company "Scandic Hotel Simonkentta" has been using citrix software for hotel operation. Citrix System Inc. is an American multinational software company established in 1989 by Edward Iacobucci. Citrix is a software of Citrix System Inc. which is easy in functioning and, very suitable for people, IT and business. The vision of Citrix is to work better and live better. Citrix has become successful in conversion of physical workspace into digital workspace. Nowadays systems and software have become part of hotel industry for a digital working environment where one employee can connect with other from different parts. Hence, the citrix is leading the progress to software-defining workplace (Citrix Systems Inc. 2016).

##### **Micros System Inc.**

The other case company "Hilton hotel Kalastajatorppa" for the research topic has been using Micros software for hotel operation. Micros Systems Inc. was founded in 1977 by MICROS di-

rector Louis Brown (Micros Systems Inc. 2016). Hence, the Micros Systems was acquired by Oracle Company on September 8, 2014. The Micros and Oracle integrated after the acquisition and proceed forward in the vision of providing end-to-end solutions to their users. Moreover, the integration of Micros and Oracle provides integrated solutions to the hospitality industry that helps in the further development of hotel business (Oracle 2015).

At the present, more than 330,000 MICROS systems are connected in the service providing industries; hotels, restaurants, motels, casinos, leisure and entertainment, and retail operations in over 180 nations. In addition, Micros is operated in over 26,000 hotels throughout the world. The function of Micros is to make hotel management work efficient and effective as well as to solve the business challenges with the use of Micros cloud solutions. Some of the cloud solutions offered by Micros to the hotel business are property management systems, central reservation and customer information (Oracle 2015).

#### 4.3 High tech accommodation

Accommodation is the largest and important sector of the hotel. The maximum earnings are generated from this department in the hotel business. In general, accommodation refers a place where one can stay/sleep without any discomfort such as rooms in a hotel is a good example of accommodation where travellers can sleep comfortably using other room services. Cosy beds, sofas, furniture, lights, internet, water supply etc. are the basic services required in a room while accommodating customers. Hence, the demand of customers become higher when the technology gets upgraded and launched.

When the hotel room is facilitated with high-tech equipment, the accommodation turns into high-tech accommodation. Some of the example of high-tech accommodation are:

- The do-it-all remote (room personalization)
- smartphone keyless room entry
- in room iPad/tablet devices
- digital door viewer
- Led touch screen panels
- Smart card keyless room entry etc.

Customers can easily get into their booked rooms by swiping the smart cards and the smartphones on the door which is a smart move to open a room. The replacement of tradition landline telephone by iPad/tablets to order room service, housekeeping service and making reservation of private saunas also indicates high-tech accommodation. In addition, room personalization is another good example of high-tech accommodation where customers can function room temperature, open and close of curtains, order room service and other room service facilities using remote control or smart devices (Boulin 2012).

#### 4.4 High-tech gadgets

Technology plays an important role in hotel business despite it is costly in the installation, it pays off by making work efficient and simpler, and meeting up the changing customers' demand. Technology and gadgets have impacted both the hotel staffs and the customers in a positive way.

Some of the example of high-tech gadgets used in hotel business are:

- High definition television (HDTVs)
- High speed internet access (wired and wireless)
- MP3 docking station and alarm clock
- Mirror television
- RFID (Radio Frequency Identification)(Tnooz 2016)

Customers usually look for hotels assembled with technology and gadgets for their stay. Hotels furnished with advance gadgets is an additional point for customer satisfaction. Along with the evolution of technology, the demand of customers changes respectively. In order to meet the customer demand and stay in a competitive business, the upgrade of technology and gadgets have become crucial in hotel industry.

### 5 User experience and usability

Technologies has evolved into a very progressively industry. In the current state of technology, the use of web and websites becomes the channel of increase interactive experience. According to Gube "user experience is a person's impressions or what user's feels while using the website, web application, software and high tech gadgets" (Gube 2010).

User experience is important although it has a double edge relationship with the innovations of the technology, product and services we use. These technologies could empower and frustrate the users, it can set apart or bring workers together and also they can make life easier or complicate. Although interaction with these boundless technology product and services the greater emphasis is to justify and enhance the users experience and deals with their needs (Gube 2010).

User experience promotes to meet the needs of the customer in all aspects with the cooperation with the end users of the company, the service and products they offered. User experience is a discipline that are transcending the elements such as human factors, usability, human-computer interaction (HCI), ergonomics, system performance, marketing, design and accessibility. These factor works to coordinate the elements for best interaction by users (Gube 2010).



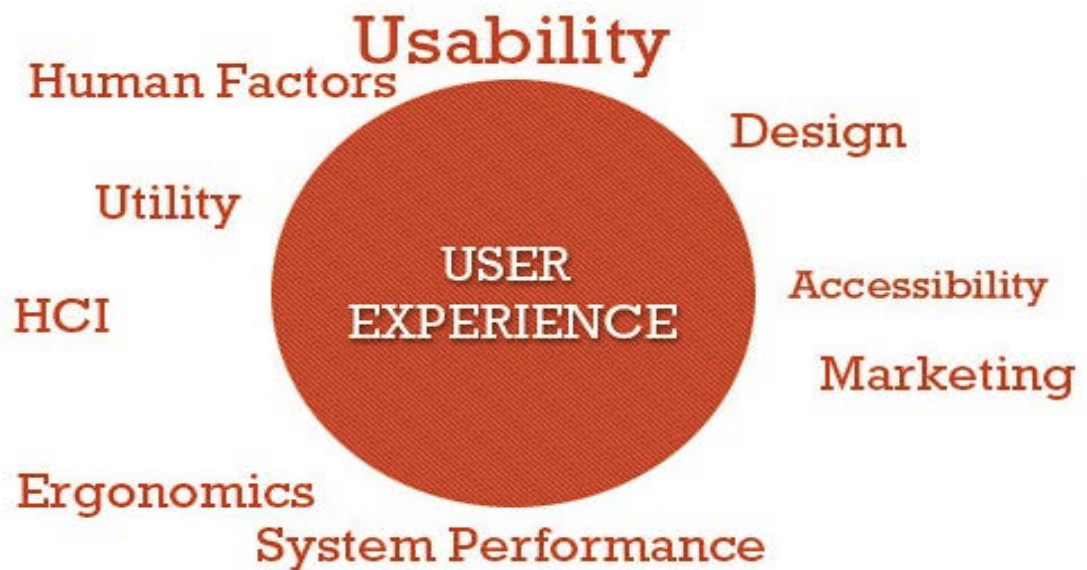


Figure 1: User Experience (Gube 2010)

Moreover, user experience associates the user's emotion about utilizing and adopting the system, product or service. It encourages and includes individual perceptions in the efficiency and ease of use of the technology-related aspects. Additionally, user experience is vital as it is progressively changing over time due to new innovations and productive circumstances (Gube 2010).

Usability has become synonymous with user experience, yet user experience and usability are totally different. In consideration of user experience, it addresses the person's emotions when using the technology while on the other hand usability denotes the efficiency and user-friendliness of the innovations. Usability is an attribute promoting the technology if it's easy to learn, pleasant and easy to use and etc (What is usability 2006).

According to ISO 9241-11 (International Standard), "usability is the extent which a product can be used by users to achieve specific goals with effectiveness, efficiency and satisfaction in a circumstance of use. It simply means that people use the product can adhere easily and results to accomplished their task quickly. The importance of usability includes the following aspects; it focused on the users, secondly, it allows the people to be productive, to assist the users to accomplish their task and lastly the user's satisfaction (users find the technology easy to use) (What is usability 2006).

Furthermore, usability are measurable characteristics it describes how effectively the product or service to the user. Product functionality and usability are not the same, increase functionality does not equally to developed usability (What is usability 2006).

## 6 Case Company

The researchers selected Hilton Hotel Kalastajatorppa and Scandic Hotel Simonkettä to get more insights on the research topic-Effects of Technology Trends in Hospitality Management. The hotel basis facts and history are explained precisely.

### 6.1 Hilton Hotel Kalastajatorppa

Hilton Kalastajatorppa is a hotel located in Helsinki, Munkkiniemi area. Set in the wide bay shore hotel is a 10-minute drive from the center of Helsinki or 15 minutes in a public transport. The hotel offers a variety of services for their customers that are popular among business travelers worldwide. The hotel location by the sea and a peaceful natural environment are the strengths of the hotel. Kalastajatorppa, like other Hilton hotels strive to maintain a high level of service, as well as to meet the needs and desires of our customers. (Hilton Worldwide, 2015b).

Hilton Hotel Kalastajatorppa have been celebrated its 100<sup>th</sup> year anniversary last 2015. The old building was used as an auxiliary hospital during the winter war (1939) with places for 150 patients. In the late 1950s Kalastajatorppa became a center of nightlife where they renowned and put lively restaurant and cater international variety theatre and famous nightclub entertainment in Finland. They called the legendary nightclub as the Red Room. Over the few years the restaurant owner changed to Arctia Oy and became part of the state-owned company and expand to hotel operations (Kalastajatorpan Sanomat 2015).

On April 1, 1998 the Kalastajatorppa owned by Arctia became a Scandic hotel. Later on, when Hilton International purchase Scandic, Kalastajatorppa join the famous hotel chain on April 23, 2001. Renovation of all rooms and facilities are undergo during 2002- 2003. And the inauguration of Kalastajatorppa as a Hilton hotel happens on February 2004. Today, Kalastajatorppa continues its operations as a Hilton hotel under a franchise agreement (Kalastajatorpan Sanomat 2015).

The hotel provides services to customers, among other things such as versatile meeting rooms, restaurant, bar, private beach, sauna and pool area. The aim is to be able to meet various customers' needs. Whether it's a family vacation or a conference meeting, the hotel strives to offer its customers the necessary services to implement a successful. (Hilton Worldwide, 2015b.)

The hotel has about 50 employees. This includes 50 employees in the hotel part-time and full-time workers. In addition, employee numbers will increase outsourced cleaners. Fast-shift

work, work situation is constantly changing. In high season there are used more part-time workers, while off-peak times these can be eliminated. To ensure every guest feel cared for, valued and respected is the Hilton motto which Kalastajatorrpa always wanted to adhere.

## 6.2 Scandic Hotel Simonkenttä

Scandic hotel is one of the biggest hotel chain in Nordic region which have 224 hotels and 42,000 hotel rooms in seven different countries. Scandic Hotel Simonkenttä is one of the chain hotel of Scandic hotels group which is located in the center of Helsinki. Scandic Simonkentta consists 360 rooms and 10 conference rooms. The housekeeping department of the hotel is managed by outsourced company. RTK Oy is the outsourced cleaning company who takes care cleanliness of the hotel building, rooms, conference halls and public areas (sauna rooms, lobby area, reception, kids playground and gym halls).

Scandic Simonkenttä is popular among people because of its city location, modern design, accessibility and facility services. The hotel is located very near to the famous shopping centers of city i.e. Kamppi and Forum. The architecture of building is very nicely designed that the underground way to shopping mall, train station and bus station is connected which is very convenient to go to the mall and stations during winter time. (Scandic hotels groups)

Scandic is stated as Northern Europe's largest renovation program in 2012-2014 (Scandic hotel groups). It has invested billion euros in renovation of around 40 hotels in Finland, Norway and Sweden. Renovation of hotel refers making it modern and more accessible to the customer. Scandic hotels are very easily accessible for both normal and disable customers. Scandic Hotels Germany has also won the award of "Golden Wheelchair" on 22<sup>nd</sup> January 2015 (Scandic hotels groups) in the category of "hotels and accommodations".

Most of the hotel earnings come from accommodations and followed by conferences and restaurants. The main target customer are business travellers followed by leisure travellers. Scandic offers loyalty program (Scandic friends) from which the customers get some benefits and discounts while purchasing hotel rooms and stuff from hotels. Hence, most of the customers of Scandic are loyal customers. (Scandic hotels groups)

Scandic hotels are steadily developing the hotel concepts and hotel facilities in order to provide better services to the customers. Development of multifunctional lobby halls, mobile check-in, mobile key, adjustable room furniture etc. are some of the example of new practices and concept which has been applied in most of the Scandic hotels. Steady development of hotel concept with digital solution is one of the reason for choosing Scandic Hotel Simonkenttä for research topic. (Scandic hotels groups)

## 7 Research plan

This section explains how the work was implemented and planned by the researchers. The researchers have made work plan before proceeding the research project. Work plan comprised of brainstorming, work division, deadlines and meetings. In the beginning of the research project, researchers did brainstorming for multiple times until the appropriate research topic was not discovered.

After identification of one particular research topic, researchers started studying the theories on the relevant research topic. The research studies the effects of technology trends in hotel industry. Increasing number of technology based hotels and demand of high-tech hospitality are the reasons for choosing the research topic. The effects of technology trends refer both advantage and disadvantage in use of technologies in hotels.

The focus area of research are hotel industry, technology trends and its effects. For the insight understanding of the related topic, the theory was studied and the sources of theories were books, journals, online articles and web pages. Beside theories, to support the research as an evidence, two hotels were chosen for case study. The selected case companies for the research were Scandic Hotel Simonkentta which is located in the city centre and Hilton Kalastajatorppa that is located in the seaside near from the city centre.

Scandic Hotel Simonkentta resembles itself as modern designed building equipped with some technology trends while Hilton Hotel Kalastajatorppa is recently renovated hotel with some changes in technologies and other hotel facilities. To understand the used technologies and its effects in both the hotels, a set of questionnaires were made and presented to all the managers and employees working in different departments of both the hotels. The conducted set of questionnaires were same for both the hotels which can be found at the end of this report as Appendix.

## 8 Research Methodology

In this chapter, all the methods applied in gathering information and data for the research topic is listed and defined clearly. Furthermore, the objective of the research and the process for accomplishing the targeted goals are explained.

“Research simply means search for facts - answers to questions and solutions to problems” (Krishnaswami & Satyaprasad 2010, 2). In other word, it is a standardized analysis for collecting data and information through study, experiment, observation and comparison. There are two types of research i.e. arbitrary research and scientific research. Arbitrary research is

an irrational method that deliver hypothetical answer to the questions while scientific research is the systematic rational methods delivering factual answers to the questions. (Krishnaswami & Satyaprasad 2010, 2-4)

The objective of the research is to collect factual data and information rather than hypothetical to find out the answers to the research questions. Therefore, the researchers have applied scientific research method in this thesis project. Questionnaire is one of the example of scientific research method which can be found at the end of this report in the appendix section.

The other applied research method in this thesis project is Quantitative research method. According to Gunderson (2000), quantitative research is "explaining phenomena by collecting numerical data that are analysed using mathematically based methods (in particular statistics)". Quantitative research is generally about gathering numerical data to describe a precise phenomenon. However, some data that do not usually comes in numbers can also be gathered using quantitative method. For example questionnaire that asks respondents to rate a number of statements as either 'strongly agree', 'agree', 'disagree' or 'strongly disagree' is a quantitative research method. The researchers have applied multiple choice questionnaire and the rate of a statement questionnaire to collect the answers from the employers' and employees' opinion about effects of technology trends in hotel operation.

In order to overcome with the best result for the research topic, the researcher had to apply qualitative research method as well because having use of only quantitative research method was insufficient for this thesis. Moreover, to understand the in-sight view of respondents about the research topic the qualitative research method was used. Therefore, the researchers have conducted interview with the managers of Hilton Kalastajatorppa and Scandic Simonkenttä in person as a qualitative research method. According to Bryan (2008a: 366), qualitative research is a research strategy that usually emphasizes words rather than quantification in the collection and analysis of data. This research method helps in the depth study of certain group of people and their perception about the specific topics and issues. It includes in-depth interview with individuals and can be conducted in person, by telephone, via videoconferencing and via internet. (Hammersley 2012, 12)

It was quite difficult to arrange interview with the hotel managers considering the managers are the busiest person of the hotels. However, the researchers managed to arrange date for interview. On 19 February 2016, the interview with housekeeping manager and one of the housekeeping employee of Scandic Simonkentta was conducted. Correspondingly, on 28<sup>th</sup> February the interview was conducted with the restaurant supervisor of Hilton Kalastajatorppa. The interview questions will be found at the end of this report in the appendix section.

After the completion of theory, the answers from the questionnaire and interview were collected and analyzed systematically. The answers received from both the research methods is analyzed in the following chapter research analysis. Later in chapter 11 the conclusion is explained which is conceived after analysis and result process.

## 9 Research analysis

In this section the researchers will analyze the data and information collected from the respondents. Moreover, the aim of the survey is also explained in this chapter. The objective of the survey is to identify the pros and cons of technology trends in hotels, its effects on employees and hotels, and the necessity to adhere quick change in technology. The target respondents were the employees and employers of different departments (restaurants, house-keeping, front-desk and administrative staffs) of case hotels; Scandic Hotel Simonkenttä and Hilton Hotel Kalastajatorppa. In this survey, the researchers first examine the previously used and currently in use technologies, their differences and the reasons for the replacement of technology. Secondly, the researchers investigate how the employees react on change in technology and how employers' cope with the employees with their reaction on the change environment at work place.

In the survey, two different sets of questionnaire were presented to the respondents and the questionnaires were close ended as a quantitative research method. On 26<sup>th</sup> January 2016, around 6 sets of questionnaire were handover in Scandic Simonkentta and on 1<sup>st</sup> of February 2016 10 sets of questionnaire were handover in Hilton Kalastajatorppa. Out of 16 only 13 answers were received after 3 weeks. It took quite long time to collect answers of given questionnaire from the respondents. In addition, the researchers had to go multiple times to fetch the questionnaire because the respondents delayed in answering the questionnaire on their appointed date. There could be several reasons for delaying and low respondents of the questionnaire. Some of the assumed reasons for delay and low respondents could be unwillingness of respondents to answer, the respondents could be too busy to answer, the topic does not interest respondents or respondents thought it was waste of time to answer those questions.

However, the collected answers were not adequate for research survey. Therefore, researchers had to increase the number of respondents to meet the criteria of quantitative research method. For quantitative research method, at least 50 respondents were required for the survey. To make it quantitative research method, on 15<sup>th</sup> February the researcher again handover 20 sets of questionnaire in both the hotels. After 2 weeks of submission of questionnaire, it was possible to collect relatively 50 answers from the respondents which was considerably sufficient for quantitative research method.

In the survey questionnaires, age and gender of the respondents were not mentioned instead the job title was mentioned because the research was about the personal opinion and feedback of employees and employers working in case hotels. Respondents were asked about their opinions towards technology trends, its effects, necessity to adhere change in technology and coping with the employees with the technology trends.

Altogether 48 respondents had responded to the survey questionnaires working in different departments of the case hotels i.e. administrative staffs, front office, housekeeping and restaurants. The collected data and information for the survey is illustrated in the following pie charts and bar diagrams in percentage basis. The 1<sup>st</sup> set of questionnaire responses are illustrated in pie charts and the 2<sup>nd</sup> set of questionnaire responses are illustrated in bar diagrams.

The respondents from different department of the case hotels is illustrated in the following pie chart in percentage basis.

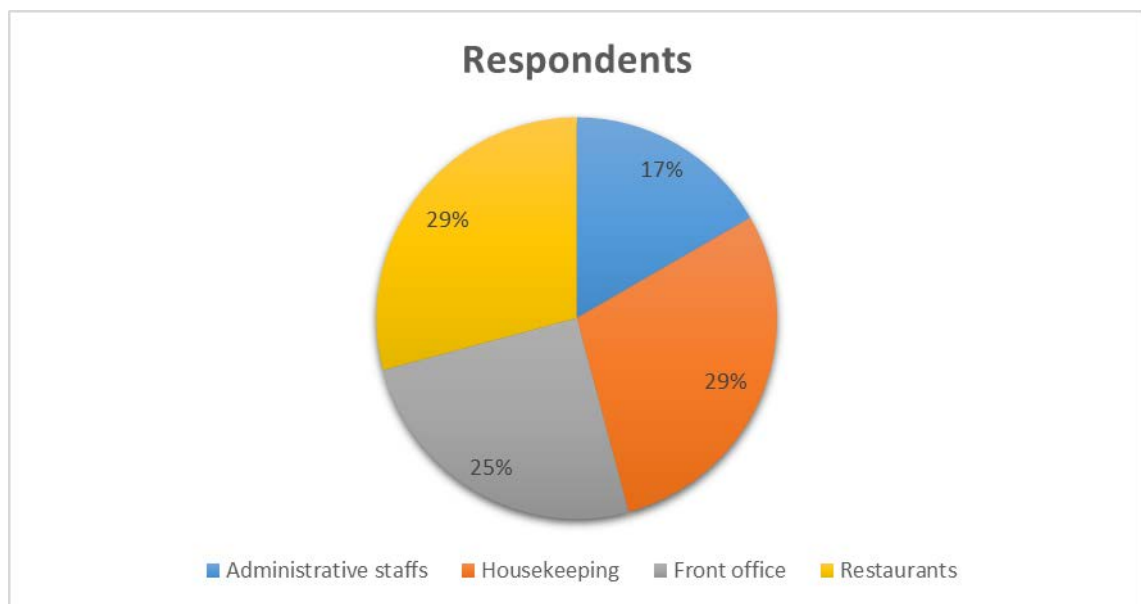


Figure 2: Survey respondent percentages

In the above pie chart on figure 2, it shows that highest percentage of participants were from housekeeping and restaurants departments which is 29% out of total respondents. Likewise, the second highest percentage of respondents were from front office i.e. 25% and the least percentage of respondents were from administrative staffs which is 17% out of total respondents. From this respondent figure, it shows that the data and information for the survey is mainly received from employers and employees from housekeeping and restaurant departments followed by front office and administrative staffs.

### 9.1 Most useful technology at workplace

The respondents were presented the close ended question about the most useful technology at workplace with three options i.e. systems/software, devices & high-tech facilities and social media. The pie charts below display result and the data about the most useful technology which is in use in hotel operation.

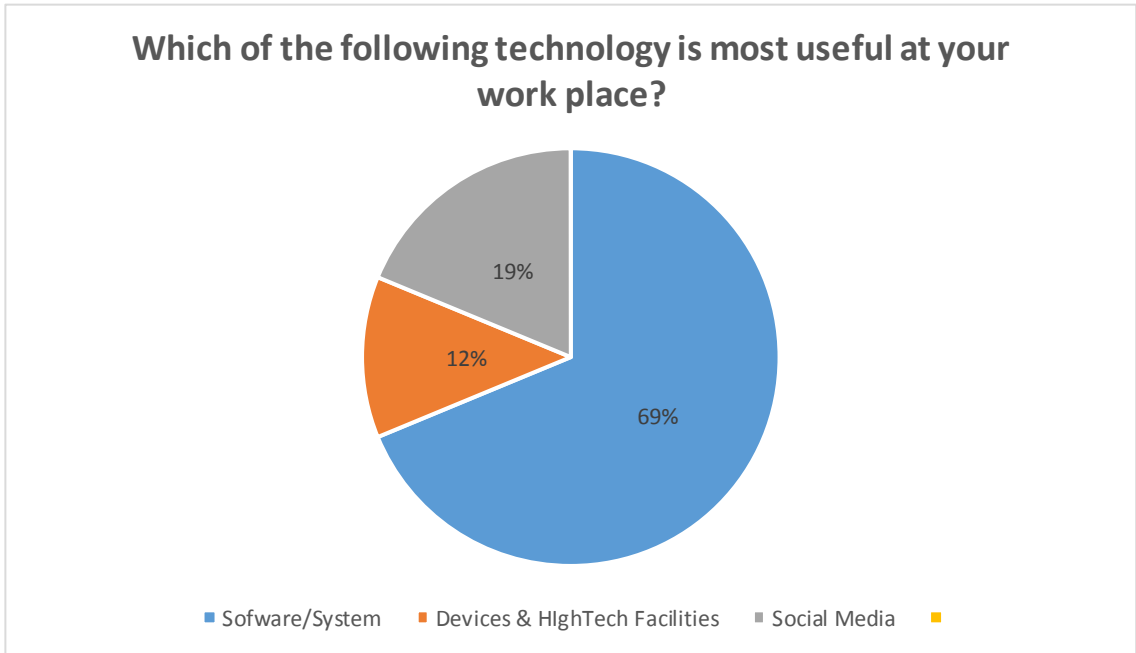


Figure 3: Most useful technology in work place

The above pie chart fig 3 shows that the majority of the respondents have stated system/software as most useful technology in hotel i.e. 69% respondents out of total. While 19% respondents thought social media is second useful technology in work place whereas the chart shows the devices and high tech facilities as least useful technology considering 12% respondents felt it is useful.

### 9.2 Needs for technology update

The respondents were asked about their opinion towards the need for adaptation of technology trends at workplace. The options answers were yes, no and not at all times for this survey questions. The responses are presented in the pie chart below.



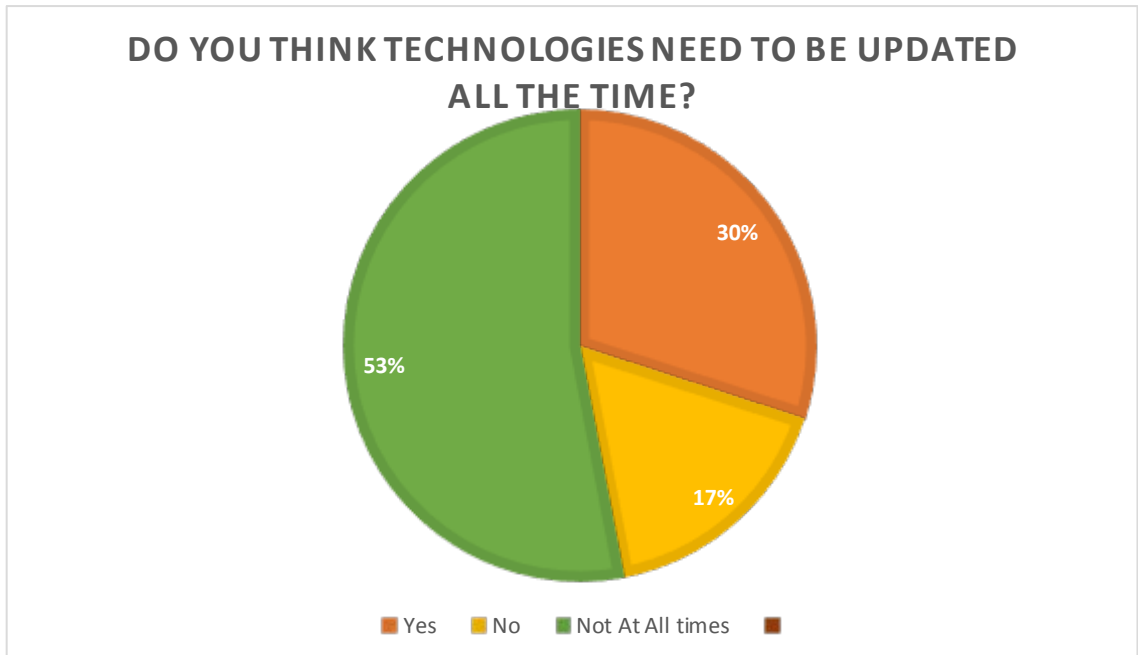


Figure 4: Needs for technology update

Fig: 3 illustrate that majority of respondents, 53% felt it is not necessary to adapt quick change in technology at all the times. While 30% respondents stated it is necessary to adhere quick change in technology for hotel enhancement, improve work efficiency and to compete the competitors. However, the chart shows very few 17% respondents felt there is no need for a change in technology at all; they prefer to work in the same environment and same working process rather than new.

From this survey, it shows that there is no necessity to adhere quick change in technology at all the times.

As stated in earlier paragraph, the responses of 2<sup>nd</sup> set of questionnaire are presented in bar diagrams. The bar diagrams below are illustration of responses on 2<sup>nd</sup> set of research questionnaire from the respondents. The questionnaire can be found at the end of thesis in the appendix section. In 2<sup>nd</sup> set of questionnaire, the technology trends were classified in 3 section such as Software & system, Device and high tech facilities, and social media. The respondents were asked if they strongly agree- with the scale of 4, agree (3), disagree (2) and strongly disagree (1) in the statements.

### 9.3 Effects of software and technology

The bar graph below signifies the views of the respondents under the effects of software and system in the hotel

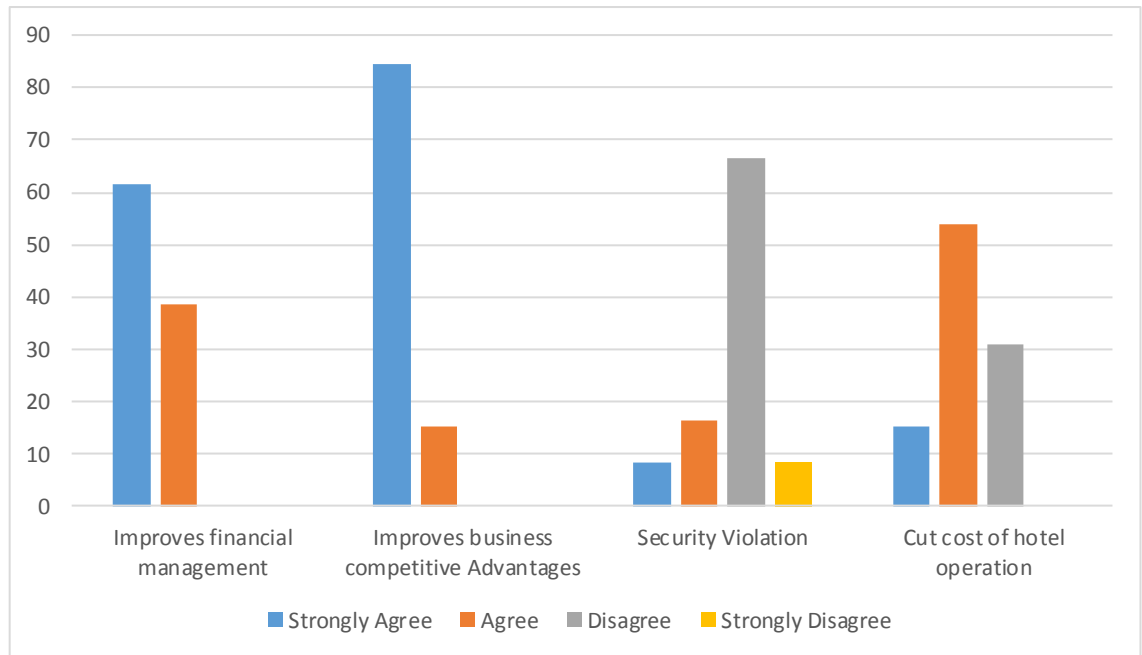


Figure 5: Effects of software and technology

In the above fig 5, 84.6% of the respondents believed that the primary advantages of using advance software and systems is to improve the business competitive advantages among hotels that used advance technology. At the same time 61.5% accept that trends in software and system could lead to increase financial management.

While on the other hand, 53.8% of the respondents consider that this technological trends helps in cutting operational cost of the hotel while the 30.9 % disagree with the statement. In a sharp contrast, 66.6% of respondents disagree that trends in software and system could lead to security violation and only few percentage 16.6% agreed to the statement.

#### 9.4 Effects of device, entertainment and high-tech facilities

The second bar graph below compares hotel's respondent perception on the technology trends in hotel by means of using high tech device and facilities.

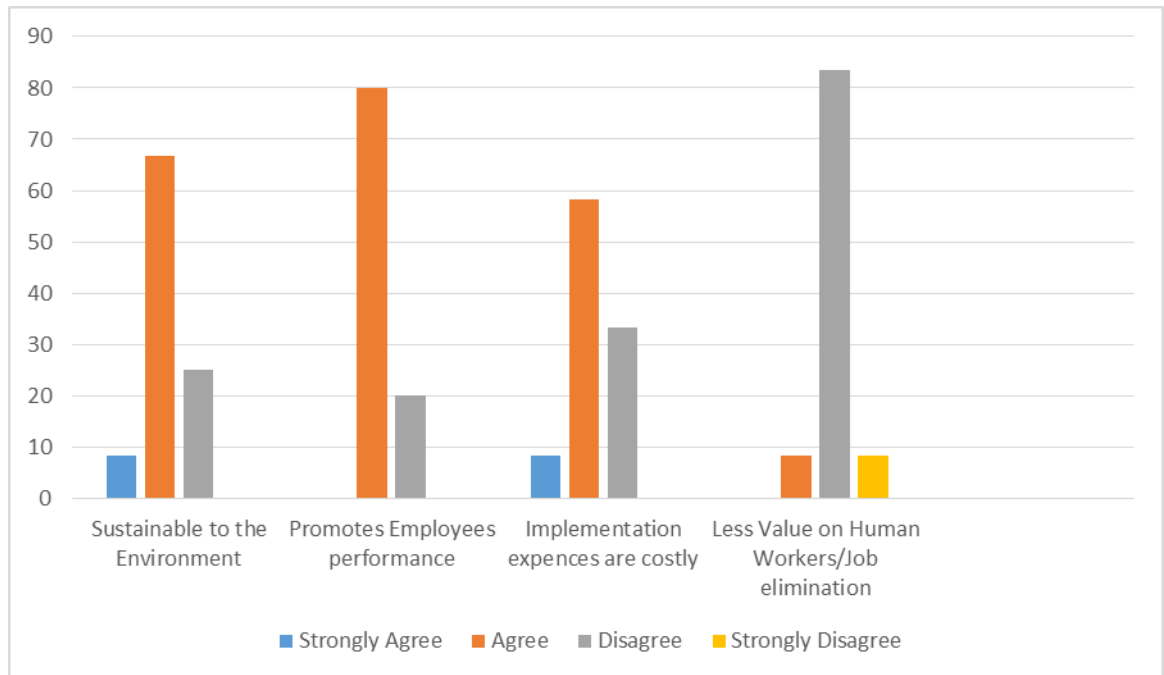


Figure 6: Effects of device, entertainment and high tech facilities

The bar graph in the above fig 6 indicates the proportion of the hotel workers believes that acquiring high tech facilities and device could lead to promotes employee performance and 20% of them disagree with the statement. In addition, 66.7 % of hotel employees perceived that the use of this technological trends are sustainable to the environment yet 25% only of the respondents opposed to the assertion.

There are 58.3% of the hotel employees recognize that implementation and acquiring of these technological trends are costly and 8.3% strongly agree with it. While, 33.4% of the respondents contradict the statement. Moreover, for the statement that these technological trends could lead to less value on human workers thus results to job elimination, majority of 83.4 % of hotel employees' disapproved the opinion.

#### 9.5 Effects of social media

The third bar graph below illustrates the opinion of the hotel respondents regarding in the trends in social medial

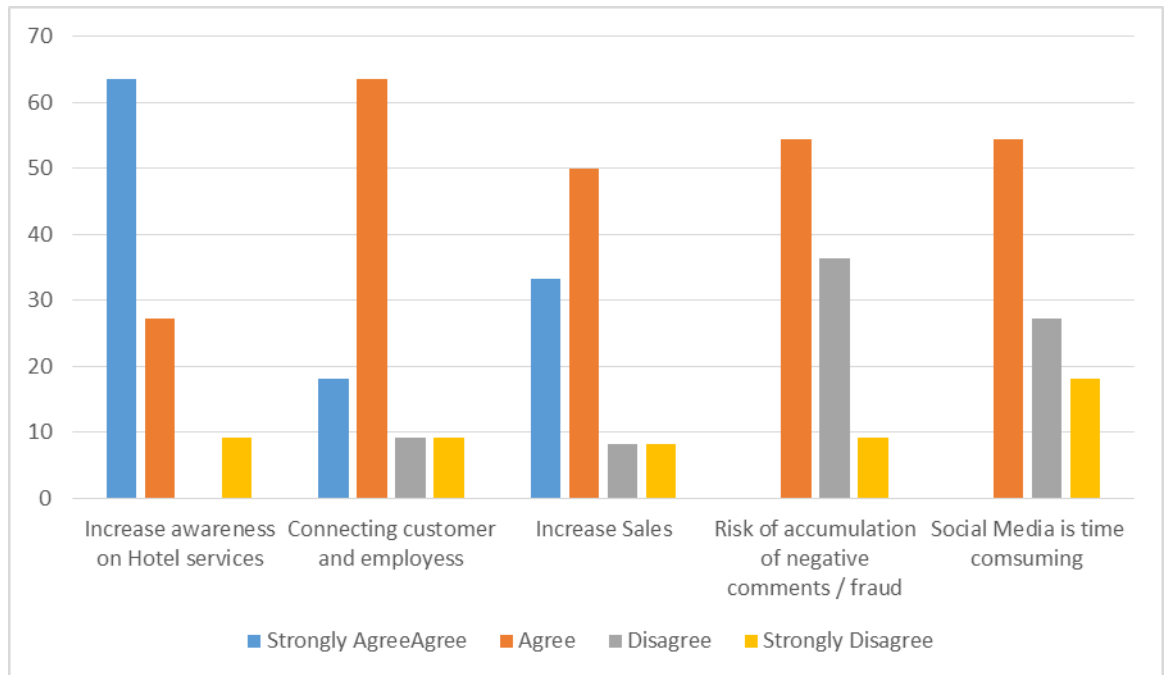


Figure 7: Effects of social media

It can be clearly seen in the above fig 7 that employees strongly agree that social media plays important role to increase the awareness of hotel guest on the service available on their hotel (63.3%), 27.3% for agree and only few respondents believe that social media is nothing to do with it with a 9.1%. Hotel employees also perceived that social media is a good medium of connecting hotel guest and employees.

Hence, 50% (agree) & 33.3% (Strongly agree) of the respondents acknowledge that social media stimulate increase sales in hotels. In contrast side, one of the effects of social media are risk of accumulation of negative comments or even fraud, 54.5% of the hotel employees agreed in the statement while 36.4% disagree. For the statement of social media is time consuming, 54.4% of the respondent declare that it is valid, while 27.3% disagree and 18.2 % strongly disagree in the idea.

## 10 Results

The hotel industry today is relying heavily on technological innovation. With the emergence of Web, internet, software, high-tech devices and social media leading to more repercussion. Hotels are one of the establishment affect the most- the use of most high-tech software and hardware are noticeable in this establishment. These technological trends have made an impact not only to the hotel institution but also mostly in the users.

Bounded by the arrival of modernized accommodation that includes online reservations, property and room management system, security system, smart networks and the social media, technology has penetrated the hotel industry far from before. Part of the technological advances will help to improve the working and customer experience. While in the other hand technological trends produce new challenges.

### **The High-tech help**

There have been variety of technological trends for hotel and restaurants management. As we gathered all the information and data from the questionnaire and interviews we accomplished, the beneficial results of bringing technology to their institution are follows;

New technology is easier to use, logical and improve accuracy of work. Nowadays developer design the software or hardware to be simple and anyone can adjust to use. It does not require physical and mental strain to the user. According to Ms. Kiviranta, the use of new technology in their premises accelerates the speed of service though the used of high tech gadgets and equipment for example hotel and restaurant reservations can be done with the use of mobile phones, tablets, computer and internet anytime and anywhere and checking out without queuing to the hotel receptions and facilitating orders from restaurant are straightforward. (Kiviranta, interview 28 February 2016)

In addition, new trends in technology promotes more security and safety not only for the hotel guest but especially to the workers and to the hotel institutions. Examples of promoting safety in hotel industry are magnetic room key, special alarms, and security cameras. Having these security features in hotel brings comfort to the hotel workers and hotel guests.

For managerial prospective, software and system advancement produce greater operational efficiency of the hotel activities as it improves the financial and property management that modernized the flow of the business. Further it forecast in the system the sales and company profit immediately when needed. Also it provides good avenues for communication distribution between different hotel departments.

Thus, the use of internet and web technology which are social media are aligned, are beneficial as it provides good marketing platform to the hotel sector and achieve high competitiveness in accommodation marketplace. In addition, it can satisfy the high expectations of trendy and high-tech hotel guest by bringing them new experiences.

Moreover, new technology promotes sustainability to the environment, according to Ms. Rammo- housekeeping manager in Scandic Simonkettä, the use of new technology in their

institution result them to be paperless- somehow they saves 30 sheets of paper in a day. Besides of paperless scheme, Energy management (climate control) is one good system that lessen the energy consumption of hotel institution. This device maintains the comfort levels of the hotel property. (Rammo, Interview 19 February 2016)

### **The High-Tech down side**

The discussion above promoted the positive side of acquiring new technology in hotel industries. After a careful review of questionnaire and interviews the use of technology trends in hotel institution have disadvantageous effect for the hotel industry and can cause huge impact to the hotel workers.

One of the primary hindrances of acquiring the new technology in hotel sector has been the cost- implementation and acquiring new devices and software are costly. Investing in a high tech device and software require a significant amount of investment and yet it become obsolete after purchasing the product or services.

Moreover, given the new technology, there is usually tension with the users or with the hotel staff- necessary expertise to run and implement the system is needed on how to manage when failure arises. Further, elderly hotel workers perceived advance technology are complex that cause them to dislike and fear of using it. Several studies showed that elderly workers are willing to use technology yet challenges such as physical problems (working memory, problem solving, learning and speed) and lack of general interest limit the adaptation and usage of new technology (Czaja 2007)

Another disadvantage for acquiring new technology is that, user or the workers become dependent to the technology itself- if the problem arises with the use of technology the primarily affect the work flow. A good example from Mr. Shrestha (Housekeeper -Scandic Simonkenttä) explained to us that there is a persistent program malfunction in his working area - the room that already coded as clean still appear in the task list as unclean. To conclude in this situation, system problem delayed the work. (Shrestha, Interview 29 February 2016)

Furthermore, a huge argument about bringing technology trends nowadays is resulting in a less human interaction service. In a way, it could benefit the hotel management to reduce labor cost yet human interaction is important aspect for the overall accommodation experience. As stated by Boulin article titled- the effects of technology in the hospitality industry it was mentioned there "In today's technology hotel guest prefer to complain to an employee rather than into a machine, and also employees have an understanding on one's feeling such as frustration, happiness and excitement (Boulin 2012).

While most of the hotel sector embrace the use of social media as their marketing platform a huge impact such as online manipulation reputation is one of the downside of it. And because social media have been said that it is a new word of mouth in today's high tech industries it defined the view of the society and influence the people's opinion towards hotel reputation. Another disadvantages for social media according to the research what we have done that it is time consuming. Manager or hotel workers are expected to answer all the queries and reports of the hotel quest since it will be published and anyone can view how the hotel institution manage the reports.

Technology is advancing over the time as a result it could alter several jobs that can be replace in the future (Job elimination). The use of high tech devices and software/system can slowly replace the human work.

## 11 Conclusion

The main research question of the research study is: Is it necessary in hotel to adhere quick change in technology at all the time? Nevertheless, the hotel industry these days are massively relying on the technological innovation, the survey shows that it is not necessarily required in technology advancement at all the time. One of the major reason for nonessential in technology advancement in hotels at all the time is technological implementation is costly. When old technology is replaced by latest version, the price of the latest model will be certainly higher than the old one. In addition, the employer have to train their employees when there is a change in system, software and technologies which is time consuming and costly.

Nonetheless, implementation cost of technologies are very high but it pays off by generating improved operating efficiencies, higher hotel revenues and enhanced guest services. The result from the survey shows that it is more beneficial and very few drawbacks to the hotel and employers in the advancement of technology. Based on the research survey, the work can be accumulated more efficiently and accurately because of technology advancement. These days, technology is massively involved in hotel operation and it has turned into one of the major elements applied for guest satisfaction. Customers are always concerned about quality and uniqueness while selecting hotel for their stay. While technology has helped in fulfilling their desires through entertainment devices and high-tech facilities in hotels.

All the devices and applications used in performing tasks are technologies. The researchers had categorized technology into three parts for the research study i.e. technology as system & software, entertainment devices & high-tech facilities and social media. Among these, the result shows that systems/software was highly involved technology in tasks accumulation in all sectors of hotel. Basically, technology is used as problem solving and task accumulation

tools. It is beneficial if it is well applied but it can be harmful at the same time if it is wrongly applied. Hence, to reduce the problems and difficulties in using technologies skilled manpower should be involved. Moreover, the employees should be well-trained about technologies whenever it is replaced by new one in the work place.

Beside skilled manpower, proper direction is also necessary for the proper use of technology. The research study shows that initially there were complications to cope with workers with the technology enhancement despite of providing adequate training and guidance. In addition, it was more challenging to cope with aged workers with technology enhancement because they were habitual with the traditional ways of working and unwilling to adapt new ways of working due to their physical and mental challenges.

Technology is crucial to operate hotel and stay in the competitive business however, the research study shows that it is not necessary to update technology at all the time. Hence, the technology should be updated as per the needs of the hotel and employees because the implementation expenses are certainly high. In consideration to the unwillingness of aged employees to leave their habitual working environment and costly implementation expenses, it is recommended to upgrade technology only if there is an absolute needs for it. Moreover, we recommend further studies in elderly workforce adaptation with the innovation of technology and to focus more on user experience and usability.



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Appendixes

**Appendix 1: Interview Questions for managers/supervisors**

Interview Question

Name:

Date:

Position

Institution:

Hotel Operation technological advancement

1. Type of the NEW technology/system introduced? When?
2. What was the motivation for acquisition and implementation of the system/ technology?
3. What were the benefits of upgrading of the technology?
4. What are the significance of new technology on service delivery to guest?
5. Do you have any challenges in the implementation of new technology among employees?
6. Was there training associated with the new system?
7. Did you achieve maximum benefit from the technology enhancement?
8. Does technology enhancement have been useful to your institution?
9. How does the operation cost have been after implementing the used of new technology?
10. Where the introduction of new technology was to meet a demand, competitiveness advantage or a requirement?

## Appendix 2: Interview questions for employees

Interview Question

Name:

Date:

Position

Institution:

Length of employment:

### Hotel Operation technological advancement

1. Name previously used technology and the challenges in using old technology?
2. Type of the NEW technology/system introduced? When?
3. If you have to compare between previously used technology and new technology, how would you compare in terms of user experience?
4. Were the introduction of new technology was to meet a demand, competitiveness advantage or a requirement?
5. What do you think was the reason in replacement of old technology by new one?
6. What were the technological problems encountered at your work place? How does these problems effect your work?
7. How do you cope with the change in technology? Was it easy/difficult to cope with the change?

8. Was there training associated with the change in technology/new system?
9. Do you think technological enhancement is necessary all the time at work-place?

### Appendix 3: Research questionnaires

Dear respondents,

We are third year student taking up Bachelors Degree in Hospitality Management at Laurea University of Applied Sciences. We are currently doing our thesis about the "Effects of Technology Trends in Hotel Industries". Your responses will enhance our understanding in our thesis topic.

Name:

Date:

Work title:

Contact information:

Hotel name:

Length of employment:

#### Research Questionnaire (Part 1)

Instructions: Please tick  in the box to the answer best describe to your institution.

#### Hotel Background

##### 1. Hotel description

###### • Location

City     Airport     Resorts/ seaside   

Countryside

###### • Size

Less than 100 rooms     200-250 rooms     more than 300

rooms



- Classification
    - Budget
    - Mid class
    - Luxury
  
  - Hotel age
    - Less than 10 years
    - 10-20 years
    - more than 20 years
  
  - Affiliation
    - Chain
    - Franchise
    - In-dependent
2. What areas of hotel are you working with?
- Front office
  - housekeeping
  - res-  
taurants
  - Administrative staffs
  - others
3. How long have you been working at this hotel?
- Less than 2 years
  - between 2-5 years
  - more than 5 years
4. Do you have to interact with technology at work?
- Yes
  - no
5. What kind of new technology are in used?
- Device & entertainment
  - Software/system
  - Webpage /social media
  - High Tech facilities
6. Do you find difficulty in using technology?
- Yes
  - no
  - sometime
  - quite often
7. Which of the following best describes what technology does to your work?

- Efficiency complicated                       Manageable
- Stressful     others (mention)

8. Do you think the technologies need to be updated all the time?  
 Yes                                       No                                       sometimes

9. How often the replacement of technology takes place at your work?  
 Immediately with the new ones                                       yearly  
 Every 5 years     others

10. Which of the following technology is most useful at your work place:  
 Software/system                                       devices & high-tech facilities  
 social media

**Research Questionnaire (Part 2): Technology-related factors**

Please rate the following statements and mark your answer (✓) based on your experience in the process of acquiring of technology using the following scales.

**4 strongly agree                      3 Agree                      2 Disagree                      1 Strongly Disagree**

<b>SOFTWARE / SYSTEM</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
New system/ software applications Increase the efficiency of the business activities? (Improves financial management)				
New system/software improves organizational information distribution among different hotel departments.				
Improves business competitive advantage				
Cut costs of hotel operation				
Fear of losing sensitive information/privacy				

Security violation				
achieve more booking				

<b>Device, Entertainment &amp; High Tech Facilities</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
Does not see a current need for change				
Sustainable to environment				
Lack of Knowledge and support				
Employees reluctant to use and they are afraid in new technology				
Improved Technology Increase Customer satisfaction				
Competition among other hotels				
Promotes employees performance and retainment				
Implementation expenses are costly				
Always provide accurate and promote safety				
Less Value in Human Workers/ job elimination				

<b>Social Media</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
Helps increase awareness on hotel services				
Connecting customers and employees				
It helps monitor hotel reputation				
Increase customer satisfaction				
Good marketing tool				
Increase sales				
Social Media is time consuming				
Risk of accumulation of negative comments and Fraud				
Online Reputation Manipulation				
Easy means of collecting feedbacks from customers				