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DIGITAL INNOVATION IN BUSINESS AND ECONOMY: COLLABORATION OF BACK-OFFICE AND FRONT-OFFICE EMPLOYEES WITH ADVANCED TECHNOLOGY IN FACILITATING SEAMLESSNESS SERVICE QUALITY DELIVERY IN HOTEL INDUSTRY

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ABSTRACT

The main objective of this research is to investigate how back-office and front-office employees in collaboration with advanced technology facilitate seamlessness in the hotel industry. A constructivist research paradigm is employed while effectively utilizing mixed methodology. The research adopts a multiple-case study design, focusing on two hotels; a five-star hotel and a three-star hotel, both located in Yogyakarta, Indonesia. SPSS data analysis tool will be applied to diverse primary and secondary data sources, including interviews, focus group discussions, survey questionnaires, and online customer survey reports from each hotel's official website and social media platforms such as Instagram. Additionally, the seamless hotel organization theoretical framework is employed for this study as a roadmap towards data collection, analysis, and interpretation, guiding the investigation of the study. By analyzing and comparing the strategies, challenges, and opportunities in both hotels, the study has revealed or discovered the importance of effective collaboration of back-office & front-office employees with advanced technology in every hotel in enhancing seamlessness hotel service operations. The findings reveal that there is effective collaboration of back-office and front-office employees with advanced technology in facilitating a sustainable seamlessness service quality delivery in hotel industry.

Keywords: *Seamlessness, Advanced-technology, Hotel industry, Front-office, Back-office*

1. Introduction

Seamlessness in hospitality captures a meticulously orchestrated service delivery that is perfect and efficient, aiming to enhance customer satisfaction and ensure a positive service experience (Schnieder & Bowen, 1995). In the realm of hospitality, particularly within the hotel industry, achieving seamlessness involves a blend of cutting-edge technology, stringent service quality standards, collaboration between front-office and back-office staff, continuous feedback mechanisms for customer satisfaction, and the harmonious integration of various service quality dimensions (Schnieder & Bowen, 1995). The ultimate objective for service-oriented businesses like hotels is to establish an operational environment where all facets work seamlessly together, emphasizing the crucial role of technology, employee collaboration, and service quality control in sustaining the seamlessness of hotel operations.

In the context of daily hotel operations, a seamless experience is defined by a smooth and uninterrupted transition between various activities, facilitated by the integration of digital technologies and applications throughout the hotel's operations (Mullet, 2003; Slywotzky & Weber, 2011; Buhalis & Leung, 2018). Embracing the Internet of Things enables hotels to offer customers a connected and hassle-free experience, necessitating the development of

transparent and flexible infrastructures with minimal customization of interfacing software to ensure consistent seamlessness in operations (Buhalis & Leung, 2018). By catering to the evolving demands of customers for personalized services and enhanced digital interactions, hotels can foster seamless experiences by aligning their services across various touchpoints and integrating technology effectively into the guest experience (Wang et al., 2016; Lim et al., 2018). Initiatives such as keyless entry systems and digital service platforms not only enhance convenience for guests but also contribute to the smooth functioning of hotel operations, emphasizing the importance of integrating technology seamlessly to elevate the overall guest experience (Lim et al., 2018; Kansakar, Munir, & Shabani, 2019).

For example, according to Mercan et al. (2021), with the support of the Internet of Things, Disney has the opportunity to collect customer data such as attraction preferences, purchase history, location, etc, which helps to customize marketing messages; however, it requires careful planning. This requires a high degree of technical interconnection, which should always be secured and regularly upgraded, so the digital apps comprising the overall smart hotel ecosystem would be highly effective in offering a seamless service provision (Stylos et al., 2021). According to Chacko (1998), for constant seamlessness in hotel operations, hotel organization structure must combine three elements: *circular*, which emphasizes that all boundaries of the hotel where employees serving customers must be equally accessible; *flat*, which emphasizes that the number of hierarchical levels within the hotel must be reduced; and *dynamic*, which emphasizes creating flexibility in operations to serve the changing needs of guests or customers.

The following figure presents ideal dimensions or elements of seamlessness hotel operations as developed by the researcher.

Figure 1.1. Dimensions or Elements of Seamlessness

Therefore, it is important and crucial for the hotel management team to coordinate well all these aspects that lead to seamlessness hotel operations, such as effective collaboration of advanced technology with back-office & front-office employees, service quality standards & quality insurance, customer satisfaction feedback, consistency empowerment, and effective employees' motivation, as well as the effective integration of dimensions of service quality throughout the hotel operations so as to provide hotel quality services for consistent customers satisfaction. Henceforth, a consistent and effective quality service delivery strategy (seamlessness) in a hotel leads to customer satisfaction, customer loyalty, business sustainability, and profit maximization.

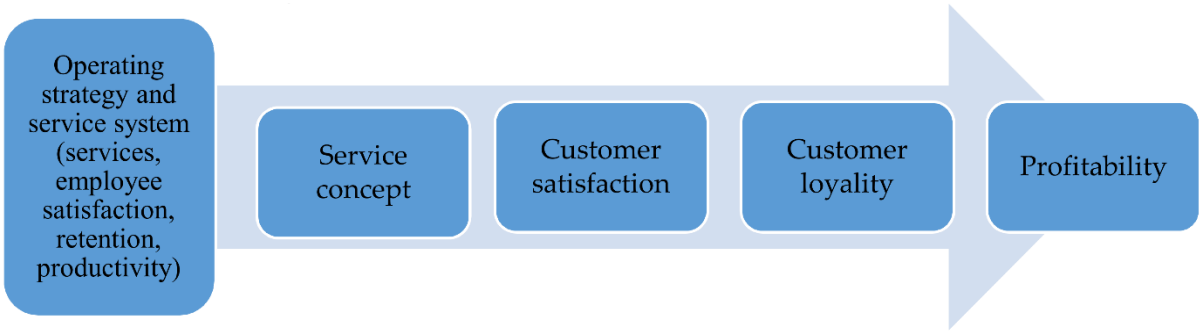

Figure 1.2. Quality Service Delivery Strategy

Various researchers have explored how the collaboration between back-office and front-office employees, along with advanced technology, enhances seamlessness of service quality delivery within the hotel industry across different countries. However, many studies predominantly focus on how advanced technology improves operational efficiency in hotels, neglecting the crucial role played by human aspects (back-office and front-office employees) in facilitating seamlessness when effectively integrated with advanced technology. This study investigated how the effective collaboration between human aspects and advanced technology enhance the seamlessness of hotel operations, leading to increased revenue and profitability in Yogyakarta, Indonesia. This study emphasizes that advanced technology alone cannot achieve seamless hotel operations without the successful integration of human elements, prompting the need for tailored training programs for both back-office and front-office employees to optimize technology utilization throughout the operational processes.

To address the gap in understanding how the collaboration between back-office and front-office hotel employees with advanced technology contributes to the seamlessness of service quality delivery in the hotel industry, the study utilized specific research objectives. These included assessing the advanced technologies employed in selected hotels for seamless operations, evaluating the collaboration between front-office employees and technology, examining the collaboration between back-office employees and technology, and assessing the availability of training programs for both employee groups on utilizing advanced technology effectively for seamless operations both hotels. Conducted in the Yogyakarta region of Indonesia, the mixed-method study involved two hotels ranging from Five-star to Three-star categories and engaged 85 participants from back-office and front-office roles. The research employed various data collection methods such as survey questionnaires, focus group discussions, interview questionnaires, and customer feedback reviews, utilizing both closed-ended and open-ended questions to achieve the research objectives effectively.

2. Literature Review

2.1. Background of the Study

The hospitality industry has witnessed a significant transformation over the past decade, with the integration of advanced technologies such as robotics and artificial intelligence (AI) to enhance customer experiences and streamline operations (seamlessness service operations) (Kolodny, 2016). These technologies, including robots in hotels and chatbots for customer assistance, have become essential tools for improving economic decision-making and ensuring seamless interactions with guests (Gupta et al., 2022). By incorporating robotic back-of-the-house applications that adapt to individual employee work habits, hotels aim to optimize operations and maximize customer satisfaction (Bowen & Morosan, 2018). To effectively implement these technologies, Chacko (1998) emphasizes the importance of providing a supportive framework that enables real-time decision-making and empowers employees to engage with customers through digital communication tools (Buhalis & Sinarta, 2019).

Furthermore, the hospitality industry has embraced computerized processes and AI-driven systems like property management systems (PMS) and revenue management systems (RMS) to analyze key performance indicators and enhance service delivery (Mariani et al., 2018). Robotic appliances are not only used for housekeeping tasks but also as waiters in restaurants, illustrating the diverse applications of technology in hospitality settings (Drexler & Lapre', 2019). The introduction of robots in hotels and restaurants not only improves operational efficiency but also enhances customer experiences, as seen in establishments like the Henn na Hotel in Tokyo, which operates with minimal human labor through the use of robotics and cutting-edge technology (Masuda & Nakamura, 2008). Seamlessness solutions, such as keyless systems, empower customers by providing greater control over their interactions with service providers, thereby enhancing overall service quality and customer satisfaction (Lim et al., 2018).

According to Han et al., (2021), the development of hotel smart technologies applications that enhance guests' experience has triggered discussions on their usefulness, user-friendliness, security as well as users' intention to use the technologies because these issues are closely interrelated to user behaviors, studies on guests' acceptance of specific smart technologies in the hotel sector, such as hotel reservation website, self-service technologies and hotel access. Furthermore, Rotana.com (2020) exposed that AI from Ain Rotan Hotel in the United Arab Emirates (UAE) offers customers a smart bed console that can control room temperature, lights, and air conditioning for seamless hotel operations. AI in services for standardization (mechanical AI), personalization (thinking AI), and relationship or relationalization (feeling AI), where mechanical AI can support in achieving cost leadership, thinking AI can lead to effectively master quality leadership and feeling AI can support in establishing relationship leadership in hospitality industry particularly in hotels and restaurants (Huang and Rust, 2021). All those helps to provide seamlessness that leads to service quality delivery to satisfy the customers' needs and expectations. For instance, in China there is a seamless service hotel special for customers who try to avoid physical contact and any other interaction with others (Haastrecht, 2020).

Therefore, according to Bhasin (2023), hotel management should address five key gaps to ensure seamless service delivery: knowledge gap, standard gap, delivery gap, communications gap, and satisfaction gap.

Figure 2.3. The five Gaps of Service Quality
Bhasin, H. (2023). *The SERVQUAL Model* – Definition, Dimensions, Gaps and Advantages Service

2.1.1. Pragmatic theory

In this mixed method research, pragmatism theory is applied. The theory of pragmatism underpins mixed techniques. According to Cherryholmes (1992), Morgan (2007), and Creswell (2014), in pragmatism world view; *Pragmatism is a philosophical approach not tied to any singular system of thought, resonates with mixed methods research, where scholars freely blend quantitative and qualitative assumptions in their investigations. This freedom of choice allows researchers to select methods and techniques that best suit their objectives. Just as pragmatists reject the idea of a singular unified reality, mixed methods researchers embrace diverse approaches to data collection and analysis. Truth, according to pragmatism, is what works at a given time, aligning with the use of both quantitative and qualitative data in mixed methods research to achieve a comprehensive understanding of research problems. Pragmatist researchers focus on the intended consequences of their work, while mixed methods researchers must establish a purpose and rationale for combining different data types. Additionally, both pragmatist and mixed methods researchers acknowledge the contextual nature of research, incorporating social, historical, and political dimensions. Ultimately, pragmatism broadens the horizons of mixed methods research, allowing for the integration of various methods, worldviews, assumptions, and forms of data collection and analysis. Also, the Conceptual Framework: 'the Seamless Hotel Organization' is applied in this study.*

2.1.2. The Conceptual Framework: The Seamless Hotel Organization

Chacko (1998) introduces the modified seamless hotel organization design, which consists of two main job categories: Guest Service (front-office) and Internal Service (back-office) as illustrated in Figure 2.4. The key difference between these categories lies in the volume and frequency of guest interactions. Employees in the Guest Service category is responsible for frequent guest interactions and providing guest service, encompassing roles in the front office, food and beverage service, and other guest-facing services. On the other hand, Internal Service encompasses operations within the hotel that support Guest Service staff, resembling traditional functional staff departments like accounting, housekeeping, and sales (Chacko, 1998).

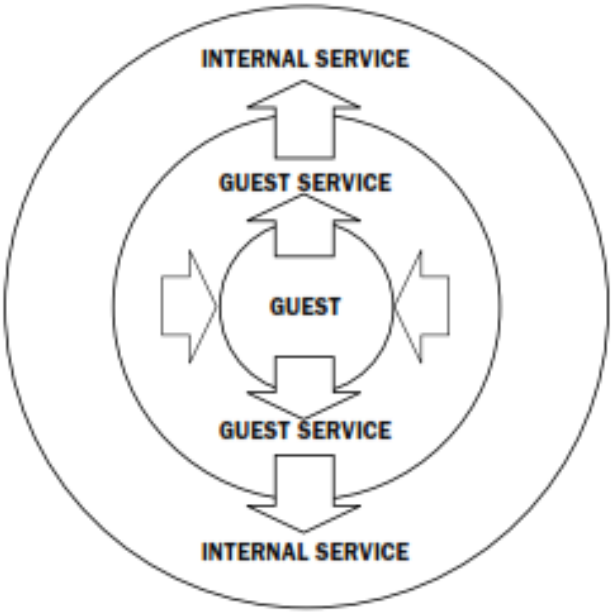

Figure 2.4. The two job categories of the seamless hotel organization

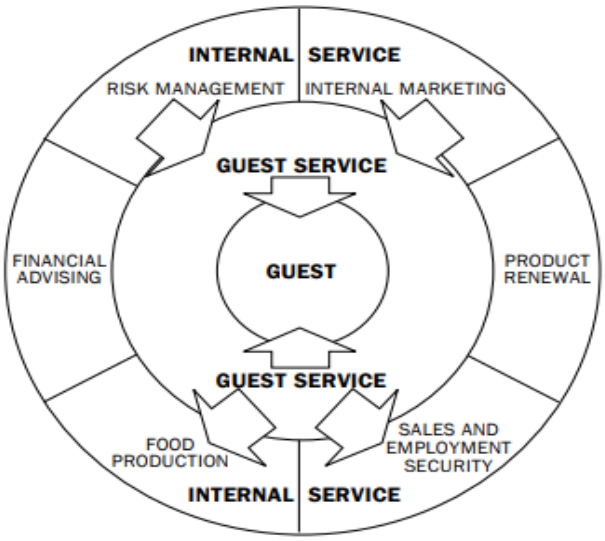

Figure 2.5. The seamless hotel organization (Adapted from Chacko, 1998)

2.1.2.1. Guest Service

As demonstrated in figure 2. 4, employees in Guest Service (GS) (front-office employees), handle all of the needs of guests in the hotel. As a result, they require specialized training such as customer service skills, technology related skills, communication skills, listening skills, etc, to become truly multiskilled and ready to collaborate in cross-functional teams (Chacko et al., 2012). The ability to meet each guest's unique needs must be the first and most crucial skill. To do this, staff members must be skilled communicators with guests in order to perform the customary tasks of welcoming, listening, taking complaints, and solving problems for the seamlessness of hotel operations (Chacko et al., 2012).

2.1.2.2. Internal Service

In addition to GS, the Seamless Hotel Organization concept acknowledges that certain specialized skills are required for the efficient seamlessness of hotel operations (Chacko et al., 2012). The purpose of each staff group in this new organization (figure 2.5) will be redefined, but these are still referred to as staff functions. Employees in this job category (internal service)

are primarily responsible for supporting G.S. (front-office) employees, and this support could include anything from timely financial information requests to requests for clean hotel rooms (Chacko et al., 2012). According to Chacko et al. (2012), structural adjustments that guarantee these workers are acting in the best interests of their frontline colleagues are necessary to bolster the Internal Service concept. Internal service involves human resource, accounting & finance, sales & marketing, risk management (security), etc., as demonstrated in figure 2.5.

Therefore, in order to effectively address the research objectives, these hypotheses were investigated: H_1. There are different advanced technologies used or effectively applied in each hotel for seamlessness hotel operation. H_2. Front-office employees are effectively collaborated with advanced technology to provide seamlessness hotel operations. H_3. Back-office employees are effectively collaborated with advanced technology to provide seamlessness hotel operations. H_4. There are different training programs available for both back-office and front-office hotel employees on how to effectively use advanced technologies for seamlessness service quality delivery within the hotel. Not only hypotheses but also the following questions were investigated as well: 1. What are the different advanced technologies used or effectively applied in each hotel for seamlessness operation? 2. How front-office employees effectively collaborated with advanced technology to provide seamlessness hotel operations? 3. How back-office employees effectively collaborated with advanced technology to provide seamlessness hotel operations? 4. Are there different training programs for both back-office and front-office hotel employees concerning the use or effective application of advanced technology leading to seamlessness service operation in each hotel?

3. Research Methods

This study utilized a mixed research method, combining both qualitative and quantitative approaches as defined by (Creswell, 2014; Clark, Foote & Walton, 2018). The integration of these methods allows researchers to address various complexities in research challenges. Recker (2013) further elaborates on the characteristics of mixed research methods, emphasizing the importance of combining quantitative and qualitative techniques for data collection and interpretation. The study focused on a mixed methods case study design involving two hotels (The Royal Ambarrukmo Yogyakarta and Tjokro Style hotel) in Yogyakarta city, aiming to enhance seamlessness in hotel operations through the integration of advanced technology. Triangulation was employed to ensure the validity and reliability of the findings by utilizing multiple data sources such as interviews, focus group discussions, survey questionnaires, and customer review feedback reports. The use of Statistical Package for Social Sciences (SPSS) for data analysis adds rigor to the study, making it ideal for hotel businesses seeking to understand customer behavior and requirements (Emeritus, 2023).

4. Research Findings and Discussion

4.1. Findings and Discussions

In this study, the total of 85 hotel employees from eight hotel departments namely front-office, housekeeping, food & beverage, sales & marketing, human resource, accounting & finance, engineering & security, and IT department participated in both hotels. 67 general hotel employees participated in survey questionnaires, 12 general hotel employees participated in focus group discussion, 5 heads of departments as well as 1 general manager participated in the interview questionnaires.

4.1.1. The Cronbach Alpha Reliability test

It is essential to compute the reliability index for the data collection instruments used in this research. Given the nineteen items used to collect data, the researcher calculated the Cronbach Alpha as the reliability index.

4.1.1.1. Cronbach Alpha Reliability Statistics

Table 4.1. The reliability values

Cronbach's Alpha	N of Items
.887	19

Given the values for reliability, 0.887 indicate good reliability or data collection item consistency. If ever used on the other sample from the same population and under the same conditions, it would consistently yield almost the same results.

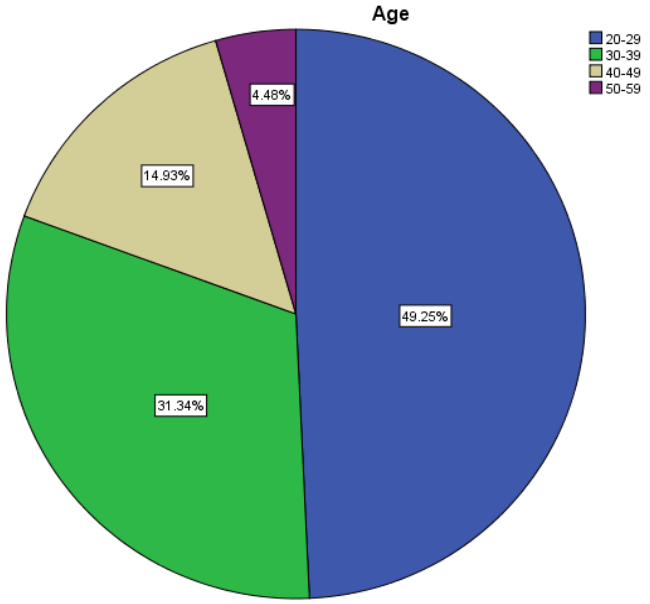

Figure 4.6. Percentages of respondents Age

Figure 4.6. Represent the percentages of respondents' age in the hotels ranging from 20s to 60years old. For instance, the findings from The Royal Ambarrukmo Yogyakarta and Tjokro Style hotle demonstrate that hotel industry employs mostly young generation than more aged people for example, 49.25% are employees with the age between 20-29years; 31.34% are employees with age between 30-39years; 14.93% are employees with the age between 40-49years; and 4.48% are employees with the age between 50-59years. So, this conclude that more than 80% of young generation are employed in hotel and hospitality industry in general. This is because hotel industry is more dynamic and complex sector which requires more young and enegetic workforce expecially in the guest service (front-office). However, aged workforce are not totally left behind, they are still employed in the hotel as internal service (back-office) like accounting & finance, security & engineering, etc., to support the guest service (front-office) because still they have more experiences in some roles than the young generation.

H_1: ***There are different advanced technologies used or effectively applied in each hotel for seamlessness hotel operations***

According to the general managers and human resource managers of hotel A&B, confirm that they have different soft technologies applied in their hotels such as RAPTOR-for menu display, menu ordering, cahier; WEELOY- as customer reservation system; VHP-for visual hotel program; etc., and hard technology such as scanning machines, cleaning machines, cooking facilities, laundry machines etc. Also, the heads of front-office, executive chef, and production manager from hotel B during the interview, confirmed that those mentioned advanced technologies applies in their respective departments.

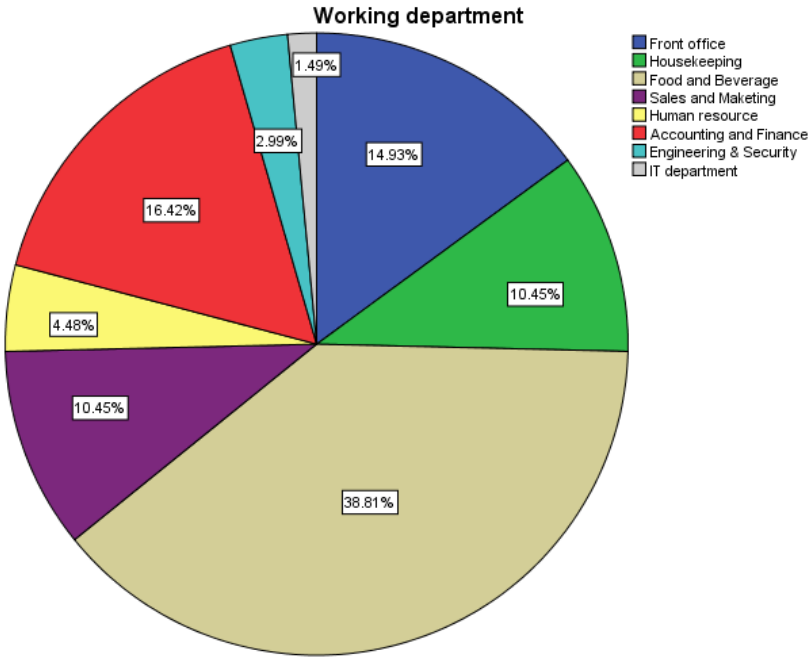

Figure 4.7. The percentage of employees from each Hotel departments participated in the study

Figure 4.7. Demonstrate the percentage of employees from each department of the hotel who participated in this study. According to the findings, Food & beverage department has the highest number of employees in the hotel with 38.81% than other department while IT department has the lowest number of employees in each hotel with 1.49% of all employees within the hotel. As per this study findings in the hotel, food & beverage department and front-office department account for 53.74% which involves waiters & waitress and receptionists who encounters moment of truth everyday while working in the hotel industry to facilitate seamlessness hotel service operations. Therefore, 53.74% of front-office hotel employees participated in this study while 46.28% of back-office employees participated in this study.

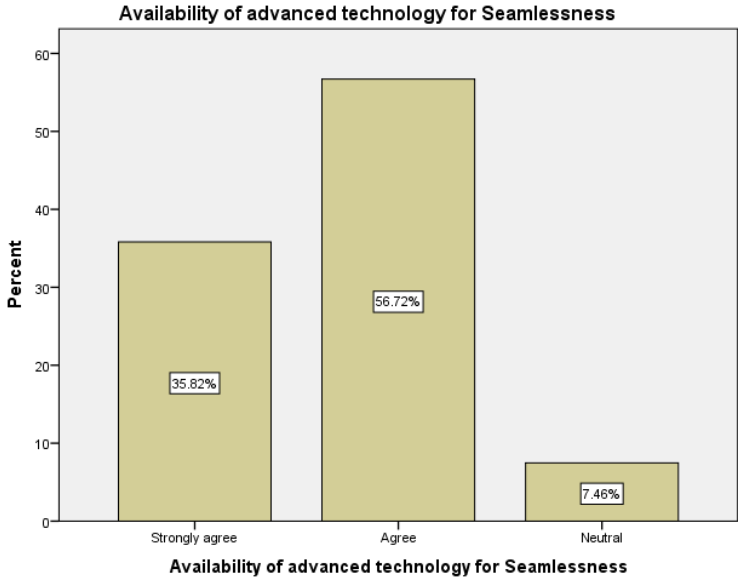

Figure 4.8. Availability of advanced technology in each department for seamlessness service operation in the hotel

Figure 4.8. shows the percentages of employees who agrees the availability of different advanced technology in their departments to facilitate seamlessness hotel service quality

operations. 56.72% of respondents agree, 35.82% of respondents strongly agree while 7.46% of respondents are in between to either strongly agree or agree. This implie that 56.76% of hotel employees have high interactions with advanced technologies in the hotel in their daily activities while 35.82% of hotel employees has moderate interactions with advanced technologies in the hotel throughout their daily hotel activies this depends on the role they perform within the hotel for example, reservation manager, receptionists, accounting& finance, sale & marketing, as well as waiter & waitress in hotel like The Royal Ambarrukmo Yogyakarta has more opportunity to interact with advanced technologes due to the high status of the hotel than in the Tjokro Style hotel which is avearage hotel. On other hand, the employees works as general cleaners, security, assistance chefs, etc., has less interaction with advanced technologies especially in the midium size hotel like Tjokro Style hotel. Additionally, 7.46% of the hotel employees are neigher accept nor denie the availability of different advanced technologies applied in their hotel may be due to lack of awareness of these advanced technologies within the hotel.

By looking the data 56.72% of participants approves the availability of different advanced technologies in The Royal Ambarrukmo Yogyakart and Tjokro Style hotel, 35.82% participants strongly approve the availability of different advanced technologies in The Toyal Ambarrukmo Yogyakarta and Tjokro Style hotel, while 7.46% participants they are not sure whether there is advanced technology applied in the hotel for seamlessness service quality operations or not. So, by taking the percentages of all hotel participants who strongly agrees and who agrees they account to 92.54%. This means in hotel The Toyal Ambarrukmo Yogyakarta and Tjokro Style hotel there are different advanced technologies applied or used in different departments and hotel in general for seamlessness service quality operations however, the amount of the advanced technologies used differs due to the status of each hotel. Also, 7.46% of the Toyal Ambarrukmo Yogyakarta and Tjokro Style hotel employees who are not sure to whether agree or disagree it is because according to the interview and focus group discussion, there are some departments which are looking on the certain kind of advanced technology to be applied in their department but not yet adopted by the hotel for example, HRM software (Human Resource Management System).

Furthermore, according to the survey customer's feedback reports from Google reviews and official Instagram pages of The Toyal Ambarrukmo Yogyakarta and Tjokro Style hotel shows that more than 98% of customers experienced seamlessness service quality delivery due to the application of different advanced technology from reservation system, payment process, check-in process to the check-out time everything went very smooth. This means that there is effective collaboration of back-office and front-office with advanced technology in facilitating seamlessness service quality delivery in the both hotels.

H_2: ***Front-office employees are effectively collaborated with advanced technology to provide seamlessness hotel operations***

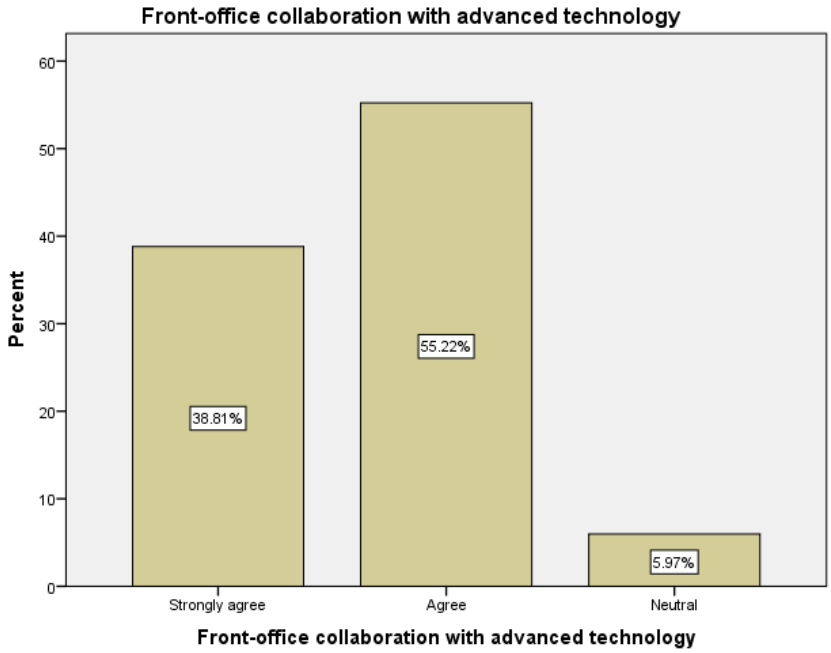

Figure 4.9. Percentages of Front-office collaboration with advanced technology

Figure 4.9. Represent the percentage of front-office employees who confirm that there is an effective collaboration of front-office with advanced technology in both hotel The Toyal Ambarrukmo Yogyakarta and Tjokro Style hotel. For example, 55.22% agree, 38.81% strongly agree, and 5.97% of front-office employees are not sure to agree or disagree to the effective collaboration with advanced technology for seamlessness service quality operation in both The Toyal Ambarrukmo Yogyakarta and Tjokro Style hotel.

The data shows that 55.22% of front-office participants confirm their effective collaboration with advanced technology, 38.81% of front-office participants highly confirm their effective collaboration with advanced technology for seamlessness service operations in both hotels. The different gap between the hotel employees who highly agrees and the employees who agree is due to different working experience in front-office and unit or the role an individual employee is work in. For example, the employees who works as receptions encounters with different technologies such as reservation system, payment system, and menu application than the employees who works as waiter & waitress. According to the interview with the head of front-office department of The Royal Ambarrukmo Yogyakarta, 'front-office employees are trained to have multiple skills in different advanced technologies applied in the hotel to be awere of operationals systems within the hotel.

Also, during the focus group discussion the employee of Tjokro Style hotel who works as cashier said, "*RAPTOR system performs as payment system and menu application, so it helps me as a cashier to know what customers have consumed so as to print the personalized bills*". So, by looking the total of 94.03% of The Toyal Ambarrukmo Yogyakarta and Tjokro Style hotel front-office employees confirming their effective collaboration with advanced technology implies that there is seamlessness service quality delivery process starting from the point of the moment of truth.

On the hand, 5.97% of front-office employees who are not sure to whether agree or disagree is due to the fact that they are still new to the advanced hotel technology system, and some they are still undergoing training as it was explained by one employee during focus group discussion from hotel Tjokro Style hotel she said, "*I am still undertraining so I am not yet familiar with advanced technology in front-office because where I worked before, we used manual system*".

H_3. ***Back-office employees are effectively collaborated with advanced technology to provide seamlessness hotel operations***

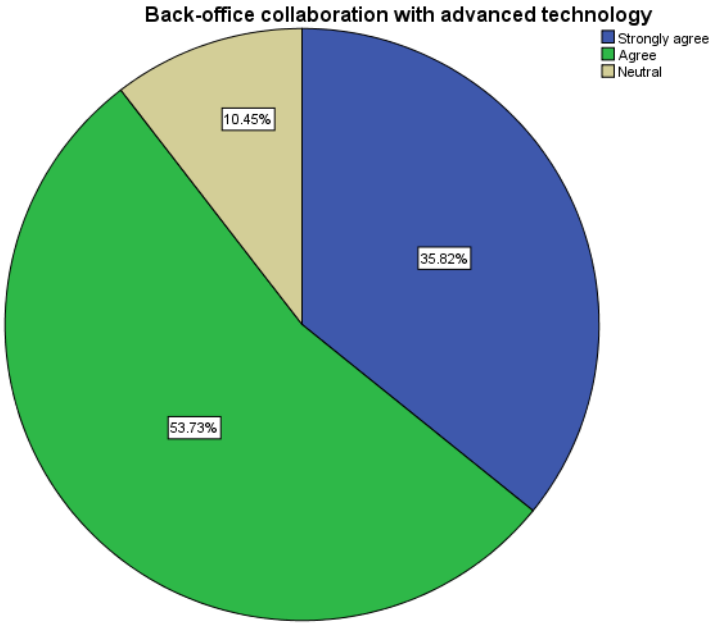

Figure 4.10. Percentages of Back-office collaboration with advanced technology

Figure 4.10. Represent the percentage of back-office employees who confirm that there is an effective collaboration of back-office with advanced technology in both hotel A& B. For example, 53.73% agree, 35.82% strongly agree, and 10.45% of back-office employees are not sure to either agree or disagree to the effective collaboration with advanced technology for seamlessness service quality operation in both hotels.

The data shows that 53.73% of back-office participants confirm their effective collaboration with advanced technology, 35.82% of back-office participants highly confirm their effective collaboration with advanced technology for seamlessness service operations in both The Toyal Ambarrukmo Yogyakarta and Tjokro Style hotel. The different gap between the hotel employees who highly approve and the employees who approve may be due different working experience in back-office departments or the roles of individuals within the hotel on the departmental level. For instance, the employees who works as accounting & finance, purchasing, and sales & marketing, marketing & communication to mention few, encounters with different advanced technologies such as RAPTOR, VHP, POS, and WEELOY than the employees who works as general cleaners outside the hotel. According to the interview with the executive chef of The Royal Ambarrukmo Yogyakarta, back-office employees are also trained to have multiple skills in different advanced technology applied in the hotel especially in the kitchen such as cooking equipment, washing equipment, storage equipment, menu application etc. Also, during the focus group discussion the employee of Tjokro Style hotel who works as cook said, "*RAPTOR system helps to send and print customers' orders in the machine connected and installed in the kitchen as per que*".

So, by looking the total of 89.55% of The Royal Ambarrukmo Yogyakarta and Tjokro Style hotel back-office employees confirming their effective collaboration with advanced technology, implies that although they don't have direct contact with customers still thier roles as back-office has much contribution in facilitating seamlessness service quality delivery process in the hotel. On the hand, 10.45% of back-office employees who are not sure to whether agree or disagree is because of the role they are working on in a particular hotel for example in

hotel The Royal Ambarrukmo Yogyakarta, indoors cleaners uses equipment with very sophisticated advanced technology while the cleaners of hotel Tjokro Style hotel uses normal cleaning equipment. Also, some of them are still new to the advanced hotel technology system, in which they are still undergoing training as it was explained by one employee during focus group discussion from, The Royal Ambarrukmo hotel she said, "*I am still undertraining so I am not yet familiar with advanced technology in IT department especially on cybersecurity advanced technology*".

H4: ***There are different training programs available for both back-office and front-office hotel employees on how to effectively use advanced technologies for seamlessness service quality delivery within the hotel***

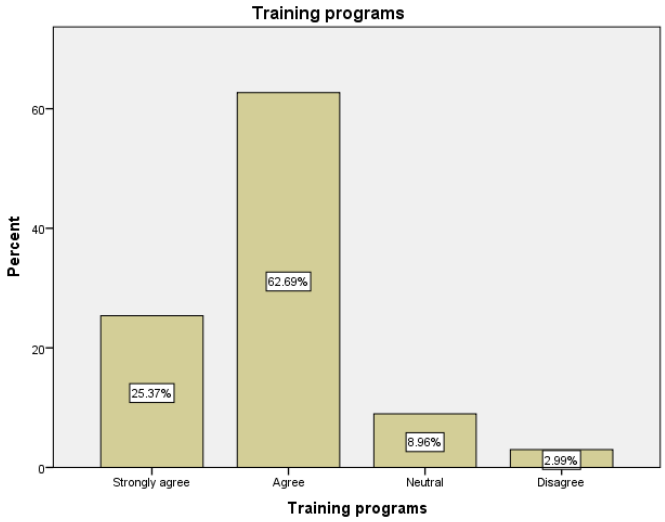

Figure 4.11. Represent the percentages of Training programs in the hotel

Figure 4.11. Represent the percentages of respondents who responded the availability of different training programs for both back-office and front-office employees for effective application of advanced technology for seamlessness hotel service operations in both The Toyal Ambarrukmo Yogyakarta and Tjokro Style hotel. For instance, 62.69% agree, 25.37% strongly agree, 8.96% of front-office employees are not sure to agree or disagree, and 2.99% of respondents responded that there are no training programs for both back-office and front-office employees for effective use or application of advanced technology for seamlessness hotel service operations in both The Toyal Ambarrukmo Yogyakarta and Tjokro Style hotel.

The study result indicates that 62.69% of participants acknowledge the presence of training programs in The Toyal Ambarrukmo Yogyakarta and Tjokro Style hotel tailored to their departmental requirements, with an additional 25.37% expressing strong agreement on the availability of such programs. Moreover, 8.96% of participants are uncertain about the existence of diverse training initiatives in the both hotels, while 2.99% claim there are no training programs offered. The employees who strongly agree with the availability of training programs suggest that these initiatives effectively meet their personal and departmental needs. Equally, those who simply agree indicate that the scheduled training primarily addresses departmental rather than personal requirements. This sentiment was echoed during focus group discussions where back-office employees expressed a desire for more specialized technology training to enhance service operations. Overall, 88.06% of The Toyal Ambarrukmo Yogyakarta and Tjokro Style hotel employees affirm the presence of training programs catering to both back-office and front-office staff, particularly emphasizing the use of advanced technology for

seamless service delivery. This is further corroborated by positive customer feedback from Google reviews and the hotel's official Instagram accounts, highlighting high satisfaction levels with service quality attributed to the effective utilization of technology. Equally, employees uncertain about training availability may not perceive its benefits, while those unaware of any training may be newcomers to the industry requires more personalized training to provide seamlessness service quality to the diversified needs of customers.

5. Conclusion

The research findings reveal a significant level of effective collaboration between front-office and back-office employees and advanced technology in the hotel industry, specifically at The Royal Ambarrukmo Yogyakarta and Tjokro Style hotel. The data shows that 94.03% of front-office employees confirm their effective collaboration with advanced technology, indicating a seamless service quality delivery process. Moreover, 89.55% of back-office employees acknowledge effective collaboration with advanced technology for seamless service operations. The slight variance in percentages may be attributed to differing levels of experience and roles within the departments in each hotel. These findings highlight the positive impact of integrating advanced technology into the daily operations of the hotels, enhancing service quality and efficiency. The feedback underscores the importance of continuous training and support to ensure all staff members are proficient in utilizing technological tools, which is key to maintaining a high standard of service delivery in the competitive hotel industry.

6. Recommendations

The study conducted on the collaboration of back-office and front-office employees with advanced technology faciliatating seamlessness service quality delivery in the hotel industry has shown that a significant number of employees from both hotels recognize the effectiveness of this collaboration in enhancing the quality-of-service delivery. The research indicates that the integration of advanced technologies has positively impacted the service operations of The Royal Ambarrukmo Yogyakarta and Tjokro Style hotel. To further enhance the seamlessness of service quality delivery, the researcher suggests hotel industry to continue providing training and support for new employees and promoting personalized and cross-departmental training to bridge any gaps in collaboration between front-office and back-office employees with advanced digital technology in business and economy of the hotel and individual employees in general. Also, the hotel management teams in both hotels while planning for training programs which fucuses on integrative and collaborative advanced technologies, should focus on addressing these five key gaps to ensure seamlessness service quality delivery in each hotel: knowledge gap, standard gap, delivery gap, communications gap, and satisfaction gap. By fostering a culture of continuous learning and collaboration, both hotels can ensure that their workforce remains proficient at leveraging advanced technologies to deliver exceptional service quality to their guests.

References

Bhasin, H. (2023, June 13). *The SERVQUAL Model* – Definition, Dimensions, Gaps and Advantages Service. Retrieved from https://www.marketing91.com/servqual/

Bowen, J., & Morosan, C. (2018). Beware hospitality industry: the robots are coming. *Worldwide Hospitality and Tourism Themes,* 10(6), 726-733.

Buhalis, D., & Leung, R. (2018). Smart hospitality—Interconnectivity and interoperability towards an ecosystem. *International Journal of Hospitality Management,* 71, 41–50.

Buhalis, D., & Sinarta, Y. (2019). Real-time co-creation and nowness service: lessons from tourism and hospitality. *Journal of Travel & Tourism Marketing,* 36(5), 563–582.

Chacko, H. E. (1998). Designing a seamless hotel organization. *International Journal of Contemporary Hospitality Management*, *10*(4), 133-138.

Chacko, H. E., Williams, K., & Schaffer, J. (2012). A conceptual framework for attracting Generation Y to the hotel industry using a seamless hotel organizational structure. *Journal of Human Resources in Hospitality & Tourism*, *11*(2), 106-122.

Cherryholmes, C. H. (1992, August–September). Notes on pragmatism and scientific realism. Educational Researcher, 13–17.

Creswell, J. W. (2014). *Qualitative, qualitative and mixed methods approach.* SAGE Publications, Inc.

Drexler, N., & Beckman Lapré, V. (2019). For better or for worse: Shaping the hospitality industry through robotics and artificial intelligence. *Research in Hospitality Management,* 9(2), 117–120. doi:10.1080/22243534.2019.1689701

Emeritus (2023, Sept, 4). *5 Types of Research Design:* Elements, Needs and Characteristics. Retrieved from https://emeritus.org/in/learn/types-of-research-design/

Gupta, S., Modgil, S., Lee, C. K., Cho, M., & Park, Y. (2022). Artificial intelligence enabled robots for stay experience in the hospitality industry in a smart city. *Industrial Management & Data Systems*, *122*(10), 2331-2350.

Haastrecht, E.J.V. (2020, Jul 14). *Seamless Service Hotel.* Retrieved from: https://medium.com/futurists-club-by-science-of-the-time/seamless-service-hotel-f87079b91d00

Han, D., Hou, H., Wu, H., & Lai, J. H. (2021). Modelling tourists' acceptance of hotel experience-enhancement Smart technologies. *Sustainability*, *13*(8), 4462.

Huang, M.H. and Rust, R.T. (2021). "*Engage to a robot? The role of AI in service*", Journal of Service Research, Vol. 24 No. 1, pp. 30-41.

Kansakar, P., Munir, A., & Shabani, N. (2019). *Technology in the Hospitality Industry: Prospects and Challenges. IEEE Consumer Electronics Magazine, 8(3), 60–65.* doi:10.1109/mce.2019.2892245

Kolodny, L. (2016), "AI-powered virtual assistant, Mezi, pivots to focus on travel", Tech Crunch, available at: https://techcrunch.com/2016/11/15/ai-powered-virtual-assistant-mezi-pivots-to-focus-on-travel/ (accessed 6 June 2018).

Lim, W. M. et al., (2018). Going keyless for a seamless experience: Insights from a unified hotel access control system. International *Journal of Hospitality Management,* 75, 105–115.

Mariani, M. et al., (2018). Business intelligence and big data in hospitality and tourism: a systematic literature review. International Journal of Contemporary Hospitality Management, 30(12), 3514–3554

Masuda, H., & Nakamura, K. (2008). Henn na Hotel Huis Ten Bosch: The road to low-cost hotels (LCHs). *AIRTH–Alliance for Innovators and Research in Tourism and Hospitality, AIRTH Encyclopedia*.

Mercan, S. et al., (2020). Improving the service industry with hyper-connectivity: IoT in hospitality. *International Journal of Contemporary Hospitality Management*, 33(1), 243–262.

Morgan, D. (2007). Paradigms lost and pragmatism regained: Methodological implications of combining qualitative and quantitative methods. Journal of Mixed Methods Research, 1(1), 48–76.

Mullet, K., (2003). The Essence of Effective Rich Internet Applications. Macromedia Inc., San

Plano Clark, V.L., Foote, L. A. & Walton, J. B. (2018). Intersecting Mixed Methods and Case Study Research: Design Possibilities and Challenges. *International Journal of Multiple Research Approaches*,10 (1), 14–29.

Recker, J. (2013). *Scientific research in information systems*: a beginner's guide. Berlin: Springer.

Schnieder, B. & Bowen, D. E. (1995). Winning the Service Game. Boston: Harvard Business Press.

Simon, M., Van Den Dries, F., Wilms, T., (2016). Driving customer-centric growth: a practical roadmap. J. Advert. Res. 56 (2), 159–168.

Slywotzky, A., Weber, K., (2011). Demand: Creating What People Love Before They Know They Want It. Headline Publishing Group, London.

Stylos, N., Fotiadis, A. K., Shin, D. (Don), & Huan, T.-C. T. (2021). Beyond smart systems adoption: Enabling diffusion and assimilation of smartness in hospitality. *International Journal of Hospitality Management,* 98, 103042.

Wang, D., Xiang, Z., Law, R., Ki, T.P., (2016). *Assessing hotel-related smartphone apps using online reviews.* J. Hosp. Mark. Manage. 25 (3), 291–313.