



Enhancing the guest experience in smart hotels through technology: A Glimpse into the Future

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Abstract

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The use of technology in the hospitality industry in the last few years has increased dramatically. Because of that, a new genre of hotels has been developed in the past decade, Smart Hotels. This type of hotel operates exclusively with the use of technology, providing an innovative approach to guest services. The process of producing this paper took place between November 2024 and February 2025.

The main objective of this thesis is to examine how the advanced technologies used in smart hotels can enhance the overall guest experience, and provide the guests with a more convenient, efficient and customized stay.

The theoretical framework of this thesis consists of the definition of the guest experience, how a service can be turned into an experience, the experience realms theory and the flow theory. Moreover, it covers the definition of smart hotels, their advantages and disadvantages, technologies used in smart hotels and their impact on guest experience. These frameworks aim to contextualize how advanced technology can form and enhance the guest's perception and immersion with a hotel's services.

Ultimately, the results of this research thesis show that technology does have an impact on guest experience. Guests were categorized based on their age, gender and frequency of stays in hotels per year. The main finding of this research is the proposition that smart hotels with the integration of smart technologies are paving the way for the future of guest experiences. The results give a thorough overview of the thoughts of travelers regarding the concept of smart hotels and advanced technologies.

This thesis provides valuable knowledge into the future of the hospitality industry and draws attention to the significance of the incorporation of technology in a hotel's operations in a way that enhances the guest experience.

Keywords

Guest Experience, Smart Hotels, Technology

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1 Introduction

The purpose of this research-based thesis is to examine how smart hotels can enhance their guests' experience with the installation of technology in their operation.

Nowadays, humankind has the advantage of choosing from a big variation of options regarding services and products in a wider aspect of their daily lives. That results in the rise in the customers' expectations regarding their preferences and standards, leading them into choosing customized, to their preferences, options. Moreover, one more result of the variety of options, customers have become more discerning, well-informed (therefore open to new concepts), and expect all parties involved in their experience to make every effort to adapt to their needs and cater to their personal preferences.

One of the most important targets of the hospitality industry is meeting the guests' expectations and delivering extraordinary experiences. This is due to the fact that one of the fundamental principles of the hospitality industry is the establishment and preservation of a loyal customer base.

In the last few years, the hospitality industry has, to a significant extent, been affected by the expansion and dominance of technology. Among the prominent developments is the creation of smart hotels all over the world, of whom the operations are based on the utilization of advanced technologies. Smart hotels for their operation combine a variety of digital tools like artificial intelligence (AI), Internet of things (IoT), automation and data analytics. These highly promising modifications to the standard operations offer opportunities to make the services provided more personalized, make the experience of the guests unique and outstanding, and enhance hotel management efficiency.

While exploring the role that technology has in enhancing the guests' experience, there will also be examined key technological innovations that foster improved service, guest convenience and tailor-made experiences. This thesis aims to achieve two main objectives. Firstly, it aims to provide an extensive analysis of existing literature referencing guest experience in the hospitality industry and how it is influenced by technology at this time, but also the operation of smart hotels. Lastly, it aims to provide useful information for future studies, as smart hotels represent a neoteric establishment within the hospitality industry and the existing literature on this topic remains inadequate.

1.1 Aims and objectives.

Technological advancements when approaching a more sophisticated and high-maintenance customer have increased the competition on the hospitality and tourism industry. Consequently, there has been a change in direction from focusing solely on facilities and services to valuing more to provide tailored experiences (Knutson, Beck, Kim & Cha 2006, 31-47).

The aim of this research-oriented thesis is to investigate how technology enhances guest experience in smart hotels all over the world. To achieve this goal, the study will examine several key objectives. These encompass the definition of guest experience, the characterization of smart hotels, and a presentation of advanced technology employed in the operations of smart hotels.

The study will analyze the concept of guest experience, emphasizing convenience, personalization and the overall guest satisfaction within the hospitality industry. This research will be separated into two theoretical frameworks to provide a deeper and more exhaustive understanding of the topic. An examination of smart hotels as a hotel genre will be provided, and a presentation of their defining characteristics, as well as the advantages and challenges associated with this innovative approach to hospitality will be made.

Moreover, the latest developments in technologies and systems that are essential to the operation of smart hotels will be presented, highlighting the innovative solutions that contribute to enhancing the guest experience in this evolving field. By addressing these objectives, the study aims to contribute valuable insights into the role of technology in transforming guest experiences within the context of smart hotels.

The main investigative question of this thesis is: How much does technology impact on the guest experience in smart hotels?

While the sub questions of the thesis are:

- What is guest experience and is it important for the hospitality industry?
- What is a smart hotel?
- What technologies are being used in smart hotels?

Regarding the population, the study will focus on the travelers globally, that have a preference in smart or luxury hotels. The focus also will be on studying the genre of smart hotels, since the first

one opened, when for the term guest experience, we will examine all the already existent theories from the past few years.

1.2 Methodology in brief

The thesis will begin with a considerable literature review to initiate a constitutional comprehension of key concepts, involving guest experience, smart hotels, and the several technologies merged within these establishments. This review will also refer to already existing studies on the effect of technology on the hospitality industry, specifically engaging on its influence on guest satisfaction and engagement.

Data collection will be made through a structured questionnaire, which will be shared to a broad sample of hotel guests. The questionnaire's main aim is to capture participants' insights, preferences, and experiences regarding the technologies engaged in smart hotels, with notable prominence on how these innovations can regulate the overall guest experience throughout their stay.

Employing the quantitative research method, the research will gather definite data that reflects guest attitudes and behaviors, implementing a robust analysis of technological impacts on satisfaction levels.

Furthermore, the study will assimilate case studies of existing smart hotels to interpret real-world applications of technology in enhancing guest experiences. These case studies will provide useful insights into the operational use of smart technologies and the results in terms of guest satisfaction and operational efficiency.

The data will be analyzed using statistical methods to distinguish patterns, alternations, and trends that occur from the survey responses. This quantitative analysis will offer a thorough comprehension of the role technology has in modifying guest experience in smart hotels. The results will accommodate practical recommendations for the future development and integration of technology in the hospitality sector, contributing to the enhancement of guest satisfaction and the overall effectiveness of smart hotel services.

1.3 Structure of the thesis

The introduction of the thesis incorporates an run-through of the chosen topic while giving an insight into the aims and objectives. It also gives a brief insight into the methodology and key definitions that will be used to reach the main purpose of the thesis.

In the second and third chapters of the thesis, the theoretical framework is presented. It is based on key concepts such as guest experience, smart hotels, technologies that are being utilized for their operation and the impact it has on the guest experience. The framework is researched with the use of internet sources, academic journals and articles.

In the fourth chapter, the research methodology is presented. It includes quantitative research methods, data collection, and its analysis.

The thesis concludes with the fifth chapter, where a discussion is made regarding the process and the learning outcomes. At the end of the document, the references and appendices can be found along with the product of the thesis.

2 Guest experience and its significance

Customer experience arises whenever a company deliberately employs services as the stage and goods as props to attract an individual (Pine & Gilmore 1999, 11). However, capturing an experience can often be a challenging endeavor. Over the past few years, numerous efforts to define the term guest experience have been carried out. Generally, guest experience is tied to the impression and feelings a guest has while interacting with a business, a service, or a product. Experience can be defined by the environment, the quality of service and customer support, and the feelings it creates for the guest. As Pine and Gilmore (1999, 11-31) state “Experiences are inherently personal, existing only in the mind of an individual who has been involved in an emotional, physical, intellectual or even spiritual level”. In addition, O’Sullivan and Spangler (1998, 23) state that an experience is carried out by occasions or emotions that take place prior, during, and after engagement. Hospitality is one of the time-honored professions in the world and from the start, its primary goal has been to deliver a welcoming and relaxing setting for guests, securing their necessities are satisfied and they feel appreciated. According to Kong, Wang, Qiu, Cheung and Bu (2023, 2157-2177) “We have worked to create a sense of home and comfort for others since thousands of years ago”.

Guest experience is significantly bound to guest satisfaction. Customer satisfaction expands as customer experience improves (Andajani 2015, 629-633). Guest experience is separated into three stages that comprise the pre-trip, the on-trip, and lastly the post-trip. When accommodation acknowledges the key elements that influence guest satisfaction at every stage, they can customize their services and advertising methods to more successfully address the desires and outlooks of the guests, leading to higher satisfaction and loyalty. In the pre-trip stage, it is likely, while the guests are in the booking process or are looking at the reviews of the accommodation, that their satisfaction can significantly be influenced by the clarity of information they find related to the hotel, the ease of booking, and the expectations the advertising techniques through the booking sites set. These factors can lead the potential guests to choose to be accommodated in this hotel.

In the on-trip stage, we have factors like, cleanliness of the room and the public spaces of the hotel, the amenities provided, the room quality and appearance as well as the service the staff provides. Customer experience originates from customer engagement sequence with a product/service, a

firm, or part of its organization (Gentile, Spiller & Noci 2007, 395-410). These elements impact the guest's satisfaction and establish the perception of quality in a guest's mind. Positive feedback can be generated by providing the guest with top-notch travel products and services, which promotes customer loyalty (Avgeli, Smarianakis & Sotiriades 2020).

Lastly, we have the post-trip stage, which can contain factors like the ease of the checkout, how helpful the staff are with the checkout process, and the overall perception of the accommodation experience the guests have. The guest's satisfaction with on-trip and post-trip experiences can ascertain whether the guest is coming back or recommending the hospitality venue to others. Loyalty in the tourist or hospitality industry may be demonstrated through repeat visits, referrals, and positive customer testimonials. (Rahmiati, Ismail, Amin, Simatupang, Larson & Othman 2019, 43-47.)

In conclusion, guest experience is a critical factor of the hospitality industry and can influence guest satisfaction, guest loyalty, and total achievements. A guest experience can shape lasting impressions, create emotional connections, and create moments that resonate long after the visit. A positive experience can result in not only increased satisfaction but also repeat visits and positive referrals that create word-of-mouth marketing, all of which are key drivers that can make accommodation successful in the increasingly competitive market. By focusing on producing tailored and meaningful experiences during every stage, from pre-trip to post-trip, operations can meet and exceed a guest's expectations, building loyalty and a powerful reputation in the hospitality industry.

2.1 From services to experience

Hospitality is a service-oriented industry that concentrates on providing services that meet the expectations of the guests and provide them with comfort while they are away from their place of residence. It intends to provide transportation, accommodation, food, beverages, and amusement. Experiences are created when a company intentionally uses services, as the stage and goods as props, to attract individual customers in a way that creates an unforgettable occasion (Pine & Gilmore 1999, 11). Given that it revolves around customer experience, hospitality, to achieve success, it depends on high levels of service quality, like direct communication with the guests and the ability to meet and exceed their expectations. It specifically emphasizes on designing a positive and welcoming environment for guests, which most times involves proactive service by well trained staff. The management of service quality is therefore especially important for the hospitality industry.

In the original hospitality theory, a service is the functional aspect of interaction with the customer. Services are created individually for each customer, and service scope and quality can differ when it comes to the behavior, knowledge, and service-mindedness of the service provider's employees and the consumers (Dawes & Rowley 1996, 16-21). This results in crucial tasks a hospitality provider must complete.

Firstly, we have the quality. The quality can meet and exceed the customers' expectations when it comes to the basic offerings, that is the accommodation, the food and the amenities offered to the guest. Then, we have the efficiency which focuses on precision and punctuality when delivering basic services of the hotel (check-in and check-out, room service/meal delivery, room housekeeping etc.). Consistency, that means, consistent service delivery, ensuring that all guests experience equally the same level of quality. And lastly, courtesy, that means that the staff are professional, polite and respectful towards the guests and their needs.

The experience shift, goes beyond just delivering a service to the customers. Creating an experience means creating memorable and emotional encounters for the guests. This frame presents hospitality as an art, aiming to create an experience that will engage the guest on multiple levels. "By 'total experience' we mean the emotions customers extract from their interaction with a firm's goods, services, and 'atmospheric' stimuli" (Haeckel, Carbone & Berry 2003, 18-23).

The essential components of experience in hospitality include firstly the emotional engagement of the guest from creating experiences that evoke positive feelings. That includes personalized service, fitted to the guests' preferences or interactive elements that create feelings of connection. Enhancing memorability is also an essential component. Creating memories that will last and will create emotional connection with the business essentially leads to a positive word-of-mouth and repeater guests. Immersiveness, creating environments with atmospheres that alter the guest's mind. These experiences can be created by the design of space, beautiful smells, etc. And lastly, co-creation, meaning that the guest participates in activities, customize their options and co-design various aspects of their stay. In that way, the guest plays an active role in shaping his experience.

The table below will give some examples of how an exceptional service can create a positive and memorable experience.

Table 1. From services to experience (Otto & Ritchie 1996, 165-174)

Aspect	Service Quality	Outcome of Service
Check-in Process	Fast and informative check-in: Efficient, informative and friendly service on arrival, anticipating special requests.	Stress-free arrival: The guests start the stay feeling at ease. That leads to a positive tone towards the rest of the stay.
Concierge Services	Proactive concierge: Staff offer tailored suggestions for activities and attractions.	Tailored recommendations: Guests feel understood by the hotel, enhancing their local experience and taking advantage of every moment in their trip.
Amenities Placed	Top-tier amenities: High quality pools, hotel fitness center and spa services.	Relaxation: Guest feels pampered and rejuvenated.
Staff Interaction	Attentiveness: Friendly and approachable staff that care about the guests' needs and fulfill them before guests request.	Connection: Guests feel connected to the staff, feel at home and cared for.
Service Recovery	Responsive to complaints: The hotel acts when issues arise and resolves the complaints with urgency.	Positive resolution: Guests appreciate the effort of the hotel to accommodate their issues, reinforcing their sense of care to guest satisfaction.
Special Requests	Fulfillment of special requests: Hotel accommodates special requests like arranging a surprise, specific type of pillows, etc.	Surprise: The guests feel valued when a hotel goes the extra mile to make them feel special.
Room Service	On time and accurate service: Room service delivery is on time and the order is correct.	Convenience and comfort: The guests can relax and enjoy their time in the room shaping a personal and tailor-made experience.
Guest Feedback	Active listening: Staff communicate with the guest and checks in regularly to ensure satisfaction and listens to feedback.	Guest satisfaction and loyalty: The guests feel heard and valued. Therefore, it encourages them to return as their feedback helps in shaping their future experiences.

The table intends to highlight how great service can lead to a vast experience. When a service is delivered with care but also meets and exceeds the customer's expectations, it is possible for a guest to form emotional connections while creating memorable moments, leaving him with a sense of satisfaction. That can transform a regular visit into a remarkable one.

2.2 Experience realms

The experience realms concept is part of the Experience Economy theory, formed by B. Joseph Pine II and James H. Gilmore, written in their 1999 article titled "Welcome to the Experience Economy". They propose that businesses can generate customer experience by engaging them in different stages. Experience engages individuals in an emotional, intellectual physical, or spiritual level that is unique for each person (Pine & Gilmore 1999, 12-13). Experiences happen in two dimensions. These are guest participation and connection between the guest and the event. The first dimension is guest participation and has two ends. The one end is where the customer does not directly influence the event, while on the second end, the customer does influence the event. The second dimension refers to the connections that bond the customer with the event and it also has two ends. One end is absorption, where the experience occupies the customer's attention by bringing the experience into the person's mind. The second end is immersion, where the individual becomes physically or virtually part of the experience. (Pine & Gilmore 1999, 30-31.)

The two dimensions create the four realms of experience: esthetic, escapist, entertainment, and education, as pictured in Figure 2.2. The first realm of experience is the esthetic which focuses on passive participation, where the individual is in an environment with aesthetically pleasing elements that create a sensory experience but have an insignificant effect on it. In this realm, the guest notices his surroundings and creates an emotional and perceptual connection with them. Examples of an esthetic experience are visiting a museum or staying at a hotel with a luxurious design and pieces of art all over. In escapist, the individual forms participatory experiences that alter their mind and allow them to escape from their everyday routine. In this realm, the guest is an active participant and engages fully in the experience. Examples of an escapist experience include visiting theme destinations like Disneyland, or virtual reality (VR) gaming rooms. In the third realm, entertainment, the individual absorbs their experience through their senses. The difference from the esthetic experience is in the degree of involvement in the experience. The customers are observers and are entertained by a performance, event, or activity. Examples of an entertainment experience are going to a concert or watching a performance. Lastly, in the education experience realm, the individual actively participates in the experience. Customers participate in actions and acquire new knowledge or aptitudes. Some examples are, getting a tour on an archeological site or participating in a cooking class. (Pine & Gilmore 1999, 30).

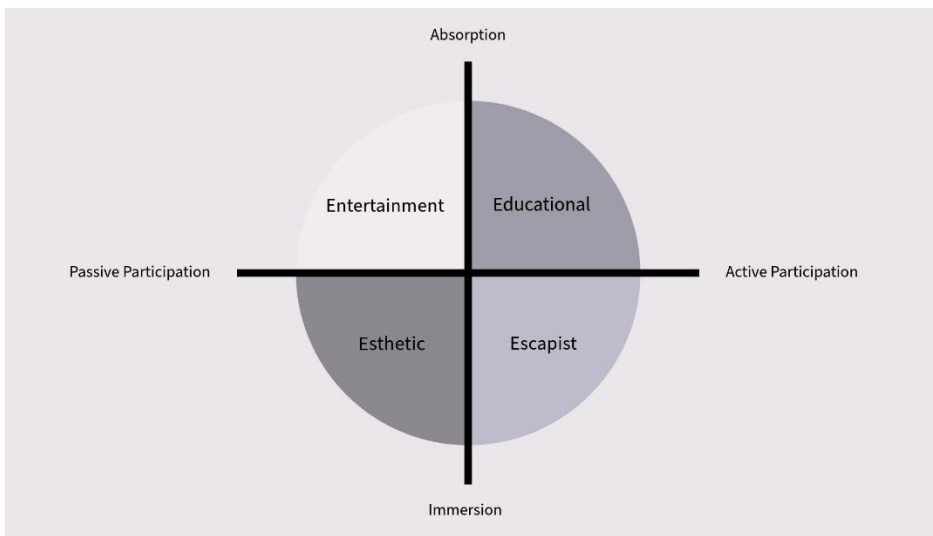


Figure 2.2. The Experience Realms (Pine, J. & Gilmore, J. 1999, 30)

In summary, in education and escapist realms, individuals engage actively in the experience, whereas in the entertainment and aesthetic realms, they have passive participation. The experience realms offer significant potential for the hospitality industry, by providing an opportunity to enrich service offerings by actively engaging guests in unique and meaningful ways. By integrating elements from these experience realms, hospitality providers can design experiences that exceed guest expectations, producing loyalty and generating positive word-of-mouth promotion.

2.3 The flow theory

The flow theory was initially formed by Mihaly Csikszentmihalyi. The theory relates to a psychological state of deep immersion and focus where individuals experience feelings of joy and achievement when participating in an activity. Flow has been outlined as “the holistic sensation that people feel when they act with total involvement” (Alexiou, Schippers & Oshri 2012, 1243-1247). In the context of hospitality, the flow theory can be applied to understand how guests during their stay can achieve a higher level of satisfaction when participating in activities organized by the hotel, or when interacting with a service. Flow has been described as a customized optimal experience or an ecstasy state, endured by individuals in the course of events or tasks being executed (Csikszentmihalyi 1990, 2-8).

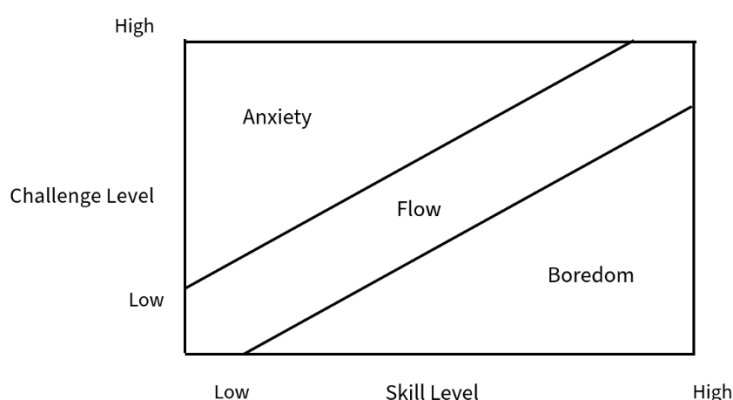


Figure 2.3. The Flow Theory (Csikszentmihalyi, M. 1990)

A hosting structure can achieve flow by creating experiences where guests seize completely in the environment or activities offered. This occurs when the services provided to the guests, match their interests, and skills or challenge them to participate while providing them with a sense of control. For example, the guest can participate in a cooking class or have a spa treatment. These actions can encourage flow, as the guest has an optimal experience, balancing challenge and skills. This can lead the guest to feel deeply satisfied (Alexiou et al. 2012, 1243-1247).

Furthermore, the incorporation of the flow theory into the hospitality industry can consequence in creating positive, meaningful, and memorable experiences for the guests. In that way, it is possible for the guest to shape a strong emotional connection, enhancing loyalty and satisfaction, and motivating a word-of-mouth promotion. Taking the flow theory into consideration, hospitality providers should provide guests with personalized experiences that are based on the guest's interests and allow them to be immersive, leading to a state of flow.

2.4 Three extraordinary guest experience cases in the hospitality industry

An extraordinary experience in the hospitality industry is the one that exceeds the guest's expectations and creates lasting and memorable moments that go beyond expectations and gratifying their desires. These experiences focus on personalization, immersion, and forming emotional connections. Below there will be presented some examples of extraordinary guest experiences in hospitality.

The Ice hotel in Jukkasjarvi, located in Sweden. This unique hotel first opened in 1989, and it now has become a must-visit Swedish landmark for travelers globally. The rooms are rebuilt every winter as they are made by pure ice and snow. The hotel offers plenty of activities like guided Northern Lights viewings, dog sledding rides, and ice sculpting workshops by artists. This hotel offers an extraordinary experience to its guests as it blends adventure, art, and nature, and gives the opportunity to the guests to enjoy the magic of the Northern Lights just above their ice “roof”. That combination sure offers a once-in-a-lifetime experience by engaging the guests in unique activities and providing them with magical scenery (Delahaye December 2021).

The Singita Sabora Tented Camp, in Tanzania. Found in the heart of Tanzania, Serengeti, the tented camp was first established in 2003. It is an exclusive safari lodge. The camp offers its guests game drives in open vehicles, mountain biking, wildlife photography lessons, and night drives through the wildlife. The camp also offers a heated plunge pool, a range of spa treatments in its treatment rooms or in the comfort of the guest's own suite, and a dining experience under the stars in the open air. The combination of wildlife safaris and luxury all-inclusive services in the African wilderness creates an adventurous and unparalleled experience creating core memories for the guests (Singita Sabora tented camp Official Website 2025).

The Four Seasons Resort, in Bora Bora. Made its debut in 2008, and it is located in the French Polynesia, this Four Seasons Resort offers a dreamlike getaway. The guests stay in overwater bungalows that have direct access to the lagoon. The guests can participate in traditional Polynesian cooking classes, snorkeling with sharks and stingrays in the crystal waters, and a variety of water sports. Creating a combination of luxury, privacy, natural beauty, and embracing the local culture, while participating in the activities arranged by the hotel exclusively, the guests are surely provided with an unforgettable experience (Travel Weekly 2025).

These hospitality units turn ordinary visits into extraordinary memories and experiences, combining nature's beauty, adventure, and luxury leaving guests emotionally connected to their stay, feeling special and deeply fulfilled.

3 Smart hotels

The continuous regeneration of the hospitality industry and the dominance of technology have led to new customer expectations and have created opportunities to enhance the quality of the services offered within the hospitality industry. In the last few years, a new genre of hotels has been born, smart hotels. Wu and Cheng (2018, 42) defined a smart hotel as “rather a practical business term referring to a new model of hotels operating with advanced technologies”. These hotels feature a growing presence of smart services, which involve the integration of data and interconnected technologies that allow for anticipating customer needs and adjusting based on shifts in environments or circumstances (Kabadayi, Ali, Choi, Joosten & Lu 2019, 326-348). The rise of smart hotels has certainly transformed the hospitality industry, setting new standards for customer satisfaction and transforming the future of hospitality for good.

Some key characteristics of smart hotels include automation. Many tasks within smart hotels are automated. That means that no human intervention is needed. Automation can be used in check-in and check-out, meaning that the guest can check in or out through a mobile app created by the hotel, or use self-service desks, not having to interact with the staff at the front desk. Also, it can be utilized for room service. That means that the guests order through a mobile app and a robot brings their order to the room. The rapid growth of smart technologies, such as the examples mentioned above, has paved the way for new operational practices in hotels that are less dependent on manual labor (Ivanov, Webster & Berezina 2017, 1501-1517; Tuominen & Ascenção 2016, 279–292). One more example is that maintenance tasks and system updates can be done automatically through the system.

Personalization is yet another impactful characteristic of smart hotels. Smart services are presented as “personalized and pro-active services that are enabled by the integrated technology and intelligent use of data that can anticipate and fulfill customer needs at specific times and/or locations based on changing customer feedback and circumstances” (Kabadayi et al. 2019, 326-348). Data analytics and AI (artificial intelligence), in smart hotels, gather data on the guest's preferences and habits from current or past stays to formulate and deliver tailored experiences. For example, it can modify room features, like lighting, temperature, and bedding, or provide the guests with recommendations on local activities, dining, and entertainment.

Smart hotels can be contemplated sustainable, as smart technologies help minimize energy use and support eco-friendly endeavors. They have automated heating or cooling systems, and the

lighting alters based on the hotel's occupancy. Water-saving features and recycling programs are also a part of these hotels in order to minimize the environmental impact.

Smart hotels incorporated advanced security technologies to protect their operations and guests' personal information and well-being. Some security features are AI-powered monitoring systems and mobile key or face recognition for room access. Customers would be supported by porter or concierge robots, check in using a robotic front desk agent or kiosks with facial or fingerprint recognition, and access their rooms without the need for a traditional room key (Kabadayi et al. 2019, 326-348). The guests' data is well encrypted with robust cybersecurity protocols. Instant alerts, emergency response systems, and control of access to restricted hotel areas are also integrated into the operation.

Smart hotels also provide efficiency and convenience. They usually have their own mobile apps. Those apps give the guest the ability to control room settings, see the menu and place an order for room service, make a request for housekeeping, place a dinner reservation on the hotel's restaurant, or contact the guest services center when needed. Those apps can reduce the time a hotel guest might wait to be served while improving operational efficiency at the same time. So, the guest gets to focus on enjoying their stay while the operation runs more smoothly. Self-service options are available also in this type of hotel as they often contain touchscreens and apps, giving the ability to the guests to access services on demand, increasing their satisfaction.

High internet speed and connectivity are key characteristics of smart hotels. Fast Wi-Fi network throughout the hotel's facilities, conveniently allowing the guests to work through their phones or computers or enjoy some time online. High-speed Wi-Fi in smart hotels is a very important factor, as the devices used within it need it to operate.

Robots and AI (artificial intelligence) are highly dependent on smart hotels as they often employ robots. Robots are used for concierge services, housekeeping, either inside of the rooms or in the public spaces, or for the room service meal delivery. With the use of AI, guests have the ability to communicate with chatbots or virtual assistants, for purposes like guest inquiries, dinner reservations, or to ask for activities recommendations. A chatbot is more efficient for communication because of its wide range and capability to manage multiple languages, particularly when compared to humans (Dalgic & Birdie 2020, 323–343).

Concluding, smart hotels operate with a combination of advanced technologies. In the last few years, they have become a significant innovation in the hospitality industry as they combine personalization, sustainability, impressive security systems, and automation. Smart hospitality units have managed to enhance guest experience and operational efficiency while setting new standards in hotels when referring to convenience and safety. Technologies are transforming not only our everyday lives but also reshaping the hotel industry (Anderson & Rainie 10 December 2018; Ivanov, Webster & Garenko 2018, 24-32). Smart hotels play a central role in shaping the future of the hospitality industry and while offering tailor-made and tech-driven experiences, they promise to exceed modern travelers' needs and expectations.

3.1 Advantages of smart hotels

Smart hotels offer numerous positive aspects, while providing the guests with unique experiences. De Ruyter, Wetzels and Kleijnen (2001, 186) have defined automated service as “interactive, content-centered and internet-based customer service, driven by the customer and integrated with related organizational customer support process and technologies with the goal of strengthening the customer–service provider relationship”.

Smart hotels use data analytics and AI to provide more personalized experience for their customers. By utilizing smart hotel rooms, hotels can collect data on guests' personal preferences, enabling them to deliver personalized and efficient services tailored to their expectations and desires throughout their stay (Petrevska, Cingoski & Gelev 2016). The data analytics derive information for the preferences that the guest has when it comes to room settings like temperature or the lighting of the room. The guests can have access to a virtual concierge from the comfort of their room, to get recommendations for activities, local attractions, or dining options. Additionally, smart TVs inside the rooms offer plenty of streaming services like Hulu, Netflix, Disney plus, etc. to keep the guests entertained when having their in-room time. The individuals can order room service or request extra amenities without having to make a call to the front desk through smart devices controlled with voice commands.

Furthermore, guests have better communication with the staff. Chat services allow guests to communicate with the staff through messages when having a request, which is a faster communication method compared to the traditional one. AI-powered virtual assistants and chatbots deliver instant and accurate responses to guests' requests, ensuring that guests receive timely assistance and information whenever needed, day or night (Nannelli, Capone & Lazzarotti 2023, 1-20). The hotel also has the ability to provide real-time surveys where the guests can give feedback

on their stay, helping the hotel to improve its services and address any concerns. A more data-driven approach guarantees that a guest's experience in a hotel continuously improves, adapting in real-time based on their feedback (Gangwar & Reddy 2023, 185-211).

Through automation, the hotel can perform general tasks, increasing operational efficiency, while providing sustainability and energy efficiency. These tasks are maintenance, housekeeping scheduling, and inventory management. Hotels are using robotic devices equipped with AI algorithms to autonomously navigate hallways, deliver room service, and carry out basic cleaning tasks (Roy, Ramaprasad, Chakraborty, Prabhu & Rao 2020, 2-3). This helps the staff to easily track what the hotel needs and take action to fulfill it, in that way reducing operational costs. Also, through automated smart systems, the hotels tracks resource usage and minimize waste in food or water and reduce energy consumption by optimizing heating cooling and lighting. Sustainability has become a focus once more, as AI is utilized to optimize energy consumption, minimize waste, and implement sustainable practices, fostering a greater sense of environmental responsibility among travelers (Smith 2022, 112-128).

With smart technologies adapted to the booking systems, smart hotels can adjust their prices in real-time based on the demand thus ensuring maximized profitability during the peak periods. With data collection, smart hotels can present to potential customers, while on booking websites, premium services or amenities to capture their interest, increasing that way revenue opportunities. Also, through smart technologies the hotel has fast response to relevant trends. Using real-time data analytics smart hotels can immediately identify trends, adapt to them and adjust their offerings via marketing to stay competitive. From a hotel operator's perspective, the primary benefit of a smart hotel lies in the financial advantages, achieved through increased productivity and significant savings in labor costs (Ivanov et al. 2018, 24-32; Wu & Cheng 2018, 42-58). AI provides a competitive edge by attracting tech-savvy travelers who are drawn to modern, personalized experiences (Koo, Xiang, Gretzel & Sigala 2021, 473-476).

Smart systems allow hotels to increase security in the property. Guests using their mobile keys, face recognition, or touch print to open doors, reduce the chances of having their physical keys lost or stolen. Facial recognition systems enable guests to access their rooms and other hotel facilities without the need for key cards, enhancing overall security within the hotel (Lee, Kwon & Back 2021, 2117-2136). With Artificial intelligence-powered security systems, the hotel's spaces are constantly being monitored in real-time preventing illegal activities. Smart systems can also be applied for the maintenance of the hotel providing faster responses to issues. Systems can track the conditions of

the guests' rooms, in cases of AC dysfunctions, leaks, or problems with electricity and immediately take action to solve the issue before the guest even notices.

Lastly, smart rooms enhanced accessibility, offering tailored solutions to guests with disabilities. Some technologies are voice-activated devices to control the room settings and automatic systems that open doors and adjust the positions of furniture in the space of the rooms for guests with mobility issues, providing comfort.

To sum it all up, smart hotels are a worthwhile investment as they provide a futuristic management system, and improved control and comfort for their guests. Combining automation, personalization, AI and IoT, they are able to succeed in providing guest satisfaction, manage the staff and resources effectively and quickly adapt to emerging trends. The result of this is a futuristic hospitality model, that offers seamless operations and experiences while prioritizing convenience and safety.

3.2 Disadvantages of smart hotels

While smart hotels offer a few advantages, they also have some potential disadvantages. Firstly, they highly rely on technology, and that can be fatal in some cases. If the systems used in smart hotels malfunction or lose internet connection, the whole operation can fail. For example, there could be delays in check-ins or check-outs, the smart devices installed in rooms or public places will malfunction, and mobile key room entry and room controls will be unavailable, resulting in the guests' frustration, and negatively impacting their experience. Automation can sometimes complicate hotel operations. When troubleshooting with the smart devices happens, then, the hotel teams should be prepared to handle it. This would require additional training for the already existing staff or hiring a team of tech specialists. Upgrading systems and ensuring their smooth integration into operations are essential for effectively utilizing AI (Prentice & Nguyen 2020, 3-5).

Moreover, there are some concerns when referring to privacy and data collection. The use of IoT devices, data analytics, and artificial intelligence, for the hotel to collect personal information from the guests, has raised concerns about the misuse of data. More specifically, guests are concerned about their data privacy, in case someone is hacking the system and misusing their personal information. Consumers are becoming very concerned about the degree to which retailers, manufacturers, marketers and online web sites are observing their actions online.

Smart technologies and automation in hotels can reduce significantly the need for some hotel roles, leaving many individuals without a job position. Some staff roles that would be eliminated for example are the front office, housekeeping, and maintenance staff. Neuhofer, Buhalis and Ladkin, (2015, 243-254) emphasize that smart technologies should be used to assist employees in their work, not to replace their job positions. The goal is to enhance efficiency and support staff, not to eliminate the human element from the workplace. Additionally, when reducing human resources to prioritize technology and automated devices, it can result in diminishing the traditional hospitality experience for the guests. Some individuals prefer to communicate directly with the staff, but also, not all guests are familiar or comfortable with the use of technology. The use of smart technology can often confuse or create an unpleasant experience for older guests or for the technologically illiterate ones who prefer a more traditional hotel experience.

While smart technology can enhance energy efficiency, that is not always the case, as sometimes, hotels have increased energy consumption. Smart devices to function properly, for the constant data consumption and the use of connected devices, can contribute to higher energy consumption. Besides the harm done to nature, the operational costs for a smart hotel can be high. High initial costs may discourage a hotel from adopting a formal Environmental Management System (EMS), where environmental technologies are implemented (Chan 2008, 187-196). This kind of technology to be installed requires a significant upfront investment in software, hardware, and infrastructure. Moreover, regular software updates and hardware maintenance are necessary to ensure that the hotel's operations will run smoothly, which also increases the operational costs.

Last but not least, for hotels with limited operational budgets, the use of smart technologies can be a financial burden. Hotel models with older versions of infrastructure will struggle to install smart technologies, renovations or upgrades can be costly but will be required for that to happen successfully. Hotels with outdated systems often need significant upgrades to integrate modern technologies, which can be both complex and costly (Wroten May 2016). This makes it hard for the older hotels to compete with the newer editions of properties that are fully equipped with the latest tech solutions. AI can be seen as too expensive and risky for hotels to adopt, as the technology is still relatively new, and many managers lack the expertise and understanding needed to effectively implement it (Davenport & Ronanki January/February 2018).

Finally, as known smart hotels represent a shift in the hospitality industry, but sometimes the use of advanced technology comes with its own set of challenges. The balance between exploiting smart technologies and human resources is very important in order to ensure high guest satisfaction. The

success of smart hotels will be determined by their ability to adapt to quickly evolving technologies, minimize the drawbacks of automation, address security concerns, and meet the needs of their guests while preserving the core values of traditional hospitality.

3.3 Technology used in smart hotels

Smart hotels incorporate various technologies to have smooth operation while offering guests a seamless experience. Technologies adopted in smart hotels provide services and products using AI (artificial intelligence), IoT (Internet of Things), automation, and data analytics. For example, these services include chatbots, facial or fingerprint recognition for door access, robot-assisted room amenity delivery, holograms for information retrieval, voice commands to control lights or window curtains, a robot concierge, and many other innovative features (Dalgic & Birdie 2020, 323–343; Tuominen & Ascenção 2016; 279–292). These technological advancements can be found in all the hotel facilities. For example, bars and restaurants can utilize a robot server, allowing guests to place and receive orders, while the robot automatically charges the consumption to the room using facial recognition (Blake February 2020). Data-driven technologies allow a smart hotel to provide a higher level of personalized products, services, and transactional environments that cater to the specific preferences and needs of each individual guest (Piccoli, Lui & Grün 2017, 349-362).

Before moving to present the technologies used in smart hotels and in order to understand them better, a simple explanation of what IoT and AI will be mentioned. The concept of IoT is based on connecting any device that has an on-and-off switch to the Internet. This can include devices from lamps to washing machines or thermostats that can control the temperature of a room, wearable devices like smart watches or headphones, and almost everything else a person can think of. It can also be applied to vehicles and even to the jet engine of an airplane. The IoT is an intricate network of connected things, from people to people, people with things, and things with things. These internet-connected objects can collect, share, and exchange data with the use of sensors, software, and other smart technologies. A range of IoT sensors can track guests' emotional states and facilitate the implementation of personalized service strategies to enhance their experience (Grewal, Kroschke, Mende, Roggeveen & Scott 2020, 9-25). To give a more specific example, an alarm clock can get connected to a coffee machine and so when the alarm sounds, a notification will be automatically sent to the machine, and it will immediately start preparing a coffee as preferred by the individual that owns it. IoT allows hotel guests to experience their stay in unique ways by utilizing various stimuli, such as adjusting room settings, lighting, and temperature, all tailored to their preferences (Buhalis & Leung 2018, 41-50). AI is a system that has the ability to mimic various functions a human can do, and it was made to replace the manual work done by humans in various

fields. AI technologies go beyond simple task automation by learning from data and making independent decisions, allowing them to adapt and improve over time (Tussyadiah 2020, 5-6). AI was created with a combination of science and technology and operates with the utilization of external data to perfect any given task. It can perform tasks like learning, problem-solving, language understanding, perception, reasoning, and decision making.

Finally, moving to some of the technologies used in smart hotels:

1. IoT Smart room controls:

- Honeywells INNCOM system: This system allows the guests to control the temperature, the lighting, and the blinds of the room, through a mobile app, a tablet, or voice command. It can also adjust settings based on hotel occupancy, ensuring that the rooms remain energy-efficient (Shoenfeld 21 March 2019).
- Amazon Alexa for hospitality: Alexa voice assistant devices, are installed in rooms, allowing the guest to control the room settings and to provide guests with information, when needed, regarding the weather, order room service, or request housekeeping (Jangid February 2019).
- Mirror TVs: Placed within the bathroom, mirror TVs allow guests to watch TV and get ready at the same time (Tsukanova February 2019).
- RoomRacers' smart glass: With the push of a button, the guests are able to control the opacity of the windows, without needing to adjust curtains (Tsukanova February 2019).

2. Smart housekeeping management:

- RoomRaccoon smart housekeeping: This system provides the housekeeping staff with real-time updates on room statuses, helping them to organize their tasks and improve efficiency (DePinto 13 June 2017).
- Automated floor cleaners: Hotels use automated floor scrubbers with GPS sensors to map out the paths to be cleaned, in public spaces and in the hotel's hallways. These robot cleaners ensure that the hotel's spaces remain spotless, reducing labor costs while providing a more consistent and thorough cleaning process (Moawad December 2023).

3. Keyless room entry:

- Assa Abloy's VingCard: This system allows guests to open their room doors with their smartphones using them as keys. The door simply unlocks via Bluetooth or NFC (Ozturk, Bilgihan, Nusair & Okumus 2016, 1350-1359).

- Biometric access control: This smart advancement ensures access to the rooms and the restricted areas through iris or fingerprint scanning, reducing the need for physical keys or cards (Liu 2018; Liu, Hung, Wang D. & Wang S. 2020, 636-661; Morosan 2020, 21-38; Barten 2024).
4. Service bots:
- Chatbots (chekin): These AI-driven chatbots handle various guest requests. For example, they handle concierge services, room service, and check-in or out, through the hotel mobile apps, providing support every hour of the day (De Kervenoael, Hasan, Schwob & Goh 2020, 1-15; Liu et al. 2020, 636-661; Zhong, Sun, Law & Zhang 2020, 780-798).
 - Savioké's Relay robot: This robot is used in hotels like Four Seasons. Its purpose is to deliver room service orders, towels, toiletries, and other amenities to the guest's room, helping to reduce staff workload (De Kervenoael et al. 2020, 1-15; Liu et al. 2020, 636-661; Zhong et al. 2020, 780-798).
5. Personalization through data collection:
- Revinate CRM: This is a cloud-based system, used to collect data about the guests' preferences and their behavior. It helps the staff to personalize the services they provide, like amenities, offers, and room type recommendations based on guests' past visits (Mahmood & Salam 2012).
 - Guestline CRM: This system is similar to Revinate. It offers tailor-made promotions and discounts, assigns rooms automatically based on guests' preferences, and sends automated messages to stay connected with the guests.
6. Advanced security systems:
- Seos by Assa Abloy: This mobile access system uses encryption to ensure secure access to the rooms. It can also be used by staff to monitor the use of the rooms and other hotel spaces (Kazim 28 August 2024).
 - Cybersecurity: This advancement ensures guest data protection. It includes encryption, secure cloud storage, threat detection systems powered by artificial intelligence, and multi-factor authentication (Kazim 28 August 2024).

While evaluating the smart technology applications in hotels, it is possible to agree that these advancements have transformed the hospitality industry, opening a way to a more efficient, enjoyable and sustainable travel experience. By utilizing cutting-edge technology, these establishments aim to boost operational efficiency while meeting and surpassing the digital expectations of modern travelers (Casais & Ferreira 2023, 344-351).

3.4 Impact of technology on guest experience in smart hotels

Providing an exceptional service is a prime concern for hotels, as it directly impacts on the overall guest experience, likely fostering repeat visits, customer loyalty, and positive recommendations to potential clients. The integration of smart technologies has transformed the guest experience, making their time in the hotel, seamless, efficient, and more personalized. The hospitality sector is experiencing a rapid adoption of AI technologies, driven by several key factors that are transforming the industry's landscape (Doborjeh, Hemmington, Doborjeh & Kasabov 2022, 1154-1176). Also, technology has elevated the standard of service, setting a higher benchmark for traditional hotels. Incorporating the latest technological advancements hotels now can gather data when it comes to the guests' behavior and personal preferences, allowing them to create tailored experiences. AI has allowed hotels to gain valuable insights into guests' preferences, behaviors, and needs, enabling them to provide highly personalized recommendations and services (Bulchand-Gidumal 2022, 1943-1962). Features like keyless room entry through mobile or automated check-in and out, make the process easier, helping guests bypass the long queues created at the front desk. Moreover, the advanced security systems, the use of sustainable devices and the entertainment systems placed within the guest's room provide a secure and enjoyable stay. From the guest's perspective, smart hotels feature touchless and sensor technologies that can be classified as amenity technology, enhancing convenience and personalization during their stay (Yang, Song, Cheung & Guan 2021, 6-7). These technological advancements streamline hotel operations, while at the same time, elevating the overall guest experience and creating unforgettable memories.

4 Methodology

Qualitative and quantitative methods are two approaches that can be utilized in research. Each one serves a different purpose and provides them with unique insights.

The qualitative method approach focuses mainly on comprehending phenomena through textual data. It gathers in-depth insights, by using techniques like interviews, content analysis, and focus groups to gather data. People's judgments, feelings of comfort, emotions, ideas, beliefs, and similar experiences can only be described through words. These describe qualities rather than quantities, which is why they are referred to as qualitative data. Since words cannot be manipulated mathematically, they require distinct analytical methods (Walliman 2010, 113-145). These methods aim to explain in detail the possible reasons and motivations that are behind experiences, complex issues and formed emotions. Qualitative research can be perspective-based and time-consuming, and its findings are often not generalizable. This is because the research typically involves smaller sample sizes and captures a broad range of ideas, which may not apply to larger populations (Scheuren 2004, 9-26).

On the other hand, the quantitative method approach focuses on collecting and analyzing mainly numerical data. Numbers are used to record a wide range of information about science and society, such as pressures, bending forces, population densities, cost indices, and more. This type of data is referred to as quantitative data. Since numbers can be analyzed mathematically, they can be processed using statistical techniques (Walliman 2010, 113-145). It gathers data using tools such as surveys, questionnaires and experiments, and usually analyses them statistically. Its purpose is to test hypotheses, identify patterns, and predict possible changes in various fields. Quantitative research is efficient and allows for statistical inference, but it may fall short in providing a deep understanding of complex phenomena and individual experiences. Moreover, it often lacks a specific focus on a central concept or narrative, which can limit its ability to capture nuanced insights (Scheuren 2004, 9-26).

Researchers alternate their choices between these methods depending on their research goals. The two methods can be combined in a mixed-methods approach with purpose to gain understanding from all the aspects of the research problem.

The research approach that will be utilized in this thesis is the quantitative approach. This selection was made because the chosen method is more structured than the qualitative approach and has as a purpose to measure variables and determine their relationships in a more systematic way.

4.1 Survey as a method

The creation of a questionnaire is the most usual way to collect data when performing research. A survey is conducted by specific questions, written either on a paper or in digital form that can be shared by a link or a QR code. The data of the survey are collected by a specified larger population. The word survey is used most often to describe a method of gathering information from a sample of individuals.” (Scheuren 2004, 9-26).

The questions that are formed on the survey serve the intention of the researchers to find answers in their research questions, and from that, proceed on concluding them in a result. “Surveys provide an important source of basic scientific knowledge.” (Scheuren 2004, 9-26). Usually, the questionnaires have close-ended questions, where the respondent can choose an answer from the options given below each question. “Planning the questionnaire is one of the most critical stages in the survey development process.” (Scheuren 2004, 9-26). To create an effective questionnaire, it is crucial to use clear language, correct grammar and spelling, and to have a well-defined objective (Bhatia 11 June 2018).

The gathering of data in this thesis will be made through the creation of a survey. The main aim of the survey is to find out the opinion of travelling people, on if the technology has the ability to affect the guest’s experience in smart hotels. The method of creating a survey to collect data was chosen by the author, with the purpose of collecting from a wider sample. With the intention of processing and reading the received data, Webropol and Microsoft’s Excel will be utilized. The survey will be shared online through social media platforms aiming to collect a bigger sample.

4.2 Planning the survey

” Planning the questionnaire is one of the most critical stages in the survey development process.”, “Questionnaire construction has elements that often appear to be just plain commonsense, but, when they are implemented, may involve some subtlety. It is common sense to require that the concepts be clearly defined and questions unambiguously phrased.” (Scheuren 2004, 9-26).

The questionnaire consists of a total of eleven questions, where all of them were close ended. The time needed to complete the survey would be about five minutes since the majority of the questions were formed in the Likert's Scale, but the respondents mentioned that the survey took them two minutes to fill. The questionnaire was formed in Likert's Scale in order to make the questions clear and direct for the respondent to fully understand and choose. The respondents replied with selecting if they agree or disagree with the question's statement above. The number of questions intends to select a good amount of quality data, avoiding making the respondent resent the time it takes to answer it. A "to the point" questionnaire, can give the researcher clear results, but also, refrain the respondents from giving up in the process.

The complete survey visualization can be found in the appendix. The survey questions were formed based on the literature of the theoretical framework from the 2nd and 3rd chapters. The questions are related to the key definitions of the thesis, the guest experience, technology, and smart hotels. The survey was tested with a few people working or studying in the field of tourism, before releasing the final form. The only changes made were in the grammar and spelling, immediately after testing the survey.

Each question was formed based on the chapters and the subchapters of the thesis. The questions, "How important is technology in shaping your decision to book a hotel?", "How often do you prefer to use digital technology (eg, mobile apps, self-check-in kiosks) during your stay in a hotel?", "Do you feel that technology enhances your overall comfort during your stay?" , "How often would you like to see new technology implemented in hotel services (eg, app-controlled services, virtual concierge)?", refer to chapter 3 and more specifically on subchapters 3.3 and 3.4, as they present some of the technologies used in smart hotels and the perception of the guests towards them. The questions, "To what extent does the availability of modern technological amenities (eg, digital room keys, voice-activated controls) affect your overall satisfaction with a hotel ?", "How likely are you to recommend a smart hotel (one with advanced technology) to others?", "In your opinion, how much does technology improve the overall guest experience in hotels compared to traditional hotels?", refer to chapter 2, subchapter 2.1 which present the guests experience and how a simple service can be turned to an experience, but also to chapter 3 that defines the general meaning of a smart hotel and a brief explanation of what it offers, and subchapter 3.1, that explains what are the advantages of a smart hotel.

Lastly, the three last questions of the survey encourage the respondents to choose their age range, their gender and how many times they travel yearly, in order to separate correctly their identity, making it easier to form a correct table for the next chapter of the thesis.

4.3 Data collection

Survey data can be collected in many ways, in person, by mail, telephone or through the Internet. Currently, email surveys are the most common example of self-reported data collection. One reason is that these surveys have low costs in comparison to the other ones. This does not mean that they are necessarily easy to proceed with. Planning questionnaires for mail surveys is typically more challenging than those used by interviewers (Scheuren 2004, 9-26).

The author's main aim was to receive at least a hundred responses to the survey. The survey was shared with colleagues and fellow students of the researcher, as well as on her Instagram and Facebook profile and lastly WhatsApp. This choice was made in order to collect a large sample of answers. The survey was publicly addressed to five hundred people, of which four hundred were followers of the author on social media, and the rest hundred were people who shared the link for the survey one to the other. Focus also was given on collecting a variety of responses. The survey remained open for potential visitors from the 13th of February, to 19th of February 2025.

4.4 Data analysis

"Often the best way to start the analysis is with simple counts and related percentages for each question. Next, it is common to produce tables of growing complexity. Eventually, there may be a need for even more sophisticated forms of data presentation to address the concerns outlined when the survey was initially conceived." (Scheuren 2004, 9-26).

The survey for this research was designed and created in Webropol. The results of the research were separated and analyzed with Webropol and Excel. The formed questions and their answers were moved to an Excel table. The results of the survey were presented in tables and charts as well as in statistics. Each visual form, is accompanied with the conclusions and results. After the presentation of the results, the research will continue with the analysis part. Lastly, the data extracted from the research will be compared to the theoretical framework.

5 Results

This chapter, will be an analysis of the results of the survey. The results will be presented in a pie chart and bar charts. This chapter will contain three subchapters which are going to be, background details, technology adoption and guest perception, and technology's impact on guest satisfaction. These subchapters correspond to the survey's two main categories which are smart hotels and technology adoption, and the impact technology has on guest experience.

5.1 Background details

The survey collected a total of 170 answers and all of them were answered. The time the survey remained open was 7 days, from 13th to 19th of February. It consists of the Likert's scale questions of one choice, that measured the level of agreement, likeliness and importance of the subtopics regarding the role technology has in shaping guest experiences in smart hotels, provided through the questionnaire to the candidate respondent. First things first, the respondents' age, gender and frequency of staying in hotels per year were examined.

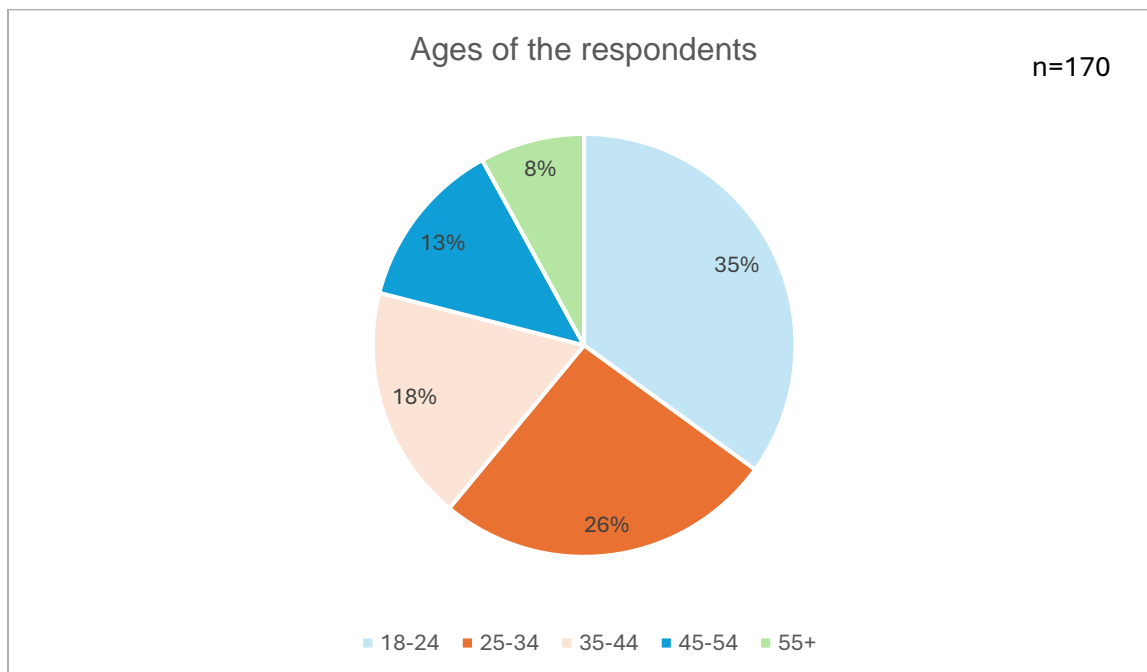


Figure 1. Ages of the survey's respondents

Out of 170, only a 8% were of age 55 and above. The biggest participant group were people of ages 18 to 24 years old that hold a percentage of 35%. The following group with the highest participants

are people of ages 25 to 34 years old and they have a participant percentage of 26%. Lastly, the group that has ages from 35 to 44, have 18% and people of 45 to 54, have 13%.

In the survey, there was a notable difference in the gender distribution of the participants. A strong majority of the respondents were female, 65%, while male participants accounted for 35% of the total of respondents, representing a smaller, but still significant part of the total.

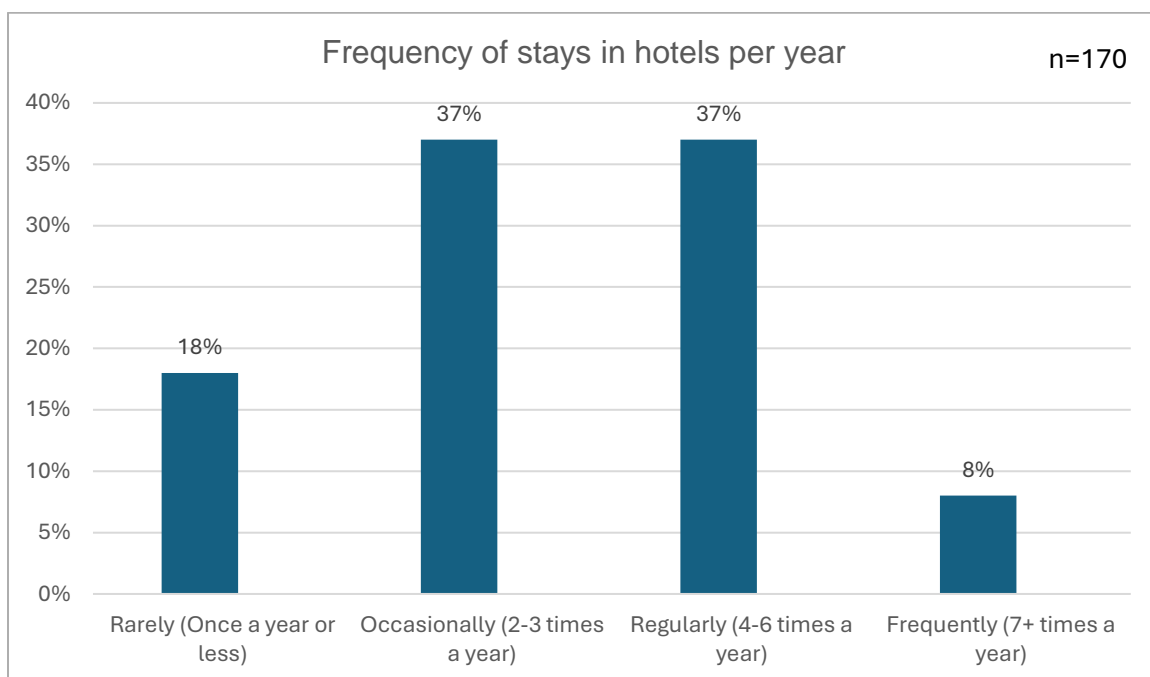


Figure 3. Frequency of stays in hotels per year

The table above presents the frequency that the participants stay in hotels annually. The survey's results reveal that there is a tie with both groups, the group of participants that stated that they stay in hotels occasionally, 2 to 3 times a year, and the group that stated that they stay in hotels regularly, that is 4 and up to 6 times per year, each accounting for 37% of the total respondents. An additional 18% of the respondents stated that they travel rarely, once a year or less. Meanwhile the last 8% of the respondents opted that they travel frequently, 7 times per year or more.

5.2 Technology Adoption and Guest Perception

In this chapter, an analysis of the participants' responses is presented, focusing on their perception towards technology and how important it is to them, in the decision-making process, when selecting a hotel to accommodate them for their trip.

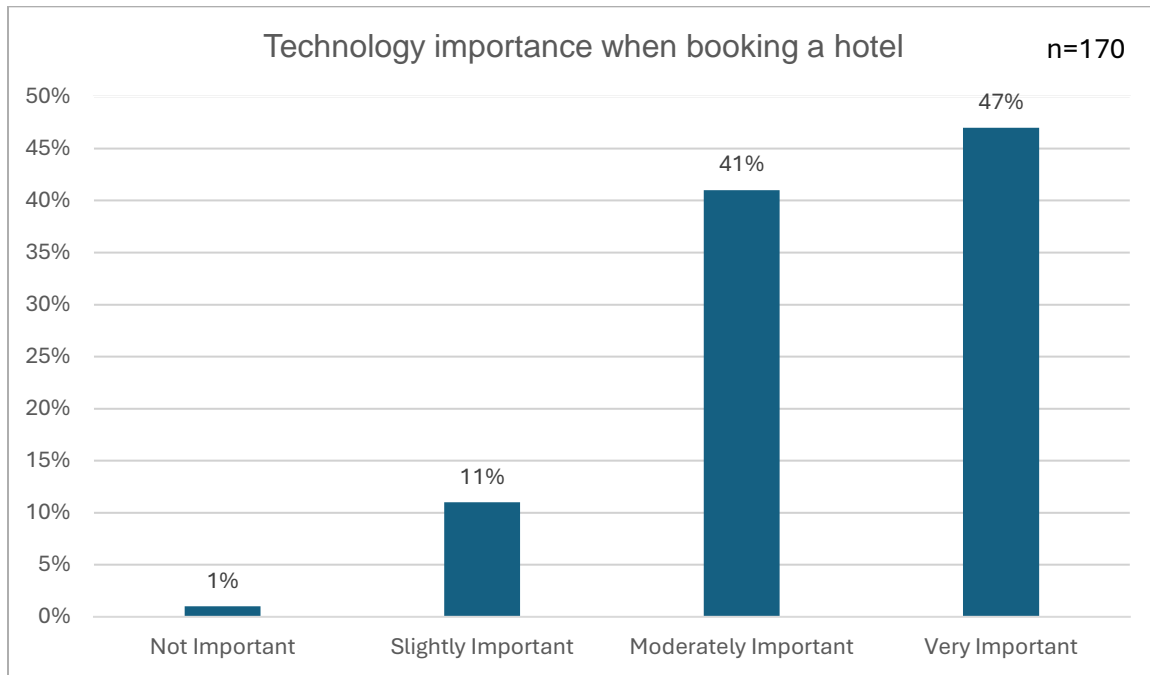


Figure 4. How Important is technology in shaping your decision to book a hotel?

This figure reveals, that the majority of respondents, 47%, consider that technology is very important to them, and influences their decision when searching to book a hotel, while a percentage of 41%, regard it as moderately important. This highlights the critical role technology has nowadays in decision-making for a significant number of respondents, suggesting that it is a determinant element in the hospitality industry. A smaller portion, 11%, noted that technology is slightly important to them, while 1%, of respondents claim that it is not important to them. That suggests that technology has at least some relevance for them when choosing a hotel, if not playing a central factor.

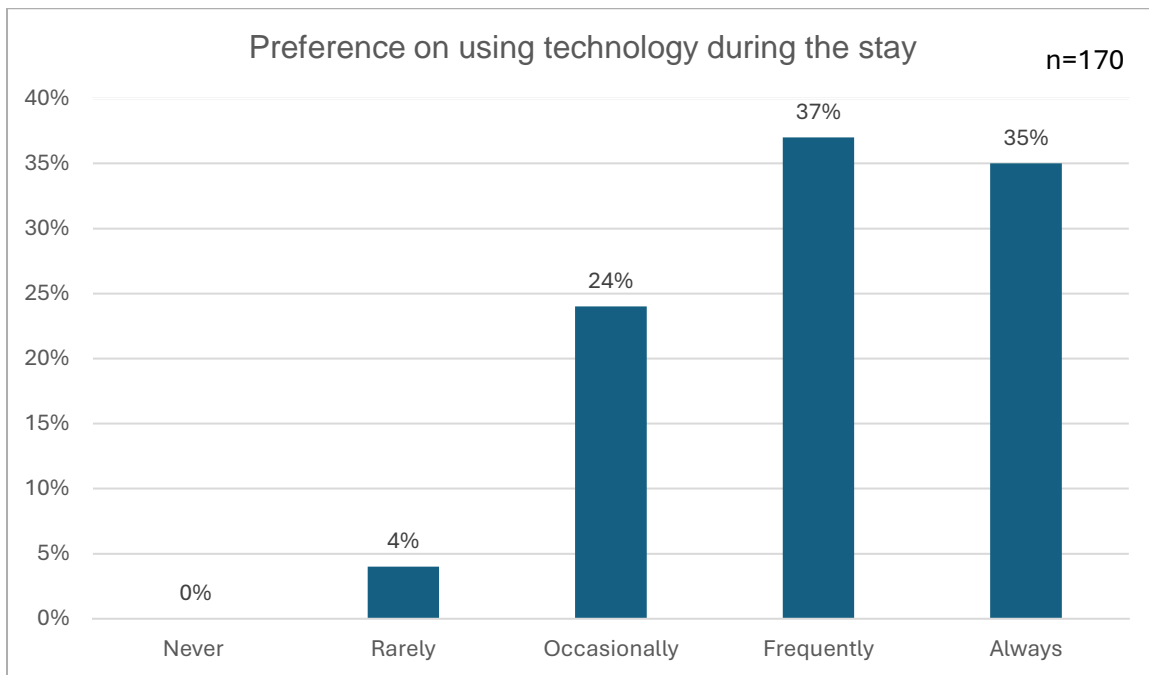


Figure 5. How often do you prefer to use digital technology during your stay in a hotel?

When responding to how often they prefer to use digital technology (e.g., mobile apps, self-check-in kiosks) while staying in a hotel, a plurality of 37% of respondents, reported that they prefer to use it frequently, while 35%, indicated that they always prefer to use technology. This suggests a growing reliance on tools like technology, for efficiency in the hospitality industry nowadays. Moreover, another 24% of the participants opted that they use technology occasionally, and a 4% opted "Rarely", meaning that they show a preference to a more traditional hotel experience. No respondents selected "Never" as an option.

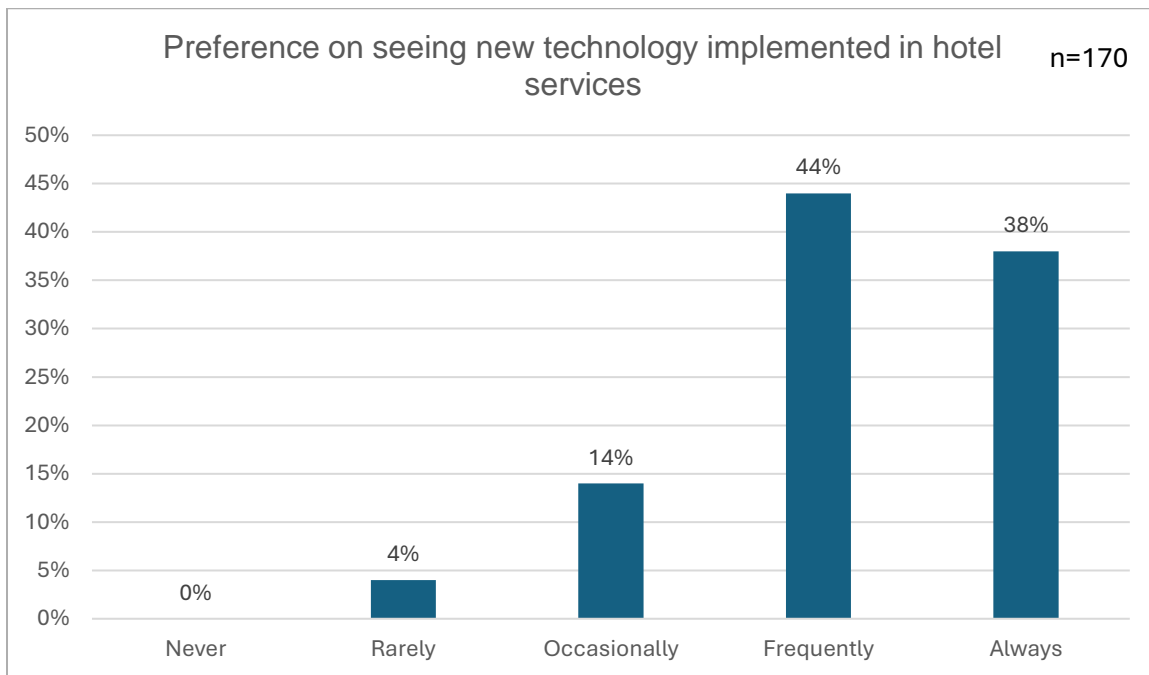


Figure 6. How often would you like to see new technology implemented in hotel services?

Figure 6 presents participants' answers regarding how often the guests prefer to see new technology, like e.g., app-controlled services or a virtual concierge, incorporated in a hotel's services. Most of the respondents, 44%, choose the option "Frequently", while 38% noted that they would always like to see such technology implemented. This indicates that many guests value technological advancements to be a part of their own hotel experience. A fewer number of respondents, 14%, opted for "Occasionally", suggesting that they appreciate the last technological advancements but do not see it as necessary factor in every stay. In addition, 4% chose "Rarely", while the option "Never", was not chosen at all. This can indicate that this group of people prefer more traditional services.

5.3 Technology's Impact on Guest Experience

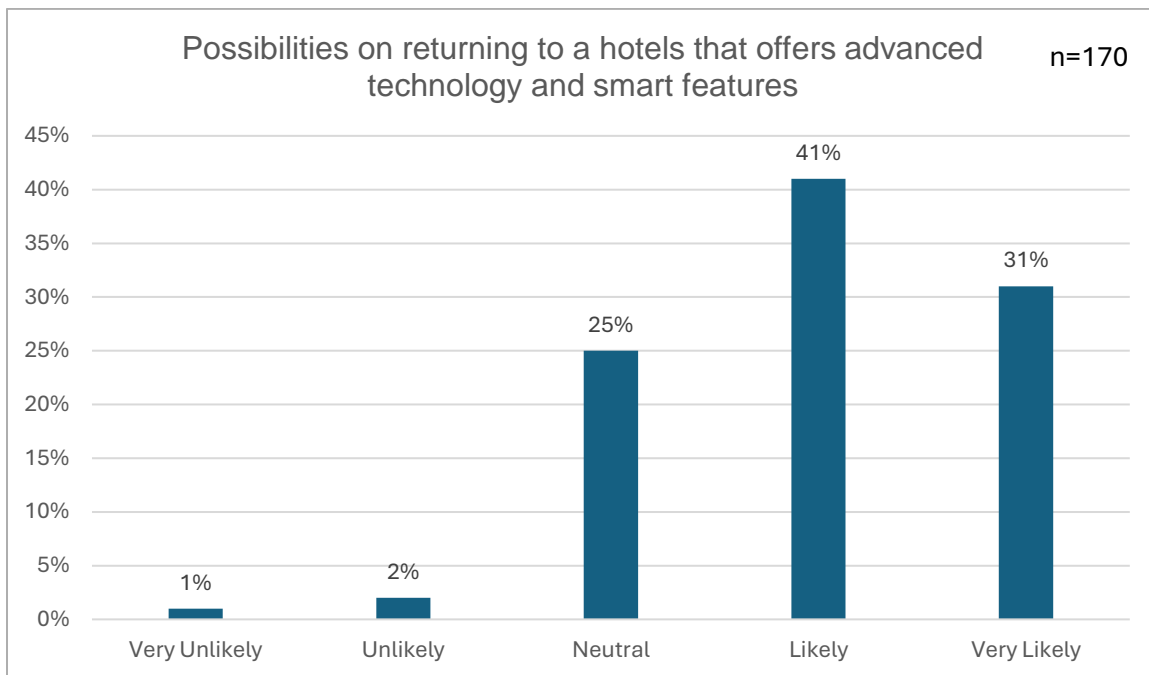


Figure 7. How likely are you to return to a hotel that offers advanced technology and smart features?

This figure introduces the options the respondents made based on how likely they are to return to a hotel that offers advanced technology and smart features. The majority of the answers indicated that a 41% would “Likely” return, while 31% noted that it would be “Very Likely” for them to do so. The high percentages of positive answers can suggest a optimistic correlation between technological offerings and guest loyalty. A 25% of the respondents, remained “neutral”, that shows that technology and smart features, may not be a decisive factor for all guests, although being a positive one. Lastly, 2% of respondents chose the option “Unlikely” and 1% “Very Unlikely”, indicating that these respondents might perceive the value of such amenities as low or not important.

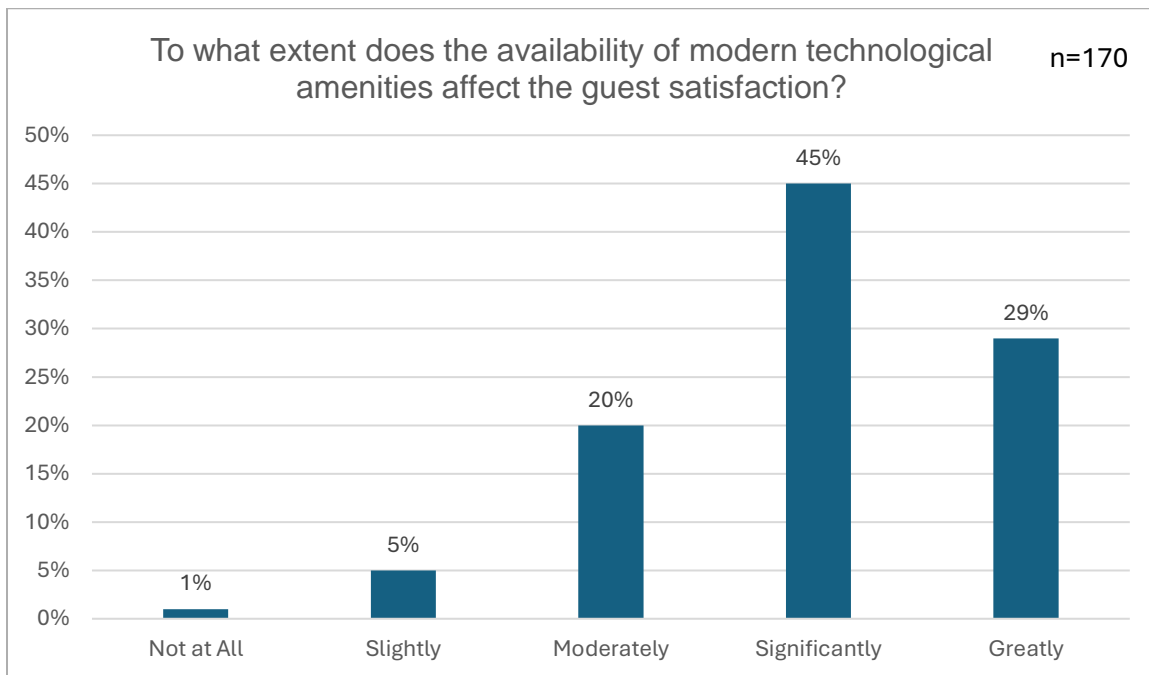


Figure 8. To what extent does the availability of modern technological amenities affect your overall satisfaction with a hotel?

Figure 8 explores the impact modern technological amenities, such as e.g., digital room keys or voice-activated controls, can have on a guest's overall satisfaction with a hotel. A remarkable portion of 45% of participants selected the option "Significantly" when 29% of participants chose the option "Greatly". This suggests that this portion of participants, as guests, value technological convenience as a key factor when it comes to their overall hotel satisfaction. Twenty percent of participants remained neutral, while 5% chose "Slightly" and 1% selected "Not at All". The neutral responses (20%) indicate that modern technological implications do not strongly influence these specific groups of participants overall satisfaction. The smaller portion of participants that chose the remaining two options of "Slightly" and "Not at All", seems that these features are not their priority.

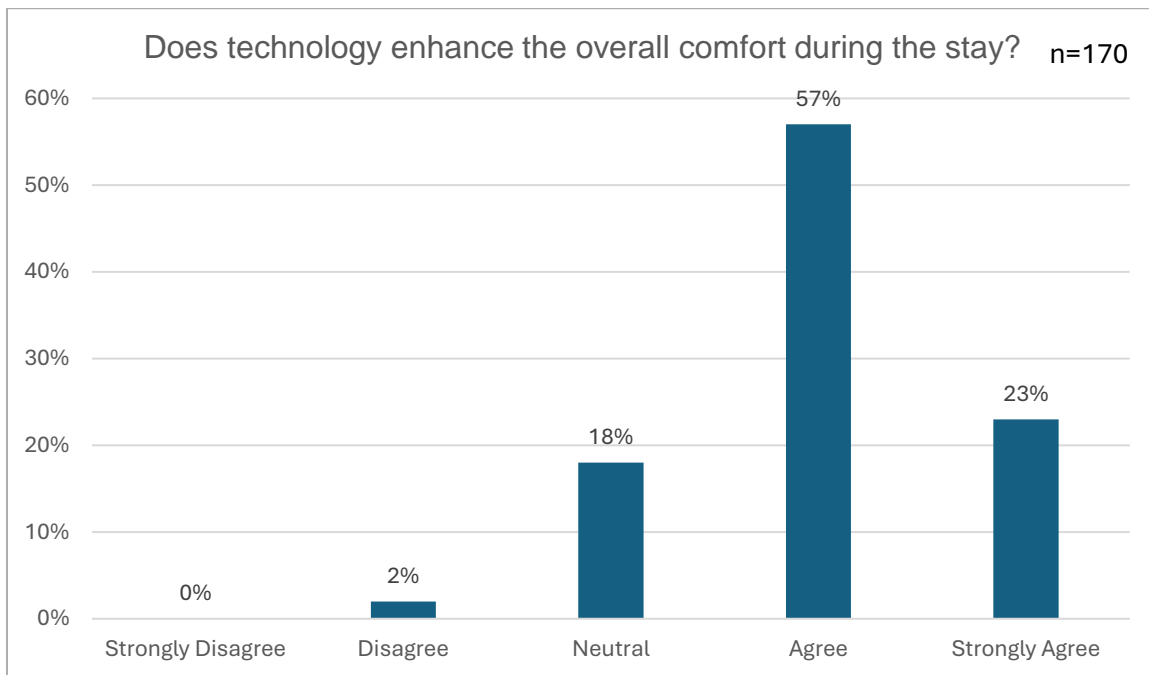


Figure 9. Do you feel that technology enhances your overall comfort during your stay?

This particular figure, presents the respondents' views on if technology enhances their comfort during their hotel stay. Most of the respondents, 57%, agreed with that statement while, 23%, marked that they "Strongly Agree". The high percentage (80%) of participants who "Agree" or "Strongly Agree", suggests that technology can in fact enhance a guests experience during his stay. The percentage of 18% remained neutral on the matter. Only 2% chose to "Disagree", and none of the respondents selected the answer "Strongly Disagree". The low number of "Neutral" or negative responses, shows that technology do not always influence a guest's perception of comfort during a stay.

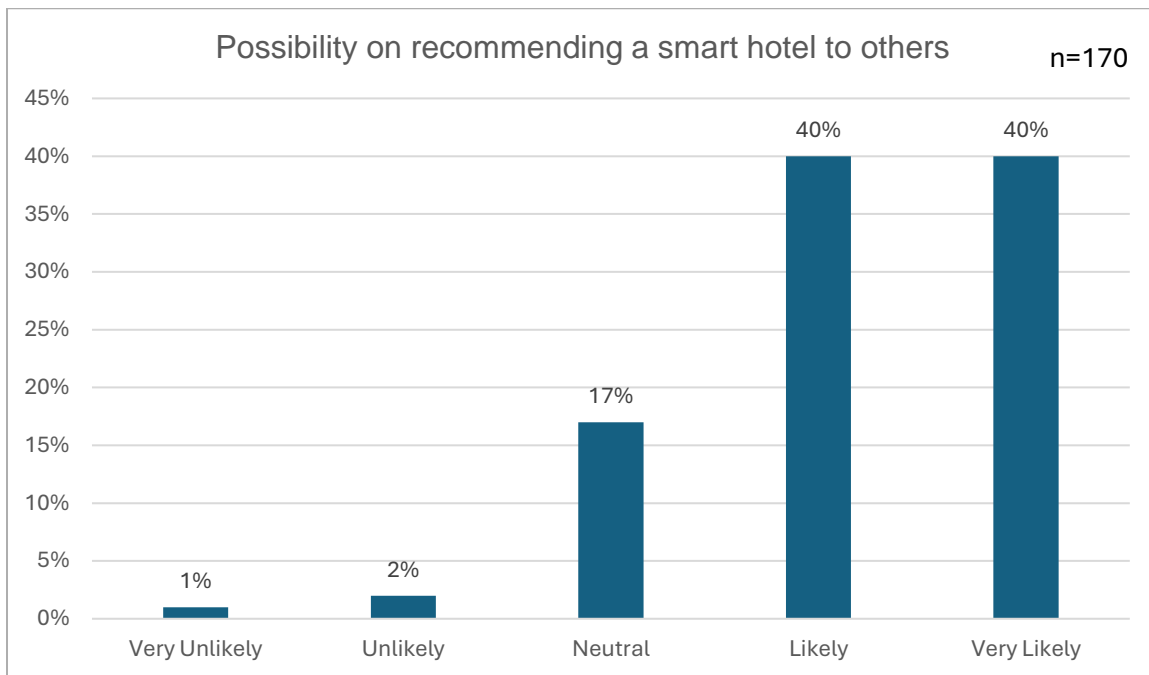


Figure 10. How likely are you to recommend a smart hotel (one with advanced technology) to others?

This figure depicts the respondents' likeliness on recommending a smart hotel to other people. A tie of 80% was made between the choices "Likely" (40%) and "Very Likely" (40%), with them representing the positive majority of respondents. This high percentage shows the appeal of advanced technological amenities on a hotel's guest's satisfaction, loyalty and willingness to share their experience with other people. "Neutral", remained the 17% of the participants, that indicates that the factors in order to recommend a hotel go beyond technology advancements. Finally, only 2% chose "Unlikely" and 1% "Very Unlikely", showing that this minority of hotels guests view technology as a deterrent to recommendations.

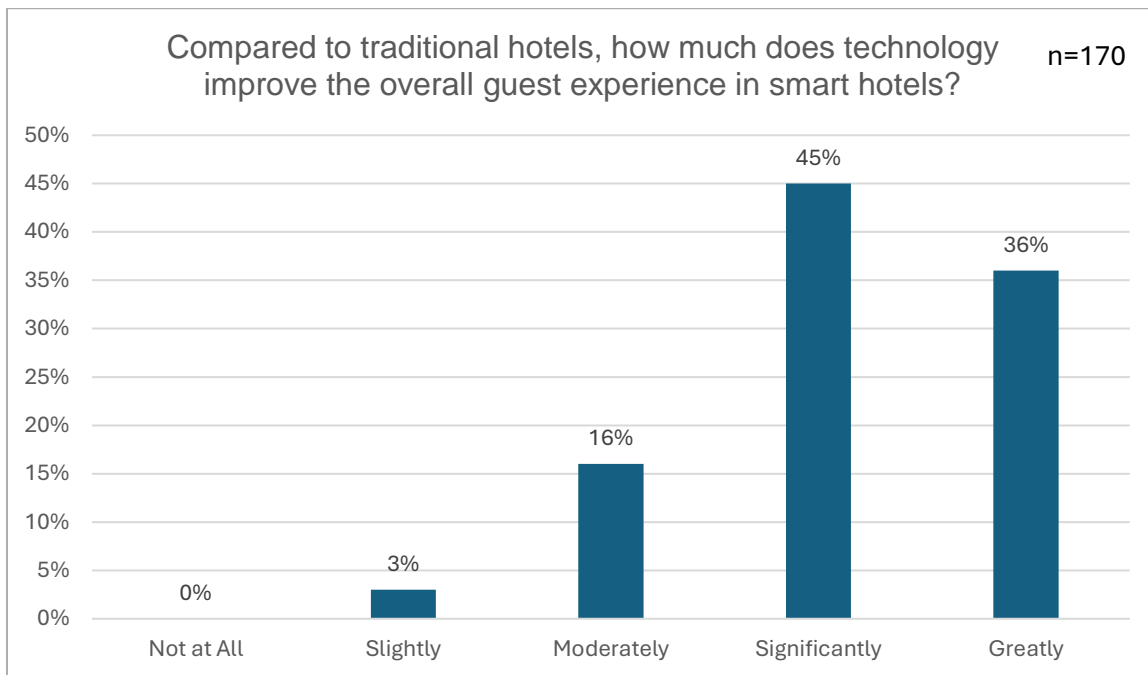


Figure 11. In your opinion, how much does technology improve the overall guest experience in smart hotels compared to traditional hotels?

In this figure, the participants had to share their views on whether technology improves guest experience in smart hotels, compared to the traditional ones. A total of 45% chose that a smart hotel improves the guest experience “Significantly”, and a 36% indicated that the experience improves “Greatly”. With these choices, participants suggest that advanced technology improves the overall comfort, convenience and satisfaction of a guest when staying in a smart hotel, compared to a traditional one. A 16% of respondents chose the option “Moderately” keeping a neutral stance in a way, while 3% chose “Slightly”. The option “Not at All” received no selections. The small proportions of responders with the smaller percentages, indicates that some of the participants recognize the benefits of the advanced technology, even though its significance might vary between guests.

6 Discussion

This chapter is going to be a discussion regarding the findings of the research. The surveys questions will be answered, combining the findings and the theoretical framework from the second and third chapters. The second chapter is entered around the definition of guest experience, while explaining its significance and giving examples of how just a simple service action can be transformed into a great experience. The third chapter focuses on smart hotels, what they consist of, and the technologies implemented in them. Most of the survey's questions were formed with a combination of both chapters' theories.

As mentioned in the third chapter, technology is a huge trend in the hospitality industry and that has eventually affected the guests' preferences when booking a hotel. The research showed that a vast majority of participants (47% very important and 41% moderately important) agree that technology in a way can in fact affect their decision (figure 4), when planning to book a hotel for their next trip, some of them picked that they can be affected "Greatly" while others "Moderately". Moreover, during the research, the participants were asked how often they would like to use digital technology when staying in a hotel. Combining the choices frequently and always, a percentage of 72% (figure 5), has a preference on using digital technology, while 82% (figure 6) suggested that they would like to see technology implemented in hotel services always or most of the time they visit a hotel. These figures can confirm the author's theory that technology can influence guest experience and help a hotel deliver exceptional service.

Chapter 3 presents the possible advantages a smart hotel can have and how they can affect the guests. It is mentioned that hotels using advanced technology to enhance the guests' stay can make their stay seamless, efficient and more personalized. In that way, a hotel can alter the overall guest experience, potentially fostering repeat visits, customer loyalty, and positive recommendations to prospective clients. In the survey, participants, when they were asked about the possibility to return to a hotel that offers smart features and the latest technology applications (figure 7), 72% of the answers were positive and indeed most of the respondents opted for "Very Likely". These specific question's result proves the author's indication to be right.

In chapter 2 it is mentioned that a guest's satisfaction in the on-trip stage can be affected by the cleanliness of the room and the public spaces of the hotel, the amenities provided, the room quality and appearance as well as the service the staff provides. Regarding the amenities provided, in chapter 3, there are stated some examples of modern technological amenities like chatbots, facial

or fingerprint recognition to unlock the door, room amenity delivery by robots, holograms to obtain information, a voice command for lights or window operations, or a robot concierge. As we can see in figure 8, the participants were asked how much the availability of modern technological amenities affects their overall satisfaction with a hotel. Most guests, 74%, opted that their overall satisfaction through modern amenities is affected a lot. This outcome confirms the corresponding theory, presented in the chapters.

In chapter 3 it is mentioned by the author that advanced technology is mainly incorporated in a hotel's operation with the focus on enhancing the comfort, efficiency and overall satisfaction of the guests. When asked if technology enhances their overall comfort during their stay (figure 9) a significant 80% of positive answers were collected. That indicates agreement with the idea that technological amenities do improve their experience and enhance their comfort.

Figure 10 illustrates the results of the participants' answers on how likely it is for them to recommend a smart hotel (one with advanced technology) to others. Eighty percent of participants affirmatively responded. The responses show strong interest and positive perception of smart hotels. This outcome agrees with chapter 2 where the author supports that when a guest has a positive and memorable experience in a hotel, is more likely for them to develop loyalty and produce a positive word-of-mouth recommendation. This reinforces the relationship between guest experience and recommendation behavior.

The third chapter mentions some benefits a smart hotel offers. Some technological innovations are mentioned and how they affect the guest experience. For example, it is mentioned that smart technologies provide a more personalized service based on the customer, that can be characterized as interactive, content-centered and internet-based. In the third chapter, it is also mentioned advanced technologies, elevate the overall guest experience and create unforgettable memories for the guests. Lastly, it is mentioned that technology has elevated the standard of service, setting a higher benchmark for traditional hotels. The participants were provided with specific words to choose from in order to make clear how much does technology improves the overall guest experience in smart hotels compared to traditional hotels. A percentage of 81%, chose "Significantly" and "Greatly". That indicates that technology does make a difference in the way guests experience a stay in a hotel. The strong preference also underscores the importance of including technology in hospitality, confirming the theoretical framework's indications.

6.1 Overall discussion

The findings of this research highlight the remarkable part that technology has in molding the guests' experience, in the modern hotels, and more particularly the hotels that operate with the smart hotel concept. The results align with the main chapters of this thesis, 2 and 3, verifying that technological advancements can satisfy the guests' expectations and grant them a more personalized, comfortable and efficient stay, creating remarkable memories.

As found in the survey, a large proportion of the responders, 88%, view technology as a key factor (figure 4), when they select a hotel to book for their next stay, and in fact, 47% of the participants indicated that it is "Very Important". With these percentages, clearly modern travelers have a preference on tech-driven services. Their inclination concerning the use of digital technologies throughout their stay is also evident (figure 5), as 72% of the participants declare a preference for the use of such services frequently or always. This points out how important technology has developed to be in the decision-making process and during the stay.

Additionally, this research discovers confirmed that the incorporation of smart hotel features has a positive impact on the way guests perceive a hotel. Seventy-four percent of the participants confirmed that the availability of such amenities can influence their whole gratification with the accommodation (figure 8). This indicates that guests are not inactive recipients when it comes to technology, but on the contrary, they hunt through it, and many of them equate it with a chief level of service and easement.

Moreover, the research confirms that cutting-edge technology increases the guest experience generally, as 81% of the participants confess that technology, compared to traditional hotels amenities, makes a notable distinction (figure 11). The high percentage underlines the increasing significance of innovation within the hospitality industry as well as the increasing expectations of the digital-savvy guests. This reinforces the theoretical framework that enhances the service quality and the guest experience standard in the business.

To sum up, this research underpins the proposition that smart hotels with the integration of smart technologies, are paving the way for the future of guest experiences. The positive association between the guest satisfaction, technological amenities and the possibility to put forward smart hotels exemplify that technology is now an essential component in attracting and maintaining

customers. The hotels that fail to make adjustments to these trends are at risk of being replaced by more pioneering competitors who acknowledge the progressing needs of the present-time guests.

This research provides key stakeholders in the hospitality industry with valuable insights. Hotel owners and operators can utilize the opportunity of this data collection, to fund the installation of smart technologies, like smart room features or automated check-in, with the goal of distinguishing from other competitors and meeting the guests' expectations. This study provides insight into how important tech-driven services have become to customers, urging hotels to improve their offerings to captivate the interest of modern travelers. Moreover, hotel marketing teams can utilize these results by promoting the technological amenities in campaigns, enticing the potential guests that are interested in technology and prioritize comfort and personalization. Same appeals for technology providers, they can employ this research to design smart solutions that prioritize guest satisfaction and assist the hotel to remain pioneering. Additionally, booking platforms and travel agencies can forward smart hotels to travelers, attaching the option for tech features in the filters intending to help the customers reach properties that align with their desires. Finally, hospitality consultants can introduce hotel clients to the concept of adopting smart technologies, helping them comprehend the ROI (Return on Investment) and the most efficient practices for incorporating tech into their operations.

6.2 Ethical considerations

When conducting this research, various ethical considerations and reliability factors were taken into consideration in order to guarantee the study's morals. Firstly, the participants were informed through the survey, making sure they understood the goal of this study and by what means their data will be utilized, in that way, protecting their privacy and autonomy. Privacy was also maintained by making the responses anonymous and saving the data securely. The research questions were created respectfully and with a non-intrusive method. Furthermore, the sample represented in the thesis was paradigmatic, ensuring different participant demographics to abstain from partiality. Referring to reliability, the research followed a standard and accordant approach when collecting the data, securing that the methods and tools used were well grounded and capable of putting together consistent results. The study was designed to be dependable, allowing future researchers to reproduce the results under similar circumstances. This approach guarantees that the outcome of this study meets moral principles and is methodologically robust. Lastly, AI was also put to use for different research processes. The AI tools used were transparent and reliable, making sure to preserve the study's ethical standards.

6.3 Learning outcomes

This thesis has provided the author with important personal and professional knowledge. The research process has helped the authors' ability to evaluate and process data while also improving her skills when it comes to deciding. Through the process of understanding the significant role technology has in hospitality and generally in the world nowadays, her viewpoint on how innovation can transfigure industries became wider. On a professional level, this research has boosted the author's research skills when it comes to collecting data, analyzing it and explaining it. The author now takes ethical considerations in research very seriously and has learned to maintain the integrity needed when doing a study, while ensuring that the findings of the research are dependable. The experience of conducting this study has expanded her knowledge in her field of studies, the hospitality industry, on future trends and also technological advancements. In conclusion, this thesis has contributed to the author's academic growth and prepared her for job opportunities in the future.

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Appendices

Appendix 1. Survey Questionnaire

The Impact of Technology on Guest Experience in Smart Hotels

This survey's main aim is to examine the impact technology has on guest experiences in smart hotels.

The survey will take around 5 minutes to complete and is completely anonymous. The data from it will be used on a research thesis.

Thank you in advance for your time!

Seuraava

25% Valmis



The Impact of Technology on Guest Experience in Smart Hotels

How important is technology in shaping your decision to book a hotel?

Not Important

Slightly Important

Moderately Important

Very Important

How often do you prefer to use digital technology (eg, mobile apps, self-check-in kiosks) during your stay in a hotel?

Never

Rarely

Occasionally

Frequently

Always

How likely are you to return to a hotel that offers advanced technology and smart features?

- Very Unlikely
- Unlikely
- Neutral
- Likely
- Very Likely

To what extent does the availability of modern technological amenities (eg, digital room keys, voice-activated controls) affect your overall satisfaction with a hotel ?

- Not at all
- Slightly
- Moderately
- Significantly
- Greatly

Edellinen

Seuraava

50% Valmis

The Impact of Technology on Guest Experience in Smart Hotels

Do you feel that technology enhances your overall comfort during your stay?

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

How likely are you to recommend a smart hotel (one with advanced technology) to others ?

- Very Unlikely
- Ulikely
- Neutral
- Likely
- Very Likely

In your opinion, how much does technology improve the overall guest experience in hotels compared to traditional hotels ?

- Not at All
- Slightly
- Moderately
- Significantly
- Greatly

How often would you like to see new technology implemented in hotel services (eg, app-controlled services, virtual concierge)?

- Never
- Rarely
- Occasionally
- Frequently
- Always

Edellinen

Seuraava

75% Valmis

The Impact of Technology on Guest Experience in Smart Hotels

Your Age:

- 18-24
- 25-34
- 35-44
- 45-54
- 55+

Your Gender:

- Female
- Male

Frequency of staying in hotels:

- Rarely (Once a year or less)
- Occasionally (2-3 times a year)
- Regularly (4-6 times a year)
- Frequently (7+ times a year)

Edellinen

Lähetä

100% Valmis

Thank you for your time!



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