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The impact of Self-Service Technologies in the Hotel  
Industry on Employee's Job and Customer  
Satisfaction.

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I hereby declare that the work submitted is mine and that where I have made use of another's work, I have attributed the source(s) according to the Regulations set in the Student's Handbook.

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## **Abstract**

This dissertation was written as part of the MSc in Hospitality and Tourism Management at the International Hellenic University.

The aim of the thesis is to discover whether the use of specific self-service technologies (SSTs) within hotels impacts employee's service value and customer satisfaction. The main goal of this research is to determine the existence of a relationship between the usage of self-service technology within the hotels and actual measured employee job and guest's satisfaction.

Service quality has been a topic of extensive inquiry for decades that has emerged now in form of self-service technology which has profound effects on the way customers interact with firms to create positive service outcomes as for example customer satisfaction, loyalty, and behavioral intentions. Therefore, the main objective of this study is to examine how the technology-based services impact the customer satisfaction, loyalty, and behavioral intentions in service sector of hotel industry. The data will be collected from employees and customers through an online questionnaire. The results will provide insights for the service sector of the Hotel industry, so that to prove how beneficial it is to invest in the new technology in order to enhance the customer experience, satisfaction, loyalty, and behavioral intentions of the staff.

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Keywords: Technology Based Self - Service, Customer Satisfaction in the Hospitality industry, Human Touch Service, Employee Satisfaction

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## **Preface**

We would like to dedicate this work to our friendship and cooperation that was bloomed at our work, the university and our common pace in life throughout the years.



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## Introduction

Nowadays, the use of technology has become an integral part of every-day life. The impact of new tech trends has been noticed as well in the hospitality industry. More specifically, using technologies based on self-service to replace traditional human-touch service has become a trend. Technological achievements and high labor cost led the service providers evolve and analyse the option of self-service (Shamdasani, Mukherjee, and Malhotra, 2008). “This evolution of services is somewhat similar to the past experience in the agricultural and manufacturing industry where human labor has been relentlessly replaced by automation” (Ong, 2010).

Self-service tools have changed the way that customers interact with service employees and technology. More specifically, nowadays more customers are valuing the convenience, consistency and the control they have over the self-service technologies. Significant changes have been achieved through technology, having as an outcome the replacement of many tasks that were in need of the human physical presence. In the past, in order to purchase a ticket (airplane tickets, bus tickets, concert tickets etc.) people had to get them from the relevant agents; whereas now online navigation allows booking the tickets on spot from any device. Before, when someone was about to check-in at a hotel, the human presence was mandatory, in contrast with today that self-check-in kiosks are available in many hotels instantly.

As the human needs and demands new experiences, the requirement to satisfy these needs has become more challenging. In this new era, flawless Artificial Intelligence (AI) development becomes the goal for researchers as they push into new technological heights. Artificial intelligence can be defined as human intelligence exhibited by machines, systems that approximate, mimic, replicate, automate, and eventually improve on human thinking (Ben Gesing et.al. 2018). Presently, it had become an essential part of the technology. Artificial intelligence refers to computers or machines performing tasks that would normally require human intelligence to carry out. Throughout the past half-century a few key components of AI were established in hospitality sector through technology-based self-service, as mainly to have the ability to perceive, understand, learn, plan, solve a client’s problem and deliver the best



possible service, excluding the need of human as service provider. Having said that, one cannot ignore the fact that AI is actively improving people's life and creating positive impact in the world and therefore in hospitality industry as well. However, with AI being used to tackle critical social challenges, it is believed that AI poses a threat to human labor and human interaction. For example, since the self-service integration into hospitality, some people may lose their job, or some jobs may be re-organized into different areas. In other words, the traditional check-in and check-out at a hotel, has been replaced by self-check-in and check-out procedures through electronical devices and more employees are staffed in other departments such as IT, e-commerce etc. Nevertheless, there are some other factors that hoteliers might need to take into account regarding this new trend. Is the automation a satisfactory service provided to the guests or does it affect negatively the service quality? The guests expect always to be served but the hotelier is offering a self-service experience instead. Though, we have to keep in mind that there are different situations that apply in different circumstances. For example, when travelling for business purpose it is crucial for the individual to have instant, fast and accurate service. In that part human interfere is not that necessary. On the other hand, when travelling for leisure, it is vital for the guest's satisfaction to receive a more personalized, tailor-made service. There is a big chance that self-service technology might lower the service quality and affect the guest's satisfaction and loyalty by forcing the customers to adjust to this trend. According to a research, the consequence of forcing customers to use technology-based self-service is a negative attitude toward the service and the service providers; furthermore, result some adverse effects on behaviour intensions (Reinder, Dabholkar, and Frambach, 2008).

Although there is a limitation to the human capabilities regarding the collection, memorization and data analysis, there is still the unique human characteristic of empathy that may offer as well instant action and more flexibility to the service provided. Beatson, Coote, and Rudd (2007), stated that personalised service is still a very important factor on customers' satisfaction and has also a great impact on consumers' intention to create and retain a stable long-term relationship and a long-term commitment to a specific hotel industry. Most of the times, people tend to book and return to a hotel property as the feeling of familiarization, belonging and

commitment creates and maintain a long-term relationship and connection between the hotel, the employees and the guests. Additionally, from service quality perspective, empathy is the most important element that customers used to evaluate the service quality (Yilmaz, 2009). As technology is still trying to work on empathy acknowledgement via Artificial Intelligence and for the moment only human has the ability to achieve that, people would still choose to complain to a person rather than a machine. The reason behind that is the perception of this person concerning the understanding of human feelings and expressions such as happiness, sadness, frustration, anger, excitement, etc. in contrast with an apathetic machine. More specifically, technology is not able to identify a problem nor to express an emotion. As for example, people feel more comfortable to hear “sorry for the inconvenience” rather than to read it on a screen of a self-service machine. Verbal communication is important; however, nonverbal communication is more powerful when expressing empathy.

The purpose of this paper is to analyze and understand the trend of self-service technologies replacing human presence. The data were collected through the research method of questionnaire and SWOT analysis, that looked into the strengths, weaknesses, opportunities and threats in both types of services, revealing in what way human and self-services affect customer’s satisfaction. Comparing and evaluating the two kinds of services offering a holistic view of the current situation and what the future will bring in hotel industry. “Will technology-based services eventually replace the human touch?”

## **Literature Review**

### ***Introduction***

It is widely known that self-service technology has become more popular nowadays. However, there are some values and ethics that are irreplaceable and make the difference, such a welcoming smile, a constructive conversation and in the end a warm farewell for a promising return. Those values may differ to the expected numbers in investment or productivity, though are of high importance to exceed customer expectations and generate their loyalty to the brand. In fact, “there seems to be a positive relationship between customer satisfaction and customer loyalty, and there also seems to be a positive relationship between customer loyalty and customer profitability” (Helgesen, 2006, p. 261). Thus, human touch could be much more profitable in a long-term period as it refers to a dedicated and committed audience.

In hospitality industry, the customer service has been the main principle since always. Human touch has contributed to make the stay of the guests memorable and their experience unique. However, many activities that earlier were operated by people have been replaced by the trend of automation in order to improve functionality and service provision. Nevertheless, is this considered to be an improvement, or the industry is going too far? Is technology the keystone to enhance guest’s experience or is it an obstacle?

At the present time, many people have accepted and got familiarized with the technology-based self-services. Due to improvements in the privacy law, customers now feel safer and more secure with regards to the protection of their personal data. In fact, comparing the two types of services, one can identify the advantages of self-service technology in usage, involvement confidence, speed, time and location flexibility, and also price, considered to be the largest satisfaction factors from consumers’ perspective (Sur, 2008). Some people believe the sense of control (Shamdasani et al., 2008) in self-service technology is another reason that makes customers prefer new tech trends.

In this section a SWOT analysis will be conducted for both types of services, in order to analyze and compare their effects and benefits in hospitality industry as with regards to the service quality.

## **Technology Based Self-service**

In 1996, according to Shaw (2004), whereas during this time self-service in hospitality wasn't widespread and people weren't familiarized with it, some hotels implemented self-check in kiosks in order to evaluate the acceptance and people's reaction. It is well known that technologies contributed to save time and workload of the operations in the front desks. However, there was a concern that the new technology may cause frustration to the new users and this may lead to the negative outcome of long queues and prolonged wait time. The concept around a simple navigation system in order to provide easy options and avoid complexity, started gradually gaining a place among the hospitality sector and became an essential factor for most five-star big hotels chains. The reason behind these specific providers is the huge investment cost that needs to be taken into account in order to implement new tech trends into service quality, such as self-check in kiosks, applications and chatbots for keyless entry and control of all the functions in the room, AI Concierge services, Augmented Reality, check-out via automatic devices etc.

### ***Technology Based Self-service SWOT analysis***

#### **Strengths**

Technology based self-service had become universal throughout the past years and there are many reasons behind. More specifically, as Meuter, Ostrom, Roundtree, and Bitner (2000) stated, some of the people who prefer self-service technologies, 30% of them are impressed by the speed of the service and the fact that it saves time, which is also considered to be a significant factor. Then follows the 21% and their choice that the job is done efficiently and quickly. As it has already been mentioned above, the guests expect to receive from the employees an efficient service; although, in some occasions the desirable service may not be provided or may be offered half-

way through, due to external factors such as time limitation, lack of training and so on, leading to the disappointment of the customers. Thus, performing the expected job becomes the second most valuable factor that people prefer to use self-services. As a third coefficient factor is defined the convenience to use – 16%, the provision of instant service – 11%, time flexibility – 8%, no need of physical presence – 6%, cost effective – 6%, and avoiding personal interaction also has – 3% (Meuter et al., 2000).

Another factor defined as strength is the sense of control. As claimed by Oyedele and Simpson (2007), people need to feel that they have the control and the power of individual achievement. According to the following theory, the sense of control in the self-service is another crucial component that makes it preferable by the customers (Shamdasani et al., 2008). Self-service based in technology gives authority in consumers' status rather than the employees.

Moreover, it is considered as a big privilege the collection of big data from operational, public, and private sources that become exposed to and processed by AI technology. Self-service based technology is highly based nowadays, to the assistance of the AI in order to delve deeper into personal preferences and habits, leading this way to an enhanced customer's experience. The strength behind that, is the development of a strong customer loyalty, as the customers will prefer to return to a hotel that is aware of their preferences.

Last but not least, technology services have been beneficial in the hospitality industry, as they eliminate any possible human error. In other words, they play a significant role as to provide accurate information and avoid human mistakes, while saving time.

As a conclusion, self-service technologies upgrade the provision of the service to the customers, by making it faster, more accurate and efficient. Furthermore, they offer a fast in pace service, eliminating any kind of long queues and delays, while at the same time they offer free control to the user and perform their requested job accurately.

## *Weaknesses*

Even though technology based self-service is beneficial from many aspects, there are several weaknesses that should be mentioned as well. First of all, as this kind of service requires technological systems and specific equipment that demand really high costs, not all the hotels could afford such big investments. However, even if the hotel is equipped with all the necessary tech trends, the maintenance fee is considered to be expensive as well. Secondly, it is of high importance the design of the machines or the systems, to be easy in usage, navigation, optional selection etc. Technology based on self-service system may enable the customers to perform several services; although, if the list of the services is too long, then it might be more complicated for people to find what they want (Shaw, 2004). Additionally, if there is complexity in the procedures, it is almost certain that it will cause dissatisfaction and frustration to the customers. It must be taken always into account that contingencies may occur due to malfunction of the system that will provoke inconvenience and disappointment. As an example, in case of a system failure or any required updates, the users won't be able to continue any procedure by themselves, having as an outcome delays and complaints. When a situation like this take place, human interfere is necessary for the service to be continued.

Furthermore, a hotel brand may harm the clientele's loyalty or even worse to lose a customer in case of more crucial dissatisfaction, as for example when a credit card failed to be returned to the guest due to any technical malfunction.

As Meuter (2000) stated, the majority of the dissatisfied guests and complaints are connected to technology's failure, poor design, system failure or lack off familiarization with the system. A technology failure, which may translate to poor system design, may lead to system confusion, such as overbooking situations due to double bookings, application limitation's, such as incapability to recognize any other accompanying persons that would like to proceed with a restaurant booking with their name and is not able to be detected.

Finally, one of the most significant weaknesses is the elimination of the human touch in services. The personalized service, which is a core value in hospitality and the traditional service provision, starts losing ground from the hotel industry and machines

take over. Moreover, empathy cannot be expressed nor replaced by any self-service machines creating a space between customer and employee's interaction.

All in all, technology services not only require high sunk costs in order to be implemented in a high level of design and features, but also could cause the dissatisfaction of the consumers in case of technical failures, malfunctions of the systems and therefore lead to inefficient service. The lack of human touch creates an obstacle to tailor-made services and promotes an environment without emotions and interpersonal relationships.

### *Opportunities*

The development brought by technology is far-reaching, affecting every aspect of the 21<sup>st</sup> century lifestyles. There is no limitation in this type of service, as it is currently the era that technology is evolving rapidly. Artificial Intelligence (AI) is the core body of technology-based services. Over the next decade, advances in AI and mechanical technologies will result to major impacts. Tourism industry is no exception of the many sectors affected by AI. Precision, entertainment, efficiency, reliability, collaboration, and increased human mobility are only a few societal changes that will be revealed as AI grows within the next years in complexity, sophistication and well in intelligence. One thing is clear: AI is going to become a fully integrated part of nowadays society, which must prepare to adapt as necessary. Artificial intelligence promises to make tourism even more efficient, with new personalized services. Therefore, hospitality industry is prepared to intergrade and implement the most important innovative solutions based on AI, which will focus in the improvement of everyday operation, customer experience and employees' efficiency. The new personalized AI's gadgets, such as a pair of smart contact lenses will allow a flow of simple steps that embrace the "free-of-hands" notion. Self-check in machines without queues will issue the lenses, personalized based on the guest's data. Other capabilities that will be given to the guests by automated devices are services such as opening their door without using a key and ordering room service without having a menu in the room, exploring and walking around the city, while getting information by the gadget's augmented reality which provides easy guidance. As a key component to every traveler's experience, AI self-service gadgets bring the revolution as well to the

Gastronomy. Self-service based technologies that will have implemented body sensors of the AI, will enable the recognition and analysis as regards to the levels of vitamins deficiency and calories needed, highlighting this way the specific menu option that suites better to each instant occasion. Information regarding the guest's preferences and allergies is registered to the profile in relation with each decision taken, allowing the configuration of an internal transparent view of the subject's desires. Furthermore, as an example based on the concept of an instant personal assistant that can also be a guide or translator providing the complete information before it is even requested, self-service devices based on AI may provide a variety of travel bookings and safe routes options, as an extra tool to understand tourist profiles and offer tailor-made experiences, and even promote a move away from mass tourism to the same locations by guiding customers towards lesser known attractions and destinations perfect for them. Same capabilities as the recognition and the description of items inside the hotel room deploy as well at the outside environment, via the assistance of Big data analysis, giving this way the opportunity to experience through the eyes of a specialist and the certainty of a local.

Finally, it is important to understand that the applications of AI within the travel industry are not limited to customer service alone but offering as well a simpler and easier every-day life to the employee's job. In fact, one of its most popular and effective uses is for gathering and interpreting data in order to draw conclusions about customers, business practices and pricing strategies. In these terms, Big Data, element powering the Artificial Intelligence, allows to take care of everything customers would need. Its information classification and management system help to learn a great deal of customer's behavior and use the wealth of data to address individual needs of customers and offer the best possible personalized service. AI can save businesses time and money, while potentially eliminating human error and allowing tasks to be performed quickly, at any time of the day. Aside from alleviating those common hospitality issues, self-service technologies create a unique and appealing opportunity to enhance business' revenue. The mobile apps or self-check in & out kiosks gives a feeling of freedom to the customers, who interact with the service that they provide for themselves, without the stress and the pressure coming from their interaction with



another person, whereas in this case is the employee. A characteristic example is a big hotel chain that experimented with kiosks for a while and pointed out that the queues in front of the desks have been reduced significantly.

### *Threats*

Technology based self-service features as well some threats that are noticeable. When the consumers are not familiarized with how to operate the automated devices, they may turn their selves away due to the feelings of being unaware, unsecure and unconfident and need control of their lives (Oyedele and Simpson, 2007). Technology anxiety, the fear, apprehension and hope toward general technology device or system, has negative effects toward customer satisfaction and customer behavioral intension (Meuter, Ostrom, Bitner, and Roundtree, 2003). As the lack of knowledge is shadowing the use of this kind of service technology, it may lead to system malfunction and therefore to customer dissatisfaction and frustration. In addition, technology anxiety and the difficult to use perception are two common threats that stop people from using self-service technology (Zhao, Mattila, and Tao, 2008).

However, the familiarization with all these new tech trends is becoming even harder for the users, as there is a constant update to the technological fields. As each hotel is implementing its own preferable system, the audience comes across with a wide variety of different versions of the systems. This may trigger difficulties to people that do not travel very often, elderly people that are not very familiarized with technology or even to the personnel of the hotel that needs to be trained to the differences of each system creating a confusion to the ones that may have used another system to a different hotel. Customer's adaptability becomes an obstacle to the fast pace changes of new tech trends, especially for those who do not travel that often. Moreover, another threat may be defined the lack of the specific equipment needed for the implementation of any operation from the self-service devices, such as applications that allow access in the hotel's new systems. More specifically, for example a customer that does not possess his or her personal device, will not be able to navigate via the app and control the features of the room. Even if the travelers own

it, they might prefer not to use it when travelling, due to additional cost for the roaming data. Besides, it should be considered that there is limited flexibility, as all these systems work only under certain circumstances and in specific ways. If someone would like to ask further requests or have additional inquiries, there is a chance that self-service devices won't be able to fulfill them and therefore displease the guest. Finally, it is very risky for the hotels to rely completely on the new tech machines, as when the missions won't be accomplished by these devices or in case of a power failure and malfunction the guest will feel alone and insecure. In this scenario, it is of high importance for the hotel to have a backup plan, as there won't be enough employees at the stations in order to provide assistance to the customers.

Concluding, consumers' concerns, insecurity and insufficient knowledge in usage and adaptability towards technology create a gap between the two sides. Also, the rapid growth of technology and the new systems are not only expensive for the hotel chains but also for the targeting audience. During any emergency the availability of the staff will be limited, and the hoteliers need to take into consideration all the parameters and the possible solutions, so that to avoid guest's frustration, dissatisfaction and disappointment and therefore losing their long-term loyalty.

### **Human-Touch Service**

The warm welcome smile in a front-line desk, the friendly concierge, the human interaction that reveals the feeling of empathy and the personalized service may be defined as Human-Touch Service. According to Bitner (1990) in this type of service there is an interpersonal relationship between the employee and the customer, through the communication. Front line staff interacts with the guests in order to provide the service required, by providing their assistance with any tasks, inquiries, problems or complaints. In these times, some hotel chains will ask from their employees not only to meet their expectations but also to go beyond them, by surprising positively with small gestures that will make the stay of their guests' memorable. The main target and motivation are to please their customers, by fulfilling all their requests and maximize their satisfaction. As for example, welcome and greet

with a warm smile, memorize and acknowledge faces, remember and address the guests with their names and above all offer a tailor-made service based on the personal characteristics and preferences of its individual. According to a research, “people factor” can be the most crucial factor that affect overall customers’ satisfaction and repurchase intention (Ganesh, Arnold, and Reynolds, 2000).

### ***Human-Touch Service SWOT analysis***

In order to examine deeper and analyze further the human-touch service, this section will present the strengths, weaknesses, opportunities and threats of traditional human interaction.

#### ***Strengths***

One may find many benefits in the traditional human touch service. The human interaction is the component to build any type of interpersonal relationship and it is considered the starting point of the traditional human-touch service as well. According to a research, the closeness of interpersonal relationship, in term of relaying, sympathizing and recognizing each other, may create a shield against other competitors, via maintaining no less than a short-term continuity business relationship (Chao, Fu, and Lu, 2007).

Another research has proved that the interpersonal relationship between consumer and front-line employees is one of the main factors that can positively affect customer’s satisfaction and loyalty towards the hotel chain, while at the same time act as a powerful tool for reducing the risk of customers’ switching behaviors when other customers leave the hotel (Guenzi and Pelloni, 2004).

Customer loyalty is based on the positive emotional experience that the employees create to the guests. In other words, the ability of the company, the staff or the product to retain its consumers for some specific period of time is called customer retention. Additionally, high customer retention means that the consumers of the product or the business tend to return and continue to be loyal to it.

Apart from that, the customers that are loyal to a company are also more tolerant to the price as well (Marković, Raspor, and Šegarić, 2010). Undeniably, the interaction between the front-line staff and the guests considered to be the key that

affects positively the commitment and the satisfaction of the guests. Having said that, body language is a subset of nonverbal communication, which complements verbal communication in social interaction. In fact, some researchers conclude that nonverbal communication accounts for most of the information transmitted during interpersonal interactions. It helps to start the relationship between two people and regulates interaction, but can be ambiguous. A smile, a positive compliment, a cake or amenities to be offered for the guest's special celebration contribute to affect indirectly the expectations of the guests and make their stay unique, therefore this makes them return to the same place, due to beautiful memories and nice feelings. Moreover, eye contact plays also a significant role, as the customer has the feeling that he or she is recognizable, respectful and is being cared by the employees and therefore the company. At the present time, employees know their values and what the consumers want in order to enhance their stay, take it to another level and gain them as repeater guests. Last but not least, in case of any emergency in human touch service the staff will be enough to provide assistance and offer the feeling of security to the customers.

Finally, in this type of service the strengths create an interpersonal relationship between the two sides, which are based on higher level of satisfaction, respect and commitment. It creates a positive environment for work for the employees, while at the same time the guests are being treated in a unique and exceptional way.

### *Weaknesses*

Some weaknesses may be noticed in the traditional human service as well. It is obvious to say that as this kind of service is depending on interpersonal interaction, while occurring it may affect the customer satisfaction both in positive and negative way. (Bitner, Booms, and Mohr, 1994). The attitude of the employees, including verbal communication as well as proper body posture, should be always positive towards the customer, otherwise it may lead to dissatisfaction with regards to the service provided. Additionally, human service is the service that occurs between people and it is deployed with human interaction. For this reason, the service may differ, depending on the person that is delivering it, due to the diversity in human characters. Even in the situation of the same person, the service provided may differ to another time or

another receiver. The same applies for the customers. It is possible, depending on the mood, the consumer to consider the same service provision positive or negative.

Moreover, another weakness can be defined with the level of skills that each employee may have. Employees who are more senior than the newest members of the company, will certainly offer another level of service, as they are more experienced, and they may be trained in a different way. All the above mentioned are the routes of the service inconsistency, that is directly linked to service insufficiency and customer dissatisfaction. On the other hand, the provider may exceed customers' satisfaction, by doing the extra mile and gaining this way a loyal customer.

Furthermore, another weakness of the traditional human service is the factor of human mistakes. It is reasonable to say that human nature embraces possible omissions that may occur due to the limited capabilities. In contrast with human capabilities, technology is designed in order to eliminate and avoid any possible mistakes. For example, a Front desk agent may register manually in a wrong way a guest's credit card or may even provide a wrong key for the room. According to Barth's theory (2002), some serious mistakes that will create inconvenience to the customers, may cost the company's fame and business.

Finally, to sum up the human-touch service weaknesses may be translated to inconsistent service quality, interpersonal relationships that depend on the mood of the individuals and the time of the service, as well as employee's possible mistakes that may occur and trigger customer dissatisfaction.

### *Opportunities*

The opportunities in the field of human service are present too. One of the major ones is the use of the technology, to provide a complete and personalized service. As it has been mentioned above, it is important to understand the applications of AI within the travel industry. Artificial intelligence does not only apply to customer service alone, though it upgrades it as well. In fact, one of its most popular and effective uses is for gathering and interpreting data in order to draw conclusion about customers, business practices and pricing strategies. In these terms, Big Data, element powering the AI, allows to take care everything customers would need. Its information

classification and management system help to learn a great deal of customer's behavior and use the wealth of data to address individual needs of customers and offer the best possible personalized service. In this scenario as one may see, the human service is the core value, enhanced by the use of new tech trends, in order to exceed any guest's expectations. According to a study, when there is higher level of empowerment it is more likely to generate a better service quality to some point (Ueno, 2008). Hotels may take into account this component and not only avoid any understaffing situation but take all the necessary actions in order to have the proper employee-customer ratio.

Additionally, human touch service is a great opportunity for businesses to increase the revenue as well as brand loyalty. A personalized service experience is a valuable component of upselling techniques and may trigger revenue when it is conducted correctly by the staff members. A research revealed that forty-nine percent of customers bought items they did not intend to buy due to a personalized recommendation from the brand's staff, as well as forty percent of U.S consumers state that they have purchased something of higher value than they have initially planned to because of the personalized service experience.

To sum up, the opportunities of traditional human service are an outcome of the combination of technology with front line employees that are experienced and familiarized with the use of new tech trends. In this way the data collected and analyzed may be beneficial for the high level of hotel's daily operation and service provided from employees to the customers. In this way brands build up customer loyalty, while evolving upselling techniques via a more personalized service based on customer-employee interaction.

### *Threats*

It is of high importance to mention some threats that may overshadow the traditional human service. There are many factors that may affect a customer's loyalty in a positive or a negative way, that they depend heavily on the interaction between an employee and a customer, no matter what the position of the employee is (Caulfield, 2004).

A positive interaction may gain a customer's loyalty for a lifetime, as it may create feelings of uniqueness; however, if the interaction is negative, it may be an irreversible business loss for the company. In addition, human psychology varies and is unpredictable, creating this way a natural obstacle to predict the performance of each employee under different situations. For instance, when a situation is stressful and there might be lots of pressure, the employee may not be able to handle this feeling of anxiety, and may overreact, leading this way to a disappointed customer and a damaged business.

Additionally, except for the external interpersonal relationship formed between a customer and an employee, there is also the frame of the internal personal interaction. More specifically, throughout all these years hospitality industry is based on the service offered from people to people. The staff of an enterprise consists of many people with different characters, beliefs and backgrounds. Considering the amount of time that most people spend at their workplace, it is very likely for the employees to become friends, to enter into a relationship or have a romance with one of their guests or even their supervisor. In other words, this kind of relationships may lead to potential conflicts, due to different behaviors and ideas, perceived favoritism by other employees or internal gossip and rumors that can significantly impact their performance, their coworkers and the overall working environment. One may conclude, that all the above-mentioned factors indicate the human weakness to have control of their emotions and therefore maintain a stable and consistent performance at work. This may contradict to the consistency and accuracy of the self-service machines, where human touch is missing and different emotions are not being evolved, due to the impersonal service.

## Technology Based Self-service vs. Human-Touch Service

Comparing the two SWOT analysis between Technology Based Self-service and Human-Touch Service, it is clear that both type of services embrace different points of view and ideas. The following table can be considered as a synopsis of the two SWOT analysis regarding the Technology Based Self-service and Human-Touch Service.

Table 1. SWOT Analysis of Technology Based Service and Human-Touch Service

	Technology Based Self-service	Human-Touch Service
Strengths	<ul style="list-style-type: none"> <li>○ Faster service provision</li> <li>○ Instance solution</li> <li>○ Time flexibility</li> <li>○ Location flexibility</li> <li>○ Cost effective</li> <li>○ Service personal avoidance</li> <li>○ Sense of better control</li> <li>○ Opportunities for advertising</li> </ul>	<ul style="list-style-type: none"> <li>○ Interpersonal relationship</li> <li>○ Personalized service</li> <li>○ Customer satisfaction</li> <li>○ Customer commitment</li> <li>○ Customer loyalty</li> <li>○ Still efficient in case of emergency</li> </ul>
Weaknesses	<ul style="list-style-type: none"> <li>○ High cost for investment and maintenance of the systems</li> <li>○ No service flexibility</li> <li>○ Excessively depend on design</li> </ul>	<ul style="list-style-type: none"> <li>○ Service inconsistent</li> <li>○ Employees' mistake</li> <li>○ Heavily rely on training</li> </ul>
Opportunities	<ul style="list-style-type: none"> <li>○ Combine advance technologies with some common devices (smart phones, biometric technologies, 3D hologram, etc.)</li> <li>○ Growing groups of</li> <li>○ Technology savvy customers</li> </ul>	<ul style="list-style-type: none"> <li>○ Up sale opportunity</li> <li>○ Recognition of guests</li> <li>○ Personal preference record</li> </ul>
Threats	<ul style="list-style-type: none"> <li>○ Technology anxiety</li> <li>○ Customers' acceptance</li> <li>○ Customers' adaptability</li> <li>○ Design flexibility</li> <li>○ Service recovery capability</li> <li>○ Fast pace of technology development</li> <li>○ Availability of self-service technology</li> <li>○ Emergency plan</li> </ul>	<ul style="list-style-type: none"> <li>○ Employees' attitude</li> <li>○ Employees' mistake</li> <li>○ Interpersonal relationships between employees</li> </ul>



As it can be seen from the table and both SWOT analysis, the two types of services present several advantages and disadvantages, which differ in various sectors. More specifically, the strengths of Technology's Based Self-service are focalizing into physical convenience, such as service speed, time and location flexibility, sense of better control, etc. Whereas the strengths of human-touch service are concentrating on customers' psychology and relative feelings coming from employee's behavior, such as interpersonal relationship, customer satisfaction, customer commitment, loyalty, personalized service etc. Considering both type of services could make use of the same new tech trends, then the service provided in technology's based service won't differ significantly from human-touch service. The reason behind this is that the employees of the hotels will be more efficient since they will be working with these tech trends that will improve their work, control faster and easier their work, while saving time.

Additionally, when there is need, the hoteliers can add more employees and service stations in order to improve human's services. However, even if the hoteliers will add more self-services kiosks won't improve the service provided nor replace the interaction and the personalized service between guests and employees. Moreover, it should be noticed, that in case of an emergency, such as fire or power failure, employees are a significant key point in order to ensure guest's safety, convenience and be able to offer any kind of requested assistance. More specifically, the employees will be trained to provide information and directions in case of emergency, carry customers when needed and by being confident the guests will feel secure and comfortable. Certainly, self-service machines won't be able to offer any similar type of assistance.

Nevertheless, self-service kiosks could be considered as more efficient and enjoyable when guests prefer to be more private and not to be bothered by other people during the service procedure. In other words, new tech machines can eliminate the interpersonal relationship and contact between employees and guests if the second one wishes to enjoy their privacy, dislike the face to face communication and provision of service. In Human-Touch Service this cannot be achieved, as the core value is the eye contact and the personalized service that the staff is using to provide their services to their customers.

Concluding, a service progress is explicit in the Hospitality industry and the impact in this sector is great. Even though, that nowadays day by day more and more people accept the fact that self-service is about to replace human-touch service, at the moment there is no hotel that uses only machines in front and back offices. In other words, the value of human service cannot be replaced by any machine or type of technology. The reasons that make human service unique are the little things that point out the difference and make the guest's experience memorable. As for example, this could be achieved by the memorization of a name, a warm smile, a small surprise and finally to exceed the guest's expectations. All these reasons make human-touch in hospitality industry irreplaceable and more powerful towards technology.

### **Technology Based and Human Touch Services in Hospitality industry**

Hospitality industry is a wide sector that consists of various accommodation types, means of transportation, gastronomy, entertainment and other related fields, where the consumers are expecting to receive the service that meets or even exceed their expectations and create this way a new unique experience. The key point in this industry is that people serve people and the main target is customer's satisfaction. It is widely known that the companies are losing their customers by one third approximately per year (Caulfield, 2004), and it is needed five times more resources to replace them with new audience rather than to hold them in their companies. The guests' expectations in hospitality industry, are translated to recognition, respect and personalized service. By maintaining these values, the companies keep their consumers committed and loyal, as interpersonal relationships and trust are based on the brand's name.

The hospitality sector is always in need of lifelong evolution and new tech updates, so that it will enhance the guest's experience. The reason behind is the fact that the hotel industry and the customer service are based on the provision of high-quality experience. From Artificial Intelligence and Virtual Reality to automated devices, self-service machines and online apps, hoteliers have now great opportunities to empower and develop their planning. These new data bring to the surface investment concerns, as well as ethical issues regarding the elimination of human interaction. However,

specific platform solutions, such as self-service tools, are spanning across industries, retaining touchpoints at the epicenter of the guest's service evolution. It is predicted by experts that by 2020, 85 percent of all customer service-related interactions will be operated by automated devices and self-service tools.

While the notion of self-service seems, at a glance, to be opposite from the widely known high quality human touch service, the demand is based on specific criteria. There are many consumers seeking for the traditional service, however, there is a wide audience, especially from the millennial's generation, that is searching for a convenient, individualized high-tech service. In many cases the feeling deriving from autonomy that the user is experiencing while using a self-service tool may be identified as luxury. Despite from the purpose, new tech trends may offer to the hoteliers' great opportunities to enhance the customer's experience by providing autonomy. Realistically, this technological requirement has become mutual across the entire hospitality industry, such as hotels, airlines, restaurants, cafés, etc.

## **Research Methodology**

This paper aims to investigate and analyze the impact of self-service technologies in the hotel industry on employee's job and customer satisfaction. In order to examine the way that new tech trends influence the customer service, a research of a questionnaire was conducted. The questionnaire consists of sixteen questions and was distributed via social media to one hundred fifty people, out of which hundred responses were collected. It is important to mention that the type of research used is cross-sectional as the data were gathered in a specific point in time, as the time duration for the data collection was one week. The questionnaire was structured in English, as a base language in order to be approachable to the audience. The sample population pertains to citizens of the world as it has been distributed in different nationalities and cultures all around the world.

### *Data Collection*

The information collected in order to conduct a complete and thorough research was drawn from primary and secondary data. With regards to the raw data,

they were gathered through questionnaires and analyzed further with the contribution of the secondary data that derive from academic literature, such as articles, books and educational sources. Both of the above-mentioned elements lead to the desired outcome of a complete and well-established research.

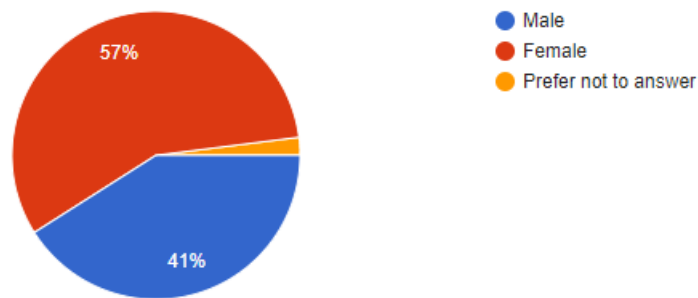
### *Research Rationale*

The main goal of this study is to evaluate the replacement of human service by self-service technologies, having as a coefficient of measurement the customer satisfaction.

### *Results*

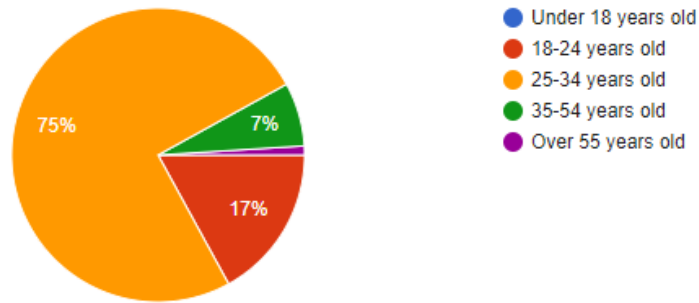
In this section all the results of the research will be gradually presented. Additionally, the tools that have been used for the conduction of the research will be depicted in graphical presentations.

#### *1. Gender*



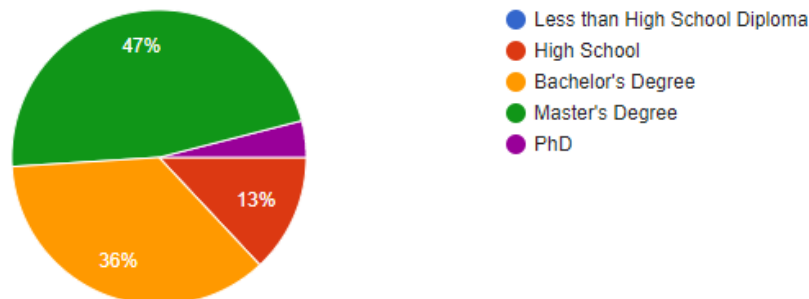
Starting with the demographics' analysis one may see that the 57% of the respondents were females, while 41% were males. In this question the choice of avoid answering was only 2%.

## 2. Age



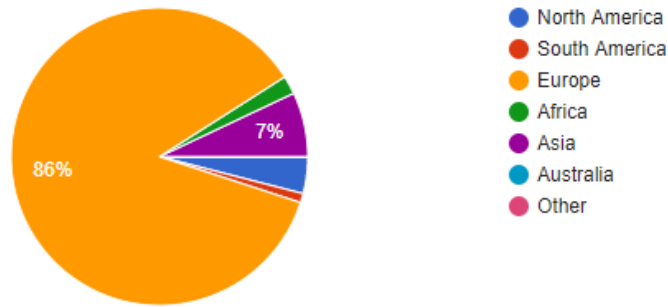
There are five different groups according to the relevant age. The first one is referring to people less than 18 years old; the second one has a range from 18-24 years old (17%), while continuing with the majority of 75% referring to ages 25-34 years old. The group from 35 to 54 years old represents 7% of the respondents and last but not least, only one person of the samples is over the age of 55 years old.

## 3. Qualification Level



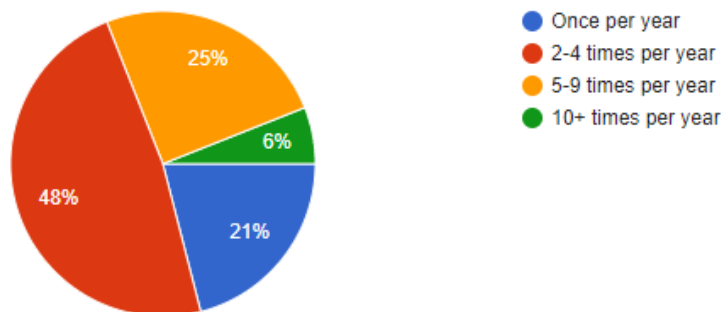
The above chart illustrates the level of education of the respondents. As it is depicted, the majority with 47% is qualified with a Master's Degree, while 36% holds a Bachelor's Diploma. Additionally, 13% of the respondents have finished High School and only 4% holds a PhD.

#### 4. Location of home



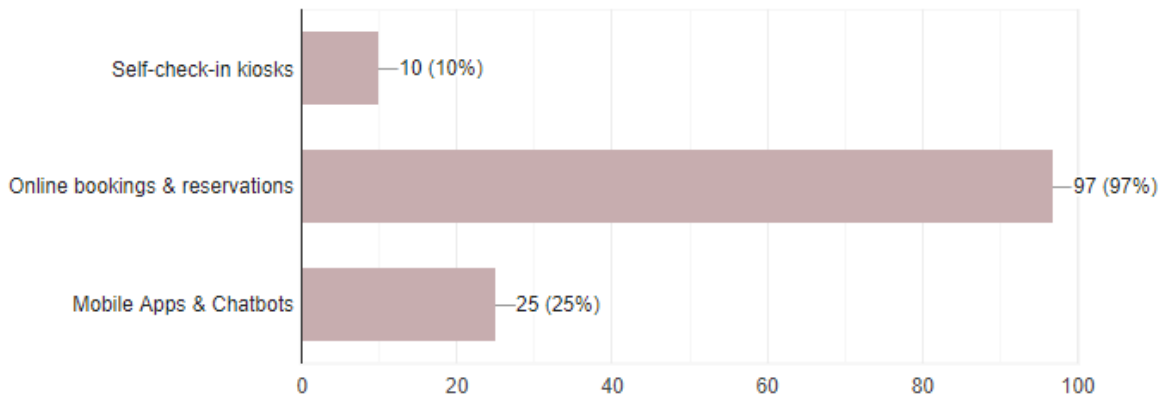
It is clear that the majority of the participants are based in Europe as it represents the 86% of the charter, however it is of high importance to mention that there is a multinational participation. In addition, 7% refers to Asia, 4% to North America, 2% to Africa and finally 1% of the respondents are based in South America.

#### 5. How often do you travel and use hotels as your accommodation type?



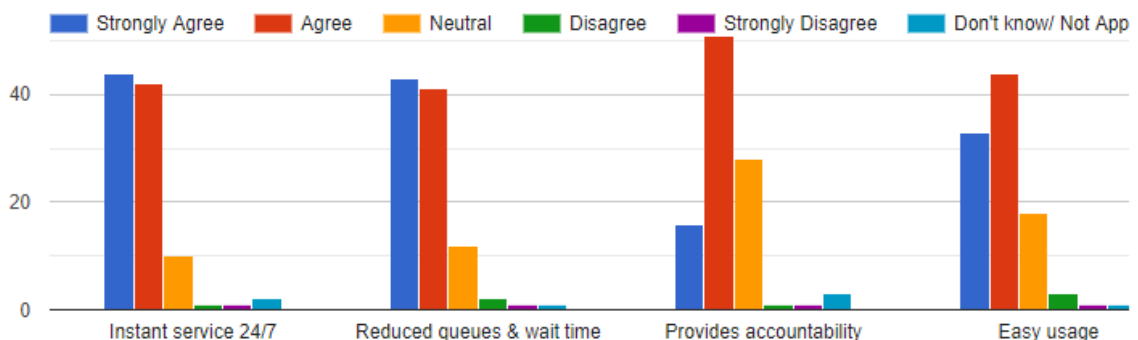
As it is illustrated in the above chart almost half of the participants, and more specifically 48% are travelling two to four times per year, while using hotel as their accommodation type. Furthermore, 25% of the sample travel five to nine times a year and 21% only once per year. Finally, the minority with 6% travels and uses hotels more than ten times a year.

6. Please select the type of the self-service channels that you used in a hotel.



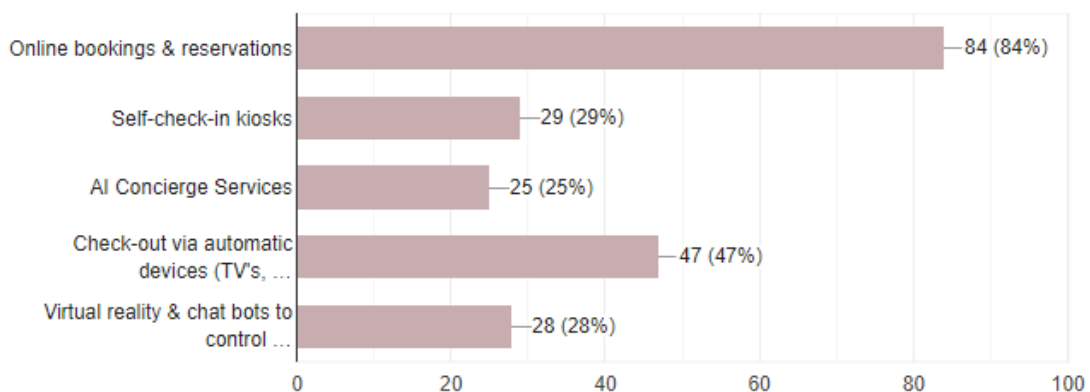
The graphic above depicts the self-service channels that the sample has used in a hotel. According to that, there is a significant deviation between the three alternatives. More specifically, it is clear that 97% has used online bookings and reservations system at a hotel, whereas 25% made use of mobile apps and chatbots and only 10% have experienced self-check-in kiosks. The reason behind this, is that in Hospitality industry the self-service channels haven't been adapted to the daily life of the hotels yet and therefore the audience is not familiarized with them. One may conclude that new tech trends are not that essentials to the consumers and hoteliers as although they entered the market some years ago there was not a high response rate with regards to the acceptance.

7. Please state if you agree or disagree with the efficiency of the self-service channels used.



In the first graph 44% of the respondents stated that they strongly agree with the first category of instant service provided by self-service channels, whereas 42% just agree. Out of one hundred respondents, ten are neutral towards the statement, 1% disagrees and 1% strongly disagrees. Last but not least, 2% of the participants responded that they do not know. Additionally, in the second graph 43% strongly agree with the fact that self-service channels reduce queues and wait time, 41% agreed and 12% is neutral. On the other hand, 2% disagree, 1% strongly disagrees and 1% does not know. Continuing to the next graph, 16% strongly agree that self-service channels provide accountability to the user, 51% agree and 28% is neutral. Finally, 1% disagrees, 1% strongly disagrees and 3% is not aware of. With regards to the last graph and the easy usage of the new tech channels, 33% strongly agree, 44% agree and 18% is neutral. On the contrary, only 3% disagree, 1% strongly disagrees and 1% states that the answer is not applicable. Concluding, most of the participants tend to either strongly agree or agree with the benefits and the efficiency of the self-service channels.

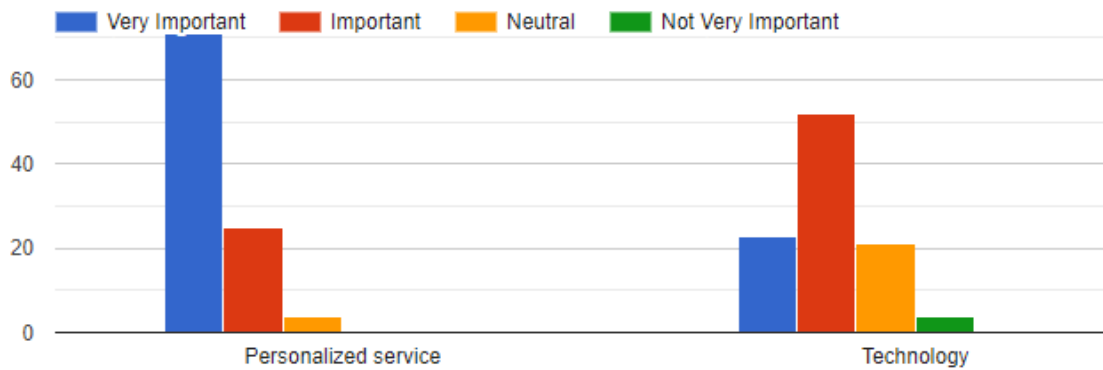
8. *Which of the following do you consider essential for the customer service in a tech-friendly hotel?*



In the above graphic the majority of 84% finds essential the usage of online bookings and reservations in a tech-friendly hotel. The second choice that the audience finds more essential refers to check-out via automatic devices, such as TV's, smartphones, etc. followed by the almost same rated categories of self-check in kiosks (29%) and virtual reality- chatbots devices that assist to control features of the room (28%). Lastly, AI concierge is considered as the least important element for the customer service in a tech- friendly hotel.

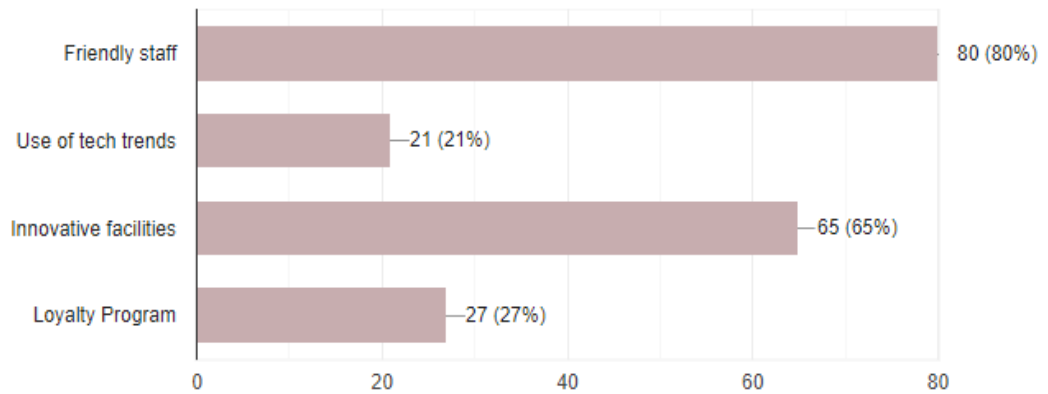


9. How important do you consider the following two factors regarding your experience in a hotel?



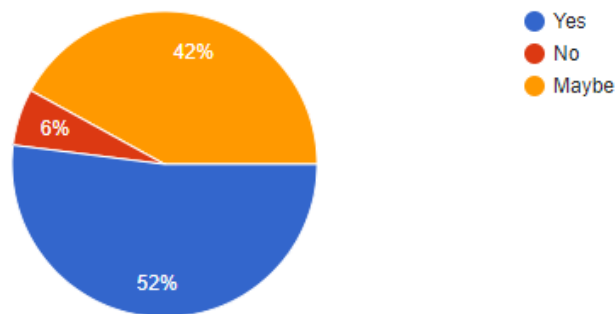
The above graph illustrates the responds of one of the most simple and crucial at the same time question of the research. The results are obvious as well, as 71% of the participants consider very important the personalized service with regards to their experience in a hotel, in contrast with the technological factor that only 23% set it as very important and 52% as important. This indication relies on the reason that still human service is a unique and irreplaceable kind of service. Even though the new tech trends could be fascinating, the value of personalized service is deriving from the human nature seeking for interpersonal relationship. There is a strong bond that leads to an interrelated relationship between service itself and service quality. The absence of these two elements may harm the hospitality industry. It is very difficult for some hotels to maintain the service quality while at the same time adapting new tech trends and self-service procedures, when human touch is eliminated (Armstrong, Mok, Go, and Chan 1997).

10. Which of the following do you consider as a significant factor for choosing a hotel?



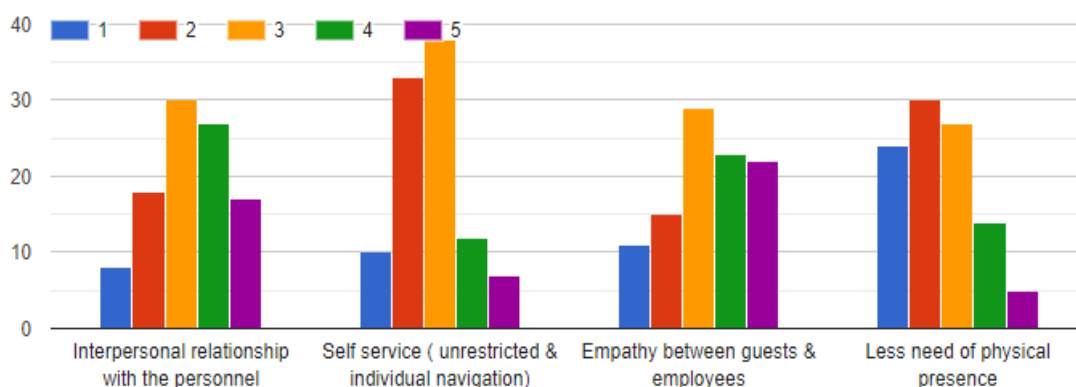
In the diagram above there are four main components that are considered to be significant factors when choosing a hotel. More specifically, the majority of the participants set as the most important factor the staff friendliness, reaching a rating of 80%. Continuing with the second preference of the audience, innovative facilities gain a score of 65% regarding the importance of choosing a hotel, followed by the lower rating of loyalty program (27%) and finally as less important the use of tech trends (21%). The deviation between the element of friendly staff, which is the first choice of the participants and the element of use of tech trends is of great importance, as the first one is almost four times higher in score from the last one. Although that the staff friendliness plays a major role, one may not avoid noticing that innovative facilities are considered as well main component that influence the decisions of a hotel’s clientele. It is clear, that the customers pay more attention and prefer to book a hotel with friendly staff, rather than a hotel with the provision of new tech trends. The values of human-touch and the interpersonal relationships between customer and employee are irreplaceable.

11. Do you consider the use of new tech trends would enhance your stay at a hotel?



The illustrated pie chart indicates the positive acceptance of the audience regarding the new tech trends in the hotel industry. In addition, 52% are in favor of embracing the new technological achievements in the hospitality sector, while only 6% disagrees with this statement. It is worth mentioning that 42% represents a high number of the sample that doubts about the need of integrating technology systems in the hotels.

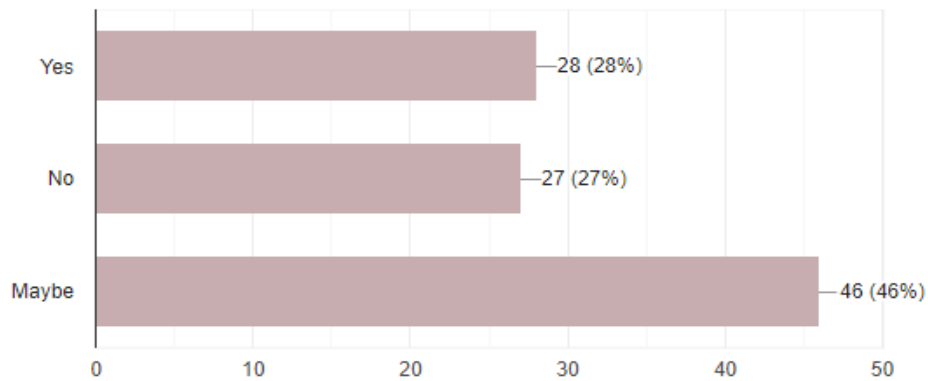
12. Please evaluate the following factors that contribute to the service quality, considering 1 as the less important.



The above graphics depict the contribution of different components and their influence on service quality in hotel industry. More specifically, the first category that refers to the interpersonal relationships with the personnel, tend to reveal more answers to be closer to 3,4 or 5 as rating, which shows the importance of the personalized service provided to people from people. In the second graph that concerns the self-service usage benefits, most of the votes are distributed between the numbers 2 and 3 as rate of importance. Following by the next graph that depicts the scores of empathy's values between guests and employees, where the majority ranges from the numbers 3 to 5, as the sample seems to agree that human-touch and empathy contribute significantly to the provision of service quality. Finally, the participant's answers vary regarding the importance of physical presence, however they tend to be considered less important as a value of service quality. To conclude, the two elements that are related to the human-touch services, meaning the interpersonal relationship with the personnel and the empathy between guests and

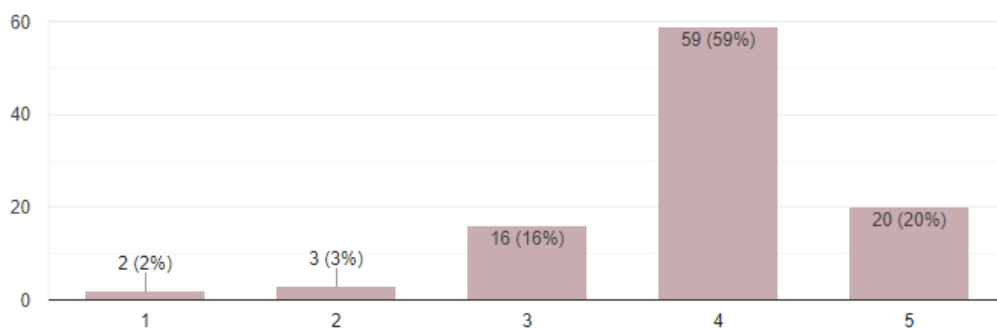
employees, are rated more from the numbers 3 to 5, in contrast with the rest two categories that refer to the benefits deriving from the use of technology, which are rated from the numbers 1 to 3.

13. *Would it be satisfactory for you if the hotel makes use of your personal data in order to enhance your experience?*



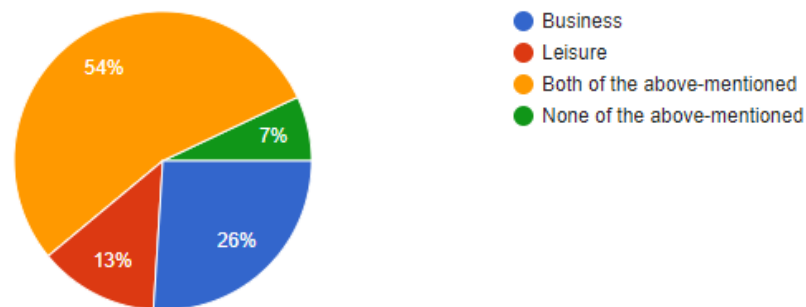
Almost half of the participants (46%) stated that they are unsure regarding the use of their personal data from the hotel they visit in order to enhance their experience. The rest half of the answers are almost similar categorized to Yes and No. More specifically, 28% voted Yes, whereas 27% No. The use of personal data is a sensitive subject and that is one of the main reasons that divides the opinions or even prevents from choosing a specific category.

14. *How much would a personal touch (provision of a gift, a message card, flowers, amenities) affect your loyalty to a hotel brand?*



In the above graphic a scale depicts numbers from one to five, where one means that there is no influence and five too much influence. The majority of the participants (59%) rated with number 4 and agreed that a kind gesture from the hotel and a personalized touch, such as provision of a gift, a cake, a card, flowers or any other kind of amenities, would definitely evoke beautiful emotions, affect them positively and therefore make them return and be committed to the brand. The following majority (20%) of answers voted with the number 5, setting the personal touch as a very significant factor for their loyalty. Finally, the minority of answers is divided to the number 1 (2%), 2 (3%) and 3(16%). To conclude, most people would be more committed to a hotel brand since kind gestures and small surprises provoke feelings of trust, caring and uniqueness.

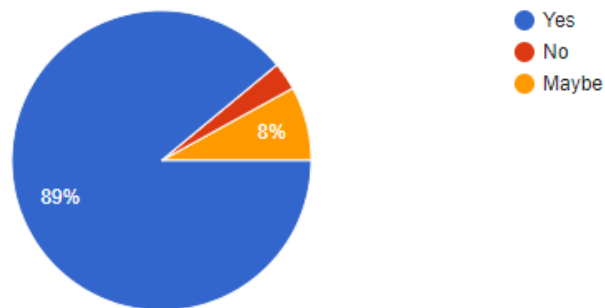
15. *When would you choose to visit a hotel that features new tech trends?*



The above illustrated pie indicates the respondent's preferences with regards to the choice of a hotel that features new tech trends during a specific purpose of travel. 26% of the respondents while travelling for business would prefer to stay in a tech-friendly hotel, whereas 13% would choose this type of accommodation when travelling for leisure. Furthermore, many of the participants, which represents the 54% would make this choice for both business and leisure travel. Lastly, only 7% of the sample stated that would not prefer to visit a hotel that features new tech trends. One may realize that the consumers are keen on tech-friendly hotels and would consider it as a positive factor, when booking a hotel. Comparing individually the two main categories of business and leisure travel, there is a significant deviation that should be noticed, as the score for choosing a tech-friendly hotel while on business is exactly

double from when travelling for leisure. The reason behind that, is that people who travel for business, have a short duration of stay and prefer an instant and fast service without seeking for human interaction. On the other hand, people that travel for leisure are looking for interpersonal relationships, recognition and welcome feeling.

16. Taking into account the hotels that you visited so far, do you think that there is space for improvement in the sector of technology?



In the last chart 89% of the respondents replied that based on their experience so far as hotel guests, there is still space for improvement in the sector of technology in hospitality industry, whereas only 3% disagreed with this statement. Lastly, 8% are unsure about the answer.

### **The impact of self-service technology in hotels in comparison with human touch service**

In the fast, modern, digital societies of the 21<sup>st</sup> century it is an undeniable fact that the trend is moving forward, and consumers are keen on adapting new ways to book a trip. More specifically, in the era of the self-service technologies, people pre book their tickets, the lodging type, dinner reservations or activities by themselves without the assistance of another human, such an agent. Upon arrival the guests may proceed with the check in through automatic machines or self-check-in kiosks; they might also be able to check in through their mobile phone or even fingerprint with the use of biometric authentication, as a form of identification and access control. As an

advantage of this free process, more flexibility is provided to the user, since there is no time limitation for the operating hours. In the duration of their stay they will be able to book what they wish, such as additional restaurant bookings, activities, daily trips or any other request they may have through the television in the room or their cell phone with no need for support from human service. By the end of their stay, they might check out as well by themselves through automatic devices, the TV's in the room or even their phone, without waiting the queues at the reception to check out with the front desk employee.

All the above-mentioned technological implementations derive as a requirement for convenience and flexibility. The contemporary tendency to streamline or speed up some points reveals the human willing for development and modernization. More analytically, surveys show that 77 percent of US consumers stated that the most important part of a good customer service depends on "valuing my time" option. Furthermore, approximately 73 percent of 526 customers that participated in a research, consider that retail self-service technologies, such as self-service kiosks for check-out, is preferable than a more time-consuming interaction with an employee. In addition, Oracle reports that on average, guests that experienced the check in procedure with the use of a digital key, rate a hotel 7 points higher than a usual key card, as well as 84 percent of them would like to use this technology again, as it has enhanced their stay. Continuing, 94 percent of the businesses and 80 percent of the leisure travelers stated that would like to use technologies such a mobile guests app in order to request service and message to a hotel staff.

Contrariwise, in the field of hospitality when planning for a trip and pre book the tickets, accommodation type, activities etc. through the phone or in person with a service employee, the human being dominates, and the physical presence is mandatory. Additionally, when the guests arrive at a hotel to their destination, a bell boy will open the door, take care of their luggage and meanwhile they will be escorted in the reception for the check in process by a front desk employee. Now, the check in will be much more attractive, as the staff will ask for more information and do the official procedure, whereas after finishing the check in one of the employees will provide them the key or even escort them to the room and wish them an enjoyable stay. Moreover, during their stay they might ask for assistance for their bookings

(restaurant reservations, spa, activities etc.) from the concierge or the reception. An interpersonal relationship will be deployed between the guest and the employee and the physical presence here is always needed. At the end of their stay, they will proceed with the check out at the lobby area, where an employee will receive verbally feedback regarding their stay and finally wish them goodbye and a safe trip back home.

## **Self-service Technology Values**

Customer satisfaction in today's worldwide service scenery is of high importance, setting it as a unique selling point of a company among its competitors. The big variety of products that the markets offer, allow the consumers to have different options, erasing this way any power of monopoly or oligopoly in most of the cases. Based on this result, buyers are seeking for services and goods that meet their expectations and are more consistent to their needs. Customer satisfaction translates to an increase in business revenue and profit through repeating interest, new products purchase, and buy of products that customers are keen on owning due to already satisfied consumers. On the other hand, the diversity and different needs of consumers has led to the evolvement of various customer service tools. In general, customer service may be defined the set of tasks that targets the business robustness and economic development through customer satisfaction and meeting of the guests' expectations. Technology based self-services has gradually become dominant among customers and offers them the autonomy to receive services they need, without the need of human interaction.

Even though some people might support that the procedure has been easier and simpler so that the guests will be more independent, there is still space for improvement as the service is not good and efficient for everyone. In other words, concerning a group of people who are not familiarized with new tech trends, such as elderly or people with physical impairments will always need the assistance and guidance from another human being. However, as technology is developing on a fast pace, all these gaps are already detected and examined in order to eliminate any obstacle of the technological revolution. For decades, service providers were



implementing self-service tools, such as services provided via internet and online systems, voice response systems, applications and chatbots, that contribute to create value for both the providers and consumers (Scherer, Wunderlich, and Wangenheim, 2015). Additionally, the consumer receives an enhanced experience that is based on convenience, instant service, reduced waiting time, easy usage and better customization, while on the same time the service provider has the advantage of better control of the service, reduced labour cost, wider target group to reach and more standardized service delivery (Considine and Cormican, 2017).

According to Smith and Colgate theory, the traditional service type consists of four different elements that contribute in order to create value for the customers. More specifically, these groups are functional/instrumental, experiential/hedonic, symbolic/expressive and cost/sacrifice values. Based on that, the appearance of self-service technologies creates a new relationship between the service provider and the service receiver, which leads to the development of a new set of values. As defined by Meuter et al. (2000) self-service technologies are *“technological interfaces that enable customers to produce a service independent of direct service employee involvement.”* This has an outcome to assign the role of value creator to the customer, by conducting most of the service himself (Hsieh et al., 2004, Mills et al., 1984, Vargo and Lusch, 2004). Finally, it is of high importance to mention that many researches tried to identify the values created by the use of self-service technology, however it is strongly defined that the involvement of the consumer in this type of service reduces cost, increases customer satisfaction and loyalty and approaches new customer segments (Bitner, Ostrom, and Meuter, 2002).

## **The importance of Service Quality**

As Sullivan (2011) stated by providing self-services to hoteliers is giving to consumers no reason to complain, as they serve to themselves. Although, it is significant to point out that people forget the importance of customer service and interpersonal relationships in hospitality industry. By this one may conclude that, since the guests are the one that provide the service themselves then there are fewer complaints for the employees, but this is just a myth. Different type of complaints is

coming out by the time that self-service devices started to dominate in some hotels worldwide. Not only these new tech trends have difficulties in operation, such as power failures or malfunctions on the systems but also no feedback derives from the customers. A characteristic example is the procedure of the check out. When one is checking out through self-service kiosks no feedback has been provided to the hotel for their stay. Whereas, on the other hand upon the traditional check out with the assistance of the employees, then the business receives constructive feedback from its guests, and it is more difficult for someone to leave the hotel dissatisfied or unhappy. Additionally, when people check out via automatic machines sometimes, they do not know how to use them and that makes them frustrated, impatient and as a result displeased. Some retailers mentioned that these new tech machines do not offer quality in their service and the level is not the one that is expected; therefore, they prefer not to use them or if used to eliminate them (Albright, 2011).

Furthermore, according to another research regarding the choices for booking a trip, customers prefer to book their travel online if they are looking for a lower price, and when they want to enjoy more personalised service, as for examples any travel arrangements, they would book it through the agent (Lee and Cheng, 2009). When one is booking online is like providing service directly to him or herself, whereas when someone else is planning the trip human being dominates and interpersonal relationships as well. It is an undeniable fact that in the hotel industry, when people are keen on unique experiences and high level of service, are looking for human-touch and personalized service. Therefore, the idea that they must serve themselves will not sound fascinating and ideal to them and they will be aware in advance that the human factor that plays the most significant role in hospitality industry will be missing and their experience will not be complete.

One of the core values of hospitality is the service quality, which according to Parasuraman, Zeithaml and Berry consists of five key elements. These elements are defined as SERVQUAL and they may be mentioned as tangibility, reliability, assurance, responsiveness and finally empathy. To start with, tangibility is the appearance of physical facilities, equipment, personnel, and communication.

Continuing with, reliability is the ability to perform the expected service dependably and in an accurate way. Responsiveness is the willingness to help

customers and provide prompt service. Assurance refers to the knowledge and courtesy of employees and their ability to convey, trust and confidence. Last but not least, empathy is the fifth dimension that customers use when evaluating service quality and refers to the provision of care and individualized attention that the enterprise offers to the customer. This dimension is characterizing the human nature, although technology tries to imitate it and implement it as well in self-service tools.

Moreover, it is of different value the importance of a human verbally apologize in contrast with a machine stating it with a voice message or a written text, due to the fact that self-service technologies are perceived as machines of formulas and programs. Lastly, Grönroos (1988) completed this theory with the sixth dimension, which is the recovery. By this Grönroos (1988) is referring to the ability to make a disappointed customer into a committed one. When human service is involved recovery is translated as the process of acknowledging a problem, listening carefully to the dissatisfied guest's complaint, show empathy and offer an immediate solution that will turn them from frustrated into loyal customers.

To conclude, it goes without saying that both type of services may provide quality that is based on responsiveness, assurance and empathy, however with a different efficiency. All these above-mentioned elements are crucial in order to meet the customer's expectation and provide an exceptional service.

### **The impact of Self-service Technologies on Employee's Job**

It is of great value to say that successful businesses main goal is the satisfaction of the guests. Up until now, and mainly in the previous decades, the employees were of great value to an enterprise as they were the service providers. Nowadays, technology is developing rapidly and is taking over the human interaction based on communication and emotion. These core values are of high significance in order to attract, please and gain the loyalty of a guest. Today this scenery has changed, as businesses and self-service based technology are walking side-by-side to satisfy the needs of the consumers.

However, this new notion has been beneficial in some fields, such as instant service, time flexibility, easy usage, meanwhile it poses risks in other fields such as the employee's job.

It is an undeniable fact that hospitality industry is deeply rooted in tradition. This translates to the provision of a high-valued, guest-centric service delivered by friendly and attentive employees that their main task is to offer a unique experience to their guests and make them feel like home. While the great importance of human service will never be replaced by technology, there is a subsequent need of a low-touch self-service experience that the market requires. The explanation behind this reason is that the balanced utilization of self-service-based technologies do not negate the traditional human-touch service; instead it allows to delve deeper and evolve any interaction with the guests by empowering the staff.

Starting with the positive influence of self-service technology on employees' job in hospitality industry it should be firstly highlighted the fact that many tasks from daily operation are simplified or even eliminated. For example, there is no need of front-line employees in order to conduct the check-in process, as this may be automatically conducted from self-check-in kiosks with biometric devices, which are available any time to offer this kind of service to the customers. Another example concerns the data collection, as it is handled by central operating systems that collect, organize, memorize and finally store in order to create an accurate profile of the guest and acknowledge any preferences or specific requests they may have. Following, there is more accuracy with regards to the completion of a transaction. More specifically, self-check-out machines will enable the safe and precise handle of the cashiers without the need of human interference. On the sector of room self-service features, the housekeeping will not be needed physically to conduct the service; however they may supervise online the integration of the process. Same applies for the room service, as automated devices will receive the orders that were sent to the centralized application service via the guest's personal device. Continuing, the order will be delivered to the rooms with robots and there will be no need of a waiter person.

Except for the front-line employees, benefits may be detected as well in the back-office tasks. For instance, in logistics, the network-based nature of the tourism industry provides a natural framework for implementing and scaling Artificial

Intelligence, amplifying the human components of the internal company supply chains. AI offers to the hotel chains the ability to optimize network orchestration to degrees of efficiency that cannot be achieved with human thinking alone. For this matter new logistic systems based on technology are introduced to warehouse operations and procedures. They may help the corporation redefine today's behaviors and practices, taking operations from reactive to proactive, planning from forecast to prediction, processes from manual to autonomous, and services from standardized to personalized. Humans and robots work together here. Robots take care of repetitive data-related tasks and humans are involved in more complex tasks such as interpretation and decision making.

On the other hand, one may detect the gaps resulted from the implementation of self-service-based technology in hospitality industry and the negative impact on employee's job. First and foremost, as new tech machines will dominate and takeover of many procedures, less staff will be needed, and the recruitment will be decreased significantly. As for example it has already been mentioned above, processes such as check in and check out, provision of information and self-service machines will be able to do employee's job in an effective manner and with less expenses. In most of the departments at a hotel (housekeeping, food and beverage, etc.) less staff will be needed to control the procedures that will be implemented by automated service providers. Notably, technologic and innovative systems will replace human's job and the interaction between employee and customer will be lost.

Additionally, one may support that hospitality industry, since always is based on human interaction, proacts the feeling of empathy and core values such as a warm greeting, a smile and the personalized service. In other words, the feedback and the complaints will not be provided directly to a person who represents the hotel but to an automated device that will receive the message and send it afterwards to the relevant department. No immediate action will be taken and no time to act in order to please the guest will be possible. This translates to dissatisfied guests who will feel inconvenient and unsecure, as no one will show empathy and care to them and their concerns. Thus, there will be a huge impact to their connection and their preference for the hotel as well, due to the loyalty and the trust of the guests that will be betrayed. Another characteristic change is the demand for more specialized jobs, such

as IT, Digital Marketing, E-Commerce, Online Agents, Technicians, etc., whereas manual works will be gradually eliminated and there will be no need of human presence. It must be highlighted, that the staff will be distributed and absorbed in different fields, which follows the new tech trends and skip the direct interaction with the customers. Consequently, people who do not have any specialization and are aware only of manually works, will face difficulties to catch up and adapt to the new data and therefore to find a job related to the new tech trends.

All in all, the new digital era requires new specialization in the fields that are related with the new tech trends. Moreover, it may benefit or harm the employee's daily life regarding the operation and may even become an obstacle for employee's career. Finally, it may trigger communication gaps, as interpersonal human relationships will be replaced by automatic self-service tools.

## **Summary**

It is a common phenomenon worldwide in hospitality industry that hoteliers tend to adopt the new tech trends and introduce them as well to their customers as a new way of service. More specifically, self-service-based technology is starting gradually taking place in this market segment while taking the place of traditional human touch service.

Due to the rapid growth of technology and the new lifestyle trends, people find more attractive this type of service, as they are familiarized with its usage. On the other hand, regarding a group of people that this kind of technology is not a part of their daily life, are facing difficulties in using self-service technologies and somehow have a feeling of obligation.

Even though the majority of the hotels accept this new trend, some of them tend to follow a different direction, meaning that they try to maintain the human touch. These hotels focus on the traditional human service, based on employee-customer interaction and having as a target the personalized service. It is an undeniable fact that there is a big market segment, especially while travelling for holidays, that do not wish to serve themselves, however they tend to spend more money in order to ensure that they will receive a high-quality service by professional

employees. The important elements that derive from the interpersonal relationship may lead to a deep commitment and finally to a loyal customer towards the enterprise. In other words, the above-mentioned components may contribute to a successful business. More importantly, hoteliers need to keep in mind that some services are irreplaceable when provided by humans and may not be compared to any kind of self-service machine. Therefore, it is of great importance for the companies to consider the values that they wish to establish in order to place themselves in the market and according to their vision and mission refer to the relevant audience.

## **Conclusions**

### ***Introduction***

Nowadays hospitality industry embraces technologies based on self-service, while traditional human labor is losing ground. Hoteliers provide this new type of automated services and the consumers react positively by adopting and familiarizing themselves with the new features. Although these tech trends have become more and more common to the wide audience, it is noticeable that people are still queuing in front of the desks waiting for assistance from the employees. Additionally, sometimes these queues may even be more crowded than the self-service kiosks. Despite the fact that the self-service technologies may have been proven beneficial for hoteliers and employees as well, there are certain values, such as interaction and empathy, that human presence is necessary in order to fulfill all of the guest's requests, satisfy them, meet and exceed their expectation. Thus, according to some studies, there is a significant difference to the service quality that human provides, in contrast with the machines. For this reason, there are divergent opinions, as some consumers are in favor of human service and plays an important role for them when booking a hotel, whereas other prefer impersonal relationships, no contact with the employees and automatization. Hoteliers from their side need to decide which option is more desirable for their costumers and make the right decision whether the high new tech trends create just a fashion image or are matching with the service quality that a company is targeting.

## **Results**

Comparing the two type of services one may point out that both are advantageous and unique from different points of view. On the one hand self-service technologies in hospitality industry considered to be faster, more flexible in time and location, easy in its usage with a sense of control and there is consistency when providing the service. At the same time, this kind of service presents limitation and weaknesses in service recovery, as human presence is missing and when a guest is complaining the empathy and the instant provision of a solution is missing. Moreover, these new trends rely significantly on the design of the technology and the systems, therefore it might be risky and stressful for the guests in case of malfunctions or power failure. On the other hand, human-touch service includes interpersonal relationship, empathy between guests and employees and the recovery when a complaint comes out. Moreover, the human interaction contributes to a tailor-made, personalized service that a big segment of customers is willing to pay in order to get advantage of it. Therefore, as the service quality provided is high or even exceeds the guest's expectations, the values of the company come to the surface, creating a unique selling point and loyal customers. Furthermore, in case of any emergency, adequate personnel may be able to assist and even empathize in order to control and moderate the situation.

Apart from the strengths mentioned, one may identify the main weakness that human services present. Delving deeper into details, the inconsistency in service quality provided, the human errors and the incapability of a continuing positive attitude are factors that heavily depend on employees training.

Even though that big hotel chains where the first one that adopted and implemented the technologies based on self-service to the daily operation life, there is still a big question mark remaining that concerns the experts in hospitality industry, and this is the absence of the traditional human touch. It is an inevitable fact to deny and isolate the human being from its own nature. Consequently, hoteliers should reconsider whether the traditional human-touch service could respectively and efficiently be replaced by the self-service machines.



What should the hoteliers do in order to maintain their clientele? What actions must be taken so that not to lose their revenue but at the same time to increase customer satisfactions? How will the new tech trends will look like in the future?

### ***Conclusion***

To conclude, as it has already been mentioned above both types of services are beneficial and profitable for a hotel, though for different reasons. Hoteliers need to point out the strengths and weaknesses for human-service and self-service technologies, analyze and understand what the needs of the market that they are referring to and provide it with the greatest extent feasible. If the two types of services will be mixed and combined, it would be advantageous in all cases. More specifically, the customers are looking for time and location flexibility, interpersonal relationship, fast and efficient service, reliability, empathy, trust and last but not least service recovery. Therefore, by combining the human-touch and the new tech trends the consumers find everything they may want and ask for. Additionally, so that to meet and exceed guest's expectations, hoteliers need to take into account the service quality evaluating components, which are the tangibility, reliability, responsiveness, assurance, empathy, recovery, service speed, user friendly, enjoyment and control. In this way, service quality remains at a high professional level, therefore hoteliers must consider these components independent with which type of service they decide to run their business.

In addition to this, service encounter is a great impact on guest's choice, as it can influence their decision for purchase, enhance their experience and consequently make them loyal to their preference. In view of this, the staff needs an excellent training, whereas self-service machines must be designed so that to operate in a proper way. On the other side are the controllers, where in this case are the hoteliers, for whom is also very difficult to supervise and monitor all the operations, as it is a fact that there are good and bad days for everyone, where the mood may be different in day- to day life. The human-touch service is dominated by employees, who can smile, greet warmly, make a nice compliment to the guest and praise positive impact to the guest's emotion and satisfaction. Whereas, with the new tech trends the hoteliers

observe and monitor the service provided, and they set the limits for it, depending on guest's choices, preferences and needs.

### ***Recommendations***

The purpose of this paper is to analyze the new tech trends that are now invading the daily life of hotels operation and find out if this is a step forward or backward in hospitality industry and whether this contributes to higher or lower rate guest's satisfaction.

It has been pointed out that both types of services are attractive to different audience and specific market segments. It would be quite enough if the hotels were offering both kinds of services in a balanced way, in order to embrace all the abovementioned segments. However, this may not be the case to upscale hotels, as the customers do not face any financial limitations and are seeking mostly for a tailor-made, personalized service. Moreover, there is a very thin line that may be crossed while offering a personalized service and this is something that needs to be avoided. All these constitute the personalized service, and it is crucial to emphasize on these components to achieve a great value and gain the loyalty of a guest. This customer's trust leads to successful businesses, as loyal customers contribute to the brand's financial growth.

Moreover, it is widely known that the young generation is more familiarized with technology, and keen on adopting and adjusting with the new, fast-growing tech trends. For this reason, hoteliers should take into account this specific market segment and create an environment that embraces the self-service-based technologies, though at the same time doesn't erase the tradition service conduct. In an era that technology will be an essential element for a hotel, the way to create a unique selling point and promote differentiation, will be tracked into traditional human touch.

One may conclude that there is a difficulty in identifying whether self-service technologies are a progress in quality or if it is the beginning of human services elimination. Traditional human-touch service consists of values that are irreplaceable, such as human interaction, feelings expression and flexibility, which makes it unique.

On the contrary, technology-based self-services in hotels may enhance the guests experience, by its easy usage, time and location flexibility, accuracy and consistency. In other words, most of the people that choose to use this kind of service is happening due to its convenience and autonomy. However, when it comes to quality and while service occurs, more advantages may be identified in the human touch service.

Furthermore, in order to invest in technology-based services, hoteliers should carefully consider the need and requirements of the installation in the setting, as well as the maintenance costs. It is crucial also to avoid the false economy of purchasing the units from a low-cost supplier, as it may lead to even bigger loss, due to low tech quality that needs regular repairs, maintenance or replacements of the equipment. Self-service kiosks that will deal with a big public volume and will be constantly used, is essential to consist of quality materials with time duration and robustness. As an outcome, this technology offers itself to the type of fast-paced environment where there is no requirement for repetitive tasks and human interaction, in most of the cases. The self-service kiosks in hotels may be the most significant reason in queues and reduction of waiting time, despite the fact that not all the customers are comfortable yet with using them. According to the abovementioned statement, there is a high number of people who don't know how to use these machines and get frustrated with using them or dislike their usage, as it seems to be for them really complicated.

Automation not only reduces cost and increase revenue, but also may enhance customers' retention. Whereas emotional connection between customers and employees is still irreplaceable, as it is the main factor of exceeding guests' expectations and gaining the extra mile from the guests. For this reason, when the two types of services coexist in a balanced way and promote their unique beneficial components, the outcome is satisfied guests that contribute to loyal guests and successful businesses. The solution is finding the right balance between high-tech and human-touch. In other words, as hoteliers have a wide variety of technological advancements, they need to find out whether their market seek for additional information and advanced tech trends or if this is too much digitization according to them. Therefore, it is needed to identify in which point the customers can accept and

adapt these trends and how the hoteliers could improve the service excellence while enhancing guests' experience through technology.

Predictions about the near future foresee the development of personalized solutions, which will lead to further rearrangement in the technological revolution that has been going on for decades in the tourism industry. The process of continuous progress seems to be unstoppable, as the sky is not the limit and the world is not enough, we head to the big question: How can the customers and employees adapt to the new tech trends brought to humanity and coexist through the perfect balance?

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## Appendix

### Questionnaire

#### 1. What is your gender?

- Male
- Female
- Prefer not to answer

#### 2. What is your age?

- Under 18 years old
- 18-24 years old
- 25-34 years old
- 35-54 years old
- Over 55 years old

#### 3. What is your highest qualification?

- Less than High School Diploma
- High School
- Bachelor's Degree
- Master's Degree
- PhD

#### 4. Where is your home located?

- North America
- South America
- Europe
- Africa
- Asia
- Australia
- Other

**5. How often do you travel & use hotels as your accommodation type?**

- Once per year
- 2-4 times per year
- 5-9 times per year
- 10+ times per year

**6. Please select the type of the self-service channels that you used in a hotel.**

- Self-check-in kiosks
- Online bookings & reservations
- Mobile Apps & Chatbots

**7. Please state if you agree or disagree with the efficiency of the self-service channels used.**

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Don't know/ Not Applicable
Instant service 24/7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reduced queues & wait time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provides accountability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Easy usage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**8. Which of the following do you consider essential for the customer service in a techfriendly hotel?**

- Online bookings & reservations
- Self-check-in kiosks
- AI Concierge Services
- Check-out via automatic devices (TV's, computers, tablets, mobile phones)
- Virtual reality & chat bots to control room features

**9. How important do you consider the following two factors regarding your experience in a hotel?**

	Very Important	Important	Neutral	Not Very Important	Not at all Important	Column 6
Personalized service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**10. Which of the following do you consider as a significant factor for choosing a hotel?**

- Friendly staff
- Use of tech trends
- Innovative facilities
- Loyalty Program

**11. Do you consider the use of new tech trends would enhance your stay at a hotel?**

- Yes
- No
- Maybe

**12. Please evaluate the following factors that contribute to the service quality, considering 1 as the less important.**

	1	2	3	4	5
Interpersonal relationship with the personnel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-service (unrestricted & individual navigation)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Empathy between guests & employees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less need of physical presence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**13. Would it be satisfactory for you if the hotel makes use of your personal data in order to enhance your experience?**

- Yes
- No
- Maybe

**14. How much would a personal touch (provision of a gift, a message card, flowers, amenities) affect your loyalty to a hotel brand?**

	1	2	3	4	5	
No influence at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Too much influence

**15. When would you choose to visit a hotel that features new tech trends?**

- Business
- Leisure
- Both of the above-mentioned
- None of the above-mentioned

**16. Taking into account the hotels that you visited so far, do you think that there is space for improvement in the sector of technology?**

- Yes
- No
- Maybe