Green Inflation: International Journal of Management and Strategic Business Leadership

E-ISSN: 3048-0612
P-ISSN: 3048-0620

Research Article

Digital Hospitality Paradox: Analyzing Food and Beverage Service VS. Mobile Or-Dering Star Hotel Staff Interactions (Semawis – All Day Dinning X Hotel Semarang)

Aninda Wijayanti[1], Artin Bayu Mukti[1], Dita Aulia Rachma Nurul Farida[2]*

[1] Universitas Stikubank
[2] Politeknik Nest
* Corresponding Author : ditaauliarnf@gmail.com

Abstract: The hospitality industry is experiencing rapid digital transformation, particularly with the widespread adoption of mobile ordering platforms in food and beverage services. This study seeks to examine how the use of a mobile ordering application affects staff–guest interactions at Semawis All-Day Dining, Padma Hotel Semarang. Employing a qualitative case study approach, data were collected through in-depth interviews, participant observation, and documentation. The findings demonstrate that the integration of mobile ordering has significantly reshaped patterns of engagement between employees and guests, shifting from service approaches that emphasize relational warmth, friendliness, and emotional connection to those prioritizing efficiency, accuracy, and practicality. Although this system improves operational effectiveness, many employees feel that opportunities to establish deeper bonds with visitors are reduced, while senior staff frequently report experiencing technostress due to the pressure of adapting to new technologies. Consequently, the quality of personalized service and the traditional "human touch" in hospitality is gradually declining, even though efficiency levels have increased. To mitigate these challenges, hotels implement flexible strategies such as hybrid service models, combining technology-driven efficiency with face-to-face interaction to preserve the essence of hospitality. The research underscores the importance of considering relational, cultural, and psychosocial dimensions when implementing digital transformation in hotels. It concludes that successful integration of mobile ordering relies not only on operational convenience but also on strengthening technological literacy, providing continuous training, and adopting a human-centered service orientation. By balancing innovation with human values, hotels can maximize digital benefits while maintaining authentic hospitality experiences that remain memorable and meaningful for guests.

Keywords: Digital Hospitality; Food and Beverage Service; Mobile Ordering; Service Interaction; Technostress.

Received: July 19, 2025
Revised: August 03, 2025
Accepted: August 23, 2025
Published: August 25, 2025
Curr. Ver.: August 25, 2025

1. Introduction

Digital transformation is currently experiencing very significant development; digital transformation cannot be separated from the hotel industry, where the services provided to guests are also involved. The growing use of digitalization cannot be separated from the use of mobile order service systems, which are currently booming and being promoted in various services, especially in the hospitality and food & beverage service sectors. This condition cannot be separated from the Covid-19 pandemic, which has pushed all types of services to become contactless services. Hospitality Technology (2023) reports that 78% of hotels in Southeast Asia have adopted digital ordering applications, with 63% of them experiencing increased operational efficiency (Hospitality Technology, 2023, p. 15), which has changed the stigma of "complicated" use of mobile ordering to a paradigm that relies on personal interaction to be technology-based. The change in the food & beverage service staff service paradigm from technology-based personal interaction via mobile ordering shows that 30%

of guests still have difficulty accessing mobile ordering applications because they are still accustomed to using physical menu books.

There is a gap in the literature regarding changes in team work dynamics, senior staff adaptation strategies, and the balance between technological efficiency and human service quality because there has been little research on the social and psychological effects of technology on hotel tourism activities, particularly in the food and beverage service sector. According to the fundamental evaluation of the hotel sector, food and beverage service employees are essential to upholding hospitality standards. Given that many hotels are currently in the digital transition phase and require helpful advice on how to incorporate technology without undervaluing the human element of service, this research becomes even more pertinent.

There is still much to learn about the social and psychological effects of technology on hotel tourism activities, particularly in the food and beverage service industry, according to a number of studies. Given this context, the author focuses on examining how interactions between food and beverage service employees at the Semawis All-Day Dining Padma Hotel Semarang are affected by mobile ordering applications.

2. Preliminaries or Related Work or Literature Review

2.1. Mobile Ordering

The mobile ordering application is a digital service system designed to allow customers to place orders for food and beverages via a smartphone, third-party platform, or hotel application. Particularly in light of the COVID-19 epidemic, which necessitates contactless service, this system offers a solution for comfort and efficiency in food and beverage service. 78% of Southeast Asian hotels have digital ordering systems in place for food and beverage services, per Hospitality Technology (2023). The mobile ordering application not only functions as an ordering tool, but has also been integrated with advanced technology such as artificial intelligence (AI) for menu personalization and the Internet of Things (IoT) to speed up kitchen processes (Sudha Rajesh 2022). However, beyond the convenience offered, this technology also changes the dynamics of interaction between staff and guests, which is the main focus of this research.

2.2 The Impact of Mobile Ordering on Service Interactions

Interaction between food & beverage staff and guests is at the core of the hospitality experience, but the presence of mobile ordering has shifted traditional interaction patterns. Recent studies show that mobile ordering does not eliminate the need for personalization but changes its form (Accenture, 2023; Belarmino & Koh, 2023). Lee & Kim (2023) revealed that digital ordering applications reduce face-to-face interactions by up to 40%, especially for repeat orders. This creates a "paradox of digital hospitality," where technological efficiency actually has the potential to reduce boundaries between staff and guests; however, interestingly, 58% of guests still expect personal interactions, such as menu recommendations, which cannot be completely replaced by applications. This phenomenon shows that technology and human touch must go hand in hand to create an optimal service experience. Service interaction is the process of communication and engagement between a service provider and a customer. In the hospitality context, personal interactions play an important role in creating positive experiences for guests. Lovelock & Wirtz (2016) explain that the moment of truth in service occurs during direct interaction between guests and staff, where service quality will be assessed emotionally and psychologically.

2.3 Food & Beverage Service Staff Adaptation Strategy In The Mobile Ordering Challenge

Mobile ordering is not adopted just to influence guests but can create new challenges for food & beverage service staff. Digitalization also has an impact on the work patterns and motivation of food & beverage service staff. In research by Kim et al. (2020), it was found that staff who were not involved in the technology development process experienced psychological pressure and decreased work morale. Therefore, employee involvement in technology implementation is very important so that the transition process runs smoothly and does not cause resistance or rejection.

3. Proposed Method

This research is a type of qualitative research. Qualitative research was chosen because it uses both investigative and descriptive approaches. Where researchers meet face-to-face and interact with people at the research site (Millan & Schumacher, 2003). This qualitative research aims to emphasize the search for meaning, understanding, concepts, charac-teristics, symptoms, symbols, and descriptions of a natural and comprehensive phenomenon. This research uses a case study design, where this research is a research design to examine problems through a case study consisting of one single unit. The single unit of this research is Semawis All-Day Dining at Padma Hotel Semarang, which will be analyzed in depth.

3.1. Algorithm/Pseudocode

Algorithm 1. Qualitative Case Study Process on Mobile Ordering Impact

INPUT: Research objectives, research site (Semawis All-Day Dining Padma Hotel Semarang), participants (F&B staff, supervisors, operational managers), research instruments

OUTPUT: Analysis of the impact of mobile ordering on service interactions

1: Define research problem and objectives
2: Review literature on digital hospitality, service interaction, and technostress
3: Select qualitative case study design
4: Identify and recruit key informants (junior/senior F&B staff, supervisors, operational managers)
5: Conduct in-depth interviews with semi-structured questions
6: Perform participant observation during operational hours to capture real service interactions
7: Collect documentation (SOPs, mobile ordering guidelines, staff training reports)
8: Triangulate data from interviews, observations, and documents
9: Analyze themes (interaction pattern changes, psychological impacts, adaptation strategies, guest perceptions)
10: Interpret findings using relevant theories (TAM, Service Encounter, Human-Technology Balance)
11: Formulate conclusions and managerial implications
12: Develop recommendations for hotel management, staff, and future research.

3.1.1. Subsubsection

- In-depth interviews;
  Conducted with junior and senior F&B staff, supervisors, and operational managers to capture personal experiences and adaptation strategies toward mobile ordering.
- Participant observation;
  Observing real-time interactions between staff and guests during operational hours to identify behavioral changes.
- Documentation;
  Collecting SOP, mobile ordering user guidelines, and training reports as supporting evidence.

Numbered lists can be added as follows:

a. Preparation Stage;
   Designing research instruments such as interview guidelines and observation checklists.
b. Data Collection Stage;
   Executing interviews, observations, and document retrieval.
c. Data Analysis Stage;
   Performing thematic analysis to identify main themes such as interaction pattern shifts, psychological impacts, and hybrid service strategies.item.
   The text continues here.

3.2. Formatting of Mathematical Components

In this research, data collection techniques were carried out through three main methods, namely in-depth interviews, participant observation, and documentation, which were used triangulatively to ensure the validity of the data. This triangulation approach allows researchers to gain a more comprehensive understanding of the phenomenon under study, as well as reducing the potential for subjective bias. This is in line with Carter et al. (2014), who stated that triangulation of methods in qualitative research strengthens the validity of findings and allows cross-verification between the data collected. First, in-depth interview techniques were carried out with key informants consisting of junior and senior food & beverage staff, supervisors, and operational managers of the Semawis restaurant at the Padma Hotel Semarang. This interview aims to explore in-depth subjective experiences and perceptions of changes in interactions with guests, as well as challenges and adaptation strategies for using mobile ordering applications. The semi-structured interview technique allows researchers to follow a systematic framework of questions while being flexible in exploring new topics that arise during the interview process (Flick, 2018). Second, participatory observation was carried out by researchers directly observing the implementation of services in restaurants that use a mobile ordering system. Observations were carried out during operational hours to record real interactions between staff and guests, nonverbal expressions, and communication patterns, as well as changes in work dynamics due to the use of technology. This technique was chosen because it is able to provide contextual data that cannot always be revealed through interviews alone (Tracy, 2020). Third, documentation is used to complement and strengthen information obtained from interviews and observations. The documents collected include service standard operating procedures (SOP), guidelines for using mobile ordering applications, and staff training reports, as well as internal hotel policy documents regarding digital transformation of services. Documentation techniques provide a historical and administrative dimension to the phenomenon under study. In analyzing the interaction changes between Food & Beverage (F&B) service staff and guests due to the implementation of mobile ordering, certain variables and relationships can be expressed mathematically to support qualitative findings.

Let :

Table 1. Formatting of Mathematical Components

I	Interaction intensity between staff and guests
E	Operational efficiency after mobile ordering implementation
T_S	Technostress level among senior staff
S_q	Service quality score based on guest perception
H_b	Hybrid service effectiveness

4. Result and Discussion

This research focuses on the implementation of the mobile ordering application at Semawis All-Day Dining Padma Hotel Semarang, which has a significant impact on the way food & beverage service staff interact with guests. Based on the results of in-depth interviews and participatory observation, it was found that there had been quite prominent changes in communication patterns and service interactions since the system was implemented. Before using the application, food & beverage service staff had a bigger role in explaining menus, providing recommendations, and building emotional relationships with guests through greetings, smiles, or light dialogue, but with the presence of mobile ordering, this process is starting to decrease because guests make orders independently via digital devices.

One senior waiter stated that the presence of this technology made staff feel "just like food delivery people," no longer part of the full service process. This shows a decrease in the intensity of interaction, which can have an impact on reducing the meaning of work and the social role of staff. This finding is in accordance with the opinion of Belanche et al. (2020), which highlights that frontliner technology such as mobile apps or robots can shift the position of humans in the service process and create emotional distance between service providers and customers. From the junior staff side, some think this system helps speed up

service and makes it easier to record orders. However, they also admit that communication with guests has become shorter and more formal. In this case, there is a shift in the role from relationship-based services to efficiency-based services. Even though operationally it is considered effective, the quality of human touch in star hotel services is a challenge to maintain.

From the results of observations, it was found that staff tend to only be present when guests require confirmation or when orders are ready to be delivered. Moments such as greeting guests when they first sit down or asking for their impressions after eating are reduced. The interactions that occur tend to be one-way and only instructional in nature. As interactions are replaced by digital systems, the emotional dimension of service tends to disappear. In an interview with the food & beverage service supervisor, it was stated that the hotel had actually provided training to staff regarding the use of applications and digital service ethics; however, challenges still emerged, especially from staff who were more senior and less familiar with technology. They feel anxiety (technostress) due to system changes and worry about losing their lives at work. This finding is in line with the research results of Tarafdar et al. (2019), which state that the implementation of technology in the workplace, if not accompanied by psychological and technical assistance, can cause emotional stress that interferes with productivity. However, there are adaptive efforts from management to balance technological efficiency and service quality. One of the strategies implemented is a hybrid service model, which combines a mobile ordering system with direct interaction. For example, even though guests order via the application, staff are still assigned to greet, provide information, and follow up on guest satisfaction proactively. With this approach, staff are not just system operators but have room to show empathy and personal service. The human-technology balancing concept (Parasuraman, 2020), which highlights the sig-nificance of incorporating technology in services in a way that aligns with human values, is reflected in this approach. According to the results of the interviews, the majority of visitors value the convenience of mobile ordering, particularly for those who like to place orders quickly or don't want to engage with staff too much. Nonetheless, a number of visitors also mentioned that they still anticipate the warmth and individual attention that characterize first-rate service at five-star hotels. This demonstrates that, based on visitor choices, the hotel must handle varying expectations. Overall, the implementation of mobile ordering applications has impacts, including, on the one hand, providing efficiency and convenience, but on the other hand, challenging the basic essence of hospitality services, which are based on human relationships. Therefore, the success of implementing technology in food & beverage service staff is largely determined by the ability of management and staff to create a balance between digital systems and human service.

4.1. Figures and Tables

The integrated use of these three techniques is designed to create a comprehensive understanding of changes in service interactions resulting from the implementation of mobile ordering. The validity of the data is strengthened by a triangulation approach of sources and methods, as recommended in the latest qualitative research conducted by researchers including:

Table 2. This is a table. Tables should be placed in the main text near to the first time they are cited.

Main Theme	Sub-Theme	Finding Description / Respondent Quote
1. Changes in Service Interaction Patterns	Reduced interaction – Less personal	"Now guests are busy with their phones, we just deliver the food."
	Guest focus on devices	Observation: Guests place orders directly via their phones, with minimal conversation with staff.
	Shorter communication time	"In the past, we could have a chat, now sometimes it's only 1–2 words."
2. Psychological Impact on Staff	Technostress among senior staff	"Sometimes I get confused using the application, afraid of making mistakes."
	Change in the meaning of work	"It feels like being a robot, just delivering back and forth."

	Anxiety over losing role	"The younger ones are faster, sometimes I feel left out."
3. Service Adaptation Strategies	Technology training	"We were taught how to use the application, but it still takes time to adapt."

1 Tables may have a footer.

5. Comparison

This research has important implications both theoretically and practically. Theoretically, this research enriches the literature regarding the impact of service digitalization in the hotel industry, especially from the perspective of social interaction and staff work dynamics. The use of the extended Technology Acceptance Model (TAM) theory, Service Encounter theory, and the Human-Technology Balance principle provides a relevant understanding framework for analyzing staff acceptance and adjustment to digital innovation.

Practically, the results of this research can be input for hotel management in designing a more holistic and human-centered technology implementation strategy. Technology integration must not only consider efficiency aspects but also relational and psychosocial aspects of the service. This is important to maintain service quality and guest loyalty amidst changes in the digital service landscape.

Suggestion

Based on the research findings and conclusions, the author provides several suggestions as follows:

For Hotel Management

It would be a good idea to develop a policy of regular technology training, especially for senior staff, to reduce resistance and technostress. Additionally, it is important to im-plement a hybrid service approach that still provides space for personal interactions between staff and guests.

For F&B Staff

It is hoped that they will continue to hone their interpersonal communication skills and understand their important role in maintaining hospitality quality even though technology has taken over some of the technical service functions.

For Further Researchers

This research is still limited to one location and uses a qualitative approach. It is hoped that there will be further research that uses a quantitative or mixed-method approach with a wider scope so that the results can be better generalized in the context of the hotel industry in Indonesia.

6. Conclusions

Based on the results of research conducted using a qualitative approach with a case study at Semawis All-Day Dining Padma Hotel Semarang, it can be concluded that the im-plementation of the mobile ordering application has a complex impact on service interactions between food & beverage service staff and hotel guests. On the one hand, this system has succeeded in increasing operational efficiency and providing a more practical experience for guests. However, on the other hand, this application reduces the frequency and depth of personal interaction between staff and guests, which is an essential element in five-star hospitality services.

F&B staff experienced a change in role, from being heavily involved in interpersonal communication and providing menu recommendations to being more passive and functional. This impacts staff's perception of the meaning of their work and reduces the scope for showing empathy and friendliness. The challenges are increasingly felt among senior staff who have difficulty adapting to technology and tend to experience psycho-logical pressure (technostress). However, management has taken various adaptive steps through training and implementing a hybrid service model as a form of balance between digital efficiency and human service.

Author Contributions: Conceptualization: Aninda Wijayanti and Artin Bayu Mukti; Methodology: Aninda Wijayanti; Validation: Aninda Wijayanti, Artin Bayu Mukti, and Dita Aulia Rachma Nurul Farida; Formal analysis: Aninda Wijayanti; Investigation: Aninda Wijayanti; Resources: Aninda Wijayanti; Data curation: Aninda Wijayanti; Writing—original draft preparation: Aninda Wijayanti; Writing—review and editing: Aninda Wijayanti, Artin Bayu Mukti, and Dita Aulia Rachma Nurul Farida; Visualization: Dita Aulia Rachma Nurul Farida; Supervision: Artin Bayu Mukti; Project administration: Aninda Wijayanti.

Funding: This research received no external funding.

Data Availability Statement: The qualitative datasets generated and analyzed during the current study are not publicly available due to privacy and confidentiality agreements with research participants, but anonymized excerpts of interview transcripts, observation notes, and supporting documents (e.g., Standard Operating Procedures and staff training reports) are available from the corresponding author upon reasonable request. All data have been securely stored in the internal research repository of Universitas Stikubank under restricted access to protect participant identities.

Acknowledgments: The authors would like to thank the management and staff of Semawis All-Day Dining, Padma Hotel Semarang, for their valuable cooperation during the research process. The authors also acknowledge administrative and technical assistance provided by Universitas Stikubank and Politeknik Nest. No AI tools were used in the generation of primary research data; however, AI-assisted language refinement was employed during manuscript preparation under the authors' full supervision.

Conflicts of Interest: The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

References

Accenture. (2023). Digital customer experience report. Accenture.

Belanche, D., Casaló, L. V., Flavián, C., & Schepers, J. (2020). Frontline employees and technology-based service encounters. Journal of Service Management, 31(2), 203–222. https://doi.org/10.1108/JOSM-11-2018-0365

Belarmino, A., & Koh, Y. (2023). Digital hospitality and service encounters in hotels. International Journal of Hospitality Management, 110, 103408. https://doi.org/10.1016/j.ijhm.2022.103408

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. https://doi.org/10.1080/10548408.2019.1592059

Flick, U. (2018). An introduction to qualitative research (6th ed.). Sage Publications.

Hospitality Technology. (2023). The rise of mobile ordering. HT Magazine. https://hospitalitytech.com

Kim, H., Cho, M., & Kim, W. G. (2020). Technostress and employee engagement in hospitality: The moderating role of leadership. Journal of Hospitality and Tourism Research, 44(2), 235–260. https://doi.org/10.1177/1096348019890054

Kuo, C. M., Chen, L. C., & Tseng, C. Y. (2017). Investigating an innovative service with hospitality robots. International Journal of Contemporary Hospitality Management, 29(5), 1305–1321. https://doi.org/10.1108/IJCHM-08-2015-0414

Lee, H., & Kim, S. (2023). Reducing human interaction through mobile apps: Customer perceptions in tourism and hospitality. Tourism Management Perspectives, 45, 101052. https://doi.org/10.1016/j.tmp.2022.101052

Lovelock, C., & Wirtz, J. (2016). Services marketing: People, technology, strategy (8th ed.). Pearson Education.

Mariani, M. M., & Borghi, M. (2021). Customers' evaluation of digital service encounters in tourism: The role of service robots. Tourism Management, 83, 104161. https://doi.org/10.1016/j.tourman.2020.104161

Parasuraman, A. (2020). Human-technology balance in service delivery. Journal of Service Theory and Practice, 30(3), 201–220. https://doi.org/10.1108/JSTP-12-2019-0259

Rajesh, S. (2022). AI in hospitality: A double-edged sword. Journal of Contemporary Hospitality, 34(7), 1452–1467. https://doi.org/10.1108/JCH.2022.34.7.1452

Tarafdar, M., Maier, C., Laumer, S., & Weitzel, T. (2019). Explaining the dark side of IT use: Technostress and its impact on employees. Information Systems Journal, 29(1), 125–155. https://doi.org/10.1111/isj.12115

Wirtz, J., Zeithaml, V. A., & Gistri, G. (2023). Technology-mediated service encounters. Journal of Service Research, 26(1), 3–17. https://doi.org/10.1177/10946705221084412