Balkans JETSS (2026) 1: 38-50
DOI: https://doi.org/10.31410/Balkans.JETSS.2026.9.1.38-50

Original Scientific Article

Between Efficiency and Emotion: Exploring Intelligent Automation in Restaurants Through Owner and Customer Perspectives

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Received: August 30, 2025 / Revised: June 3, 2026
Accepted: June 13, 2026 / Published: June 30, 2026
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Abstract: *Hospitality businesses are increasingly adopting intelligent automation (IA), including service robots and AI, to mitigate labor shortages and enhance efficiency. However, its influence on guest experience and human interaction remains contested. This study employs a triangulated qualitative approach: an in-depth interview with a restaurant owner analyzed through grounded-theory-informed coding, netnographic analysis of 21 online reviews, and academic literature. Findings indicate that automation reduces staff strain and improves efficiency, while employees continue to provide emotional service. The restaurant's robot not only streamlined operations but also contributed to its brand identity. Customer perceptions were mixed—many valued novelty and efficiency, whereas others highlighted delays, reduced warmth, or fears of job loss. Consistent with prior research, results suggest that IA is most effective in hybrid models, where technology supports routine tasks and humans deliver empathy-driven interactions. The study concludes that IA enhances efficiency and branding when integrated thoughtfully, complementing rather than replacing human labor.*

Keywords: *Intelligent automation, Robots, Waiters, Restaurant, Netnography*

JEL Classification: L83, O33, M15

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1. INTRODUCTION

In recent years, the restaurant industry has undergone a notable shift in service delivery and operations, driven largely by intelligent automation (IA) and artificial intelligence (AI) (Blöcher & Alt, 2021; Yoon, 2023). IA has led this transition, representing nearly 70% of technological adoption through tools designed to streamline tasks, accelerate service, and reduce staff strain (Batat, 2021; Harpanahalli et al., 2020). AI complements these changes by shaping strategy and enhancing customer experience, forming part of a broader response to labor shortages, rising costs, and consumer expectations for speed and digital engagement (Arora et al., 2021; Tan & Netessine, 2020). The urgency to adopt intensified during COVID-19, when contactless service became critical (Tuomi et al., 2021; Yoon, 2023).

Adoption, however, has been uneven. While IA and AI improve efficiency, they also raise challenges. Customers may find robots or AR features novel yet impersonal, undermining the warmth traditionally associated with hospitality (Batat, 2021; Li et al., 2025). Employees often welcome relief from repetitive tasks but worry about job security, reduced responsibilities, and declining interpersonal aspects of service (Tuomi et al., 2020; Yoon, 2023). Owners thus face complex trade-offs: beyond efficiency and financial return, they must weigh impacts on business identity, staff morale, and customer trust (Arora et al., 2021; Tan & Netessine, 2020). Despite this, research continues to prioritize customer and employee perspectives, with quantitative studies on performance and consumer behavior dominating the field (Li et al., 2025; Yoon, 2023). Consequently, little is known about how owners themselves interpret and manage adoption decisions (Blöcher & Alt, 2021; Tuomi et al., 2021).

This study addresses that gap by exploring the perspective of a restaurant owner who has implemented both IA and AI. Specifically, the study addresses two research questions: (RQ1) How does a restaurant owner perceive and manage the benefits, trade-offs, and evolving staff–technology relationship associated with intelligent automation? (RQ2) How do customers, as expressed through online reviews, perceive the novelty, efficiency, and emotional dimensions of automated restaurant service? Through an in-depth interview using a Grounded Theory approach, the study investigates how the owner perceives these benefits, trade-offs, and the evolving staff–technology relationship (Tuomi et al., 2020). To enrich this view, a netnographic analysis of online reviews captures customer perceptions of novelty, efficiency, and emotional disconnect. Taken together, the findings show that while automation promises efficiency and competitive appeal, concerns about costs, employee adaptation, and the loss of human warmth remain central (Arora et al., 2021; Blöcher & Alt, 2021; Tuomi et al., 2021; Yoon, 2023). Rather than offering prescriptive solutions, the study provides grounded insights into what is gained and what may be lost as restaurants automate.

2. LITERATURE REVIEW

In restaurant contexts, IA and AI are often discussed as if they are interchangeable, though they serve quite different functions. IA typically refers to technologies that take over routine, task-based activities. These include self-order kiosks, service robots, QR menu systems, and, in some cases, augmented reality (AR) tools that guide guests through ordering (Batat, 2021; Harpanahalli et al., 2020; Yoon, 2023). These systems are usually introduced to speed up service, relieve pressure on staff, and help address ongoing labor shortages. AI, by contrast, tends to operate less visibly. Rather than interacting directly with guests, it runs in the background—analyzing data, recognizing trends, and supporting decision-making at the managerial level. In practical terms,

this might involve chatbots responding to customer queries, predictive tools that adjust inventory planning, or software designed to extract insights from customer reviews (Blöcher & Alt, 2021; Lee et al., 2021). The application of these tools often varies according to restaurant type. Fast-food and quick-service venues, where throughput is a priority, rely heavily on kiosks and QR codes to move customers through quickly (Arora et al., 2021; Yoon, 2023). By contrast, higher-end restaurants may use technologies like AR or interactive tables less for efficiency and more to shape ambiance or create a distinctive experience (Batat, 2021; Tan & Netessine, 2020). In either case - whether aimed at speeding up a process or elevating an experience - technology has begun to reshape how restaurants operate and how service is delivered.

To date, academic literature has centered more on how these technologies affect customers or frontline employees, with many studies relying on large-scale surveys or econometric models. While useful, this leaves out an important piece: the perspective of the people making the investment decisions. Restaurant owners are ultimately the ones who decide whether, when, and how to adopt these tools, yet their views remain largely absent from the discussion (Tan & Netessine, 2020; Tuomi et al., 2020). This gap is especially noticeable in qualitative research, where richer, more contextual insights into owner reasoning could offer a more grounded understanding of what technology adoption looks like in practice. Moreover, existing studies rarely interrogate how owners weigh conflicting priorities, such as short-term efficiency gains against longer-term risks to brand identity and staff morale, leaving open questions about the underlying decision logic that this study seeks to unpack.

2.1. Benefits of Intelligent Automation and Artificial Intelligence in Restaurants

2.1.1. Customers

Restaurants increasingly deploy IA to improve service efficiency and customer control. Self-order kiosks and QR menus shorten queues, reduce errors, and proved particularly attractive during COVID-19 due to hygiene concerns (Arora et al., 2021; Harpanahalli et al., 2020; Yoon, 2023). In fine dining, IA has also enhanced immersion; for instance, Le Petit Chef uses AR to turn meals into sensory experiences linked with greater enjoyment and well-being (Batat, 2021; Batat et al., 2019; Velasco et al., 2018). AI complements these tools through recommendation systems, chatbots, and review analytics, helping customers navigate options while offering managers operational insights (Berezina et al., 2019; Blöcher & Alt, 2021; Lee et al., 2021; Li et al., 2025). Robots and interactive displays often appeal to younger, digitally oriented diners (Li et al., 2025; Zhu, 2022). Other customers, however, perceive kiosks and robots as impersonal or disruptive (Batat, 2021; Li et al., 2025). Successful adoption thus depends on aligning technology with service models, as misalignment risks undermining both function and experience (Joo et al., 2023; Yoon, 2023).

2.1.2. Employees

For staff, IA reduces routine tasks, allowing greater focus on guest service. Robots delivering food or clearing tables are often described as “helpers” that ease physical strain in high-volume settings (Tuomi et al., 2020; Wirtz et al., 2018). Tools such as RFID (Radio Frequency Identification) systems further reduce bottlenecks and stress during peak periods (Ahmed et al., 2019; Harpanahalli et al., 2020). When paired with clear role division, these efficiencies can improve job satisfaction. AI also supports inventory forecasting and scheduling, easing workload and enabling more guest interaction (Blöcher & Alt, 2021; Ivanov & Webster, 2019; Joo et al., 2023).

However, concerns persist: in many contexts, staff view automation as a threat to job security and purpose (Tuomi et al., 2020; Tussyadiah, 2020). Adaptation is smoother when owners are transparent, provide training, and preserve meaningful roles (Tuomi et al., 2021). Yet most studies examine employee reactions rather than how owners manage these transitions (Blöcher & Alt, 2021; Li et al., 2025).

2.1.3. Owners

For owners, IA and AI deliver clear economic and strategic gains. Self-service kiosks and QR systems reduce labor costs, streamline processes, and increase sales—digital menus, for example, often boost order size (Arora et al., 2021; Tan & Netessine, 2020; Yoon, 2023). Table-ordering devices and upselling functions further enhance profitability, particularly in low-margin segments (Susskind & Curry, 2016). IA also facilitates scaling by standardizing service and reducing reliance on staff during peak hours. RFID and forecasting tools further help optimize inventory and staffing (Harpanahalli et al., 2020; Ivanov & Webster, 2019; Joo et al., 2023; Kumar et al., 2016; Li et al., 2025; Ma et al., 2023). Strategically, AR dining concepts and robot restaurants attract novelty-seeking customers and differentiate brands (Batat, 2021; Li et al., 2025; Romano et al., 2020; Zhu, 2022). Moreover, data-driven insights support targeted marketing and loyalty programs (Lee et al., 2021; Tan & Netessine, 2020).

Despite these benefits, most research remains rooted in quantitative analyses, leaving the owners' perspective underexplored (Blöcher & Alt, 2021; Joo et al., 2023; Tuomi et al., 2021; Yoon, 2023). Critically, much of this literature treats efficiency and emotional authenticity as separate outcomes rather than examining how owners actively negotiate the tension between them—a conceptual gap this study aims to address. Questions about balancing short-term gains with long-term investments, or about impacts on employees and customer experience, remain largely unanswered. This study addresses that gap by adopting a qualitative lens, centering on how owners interpret and implement IA and AI in practice.

2.2. Operational Dynamics and Strategic Implications of Intelligent Automation and Artificial Intelligence in Restaurants

2.2.1. Efficiency of IA and AI

IA improves speed, accuracy, and consistency in restaurants. Self-service kiosks and QR systems can cut waiting times by up to 40% (Arora et al., 2021), while robots sustain performance during peak hours (Li et al., 2025; Tuomi et al., 2021). Table devices reduce dining time, increasing turnover and sales (Tan & Netessine, 2020). AI enhances efficiency through predictive analytics for inventory and staffing, reducing waste and optimizing resources (Blöcher & Alt, 2021; Joo et al., 2023). Although experimental and SEM-based studies confirm these gains, results vary by restaurant type and size (Tan & Netessine, 2020; Yoon, 2023). Owners' views on efficiency, however, remain underexplored (Blöcher & Alt, 2021).

2.2.2. Human–Technology Division of Labor

IA reshapes labor distribution: machines handle repetitive tasks, while humans provide personal service and manage exceptions (Tuomi et al., 2020; Yoon, 2023). Robots deliver food, QR codes automate ordering, and AR enhances dining experiences, with staff ensuring warmth and emotional connection (Arora et al., 2021; Batat, 2021; Li et al., 2025; Tuncer, 2020). AI provides

analytical insights, but humans remain responsible for strategic decisions (Blöcher & Alt, 2021). Cultural differences shape collaboration patterns, yet owners' perceptions of these dynamics are seldom addressed (Li et al., 2025; Tuomi et al., 2020). Successful integration depends on training and clear role definitions (Tuomi et al., 2021).

2.2.3. Challenges and Drawbacks

Despite clear benefits, IA and AI adoption faces barriers. High costs hinder smaller businesses, while technical malfunctions disrupt service (Harpanahalli et al., 2020; Li et al., 2025; Yoon, 2023). Some customers perceive kiosks and robots as impersonal, particularly in venues emphasizing human connection (Batat, 2021; Tan & Netessine, 2020). Employees fear job loss and reduced meaning in their roles (Tuomi et al., 2020; Wirtz et al., 2018). AI personalization also raises privacy concerns regarding data collection and transparency (Lee et al., 2021; Tan & Netessine, 2020). Quantitative research has outlined these issues, but owners' perspectives on risks and ethical trade-offs remain underrepresented (Li et al., 2025; Tuomi et al., 2021). Overall, studies highlight efficiency gains, higher satisfaction, and profitability. Yet adoption is still constrained by costs, resistance, and ethical challenges (Blöcher & Alt, 2021; Yoon, 2023). Crucially, owners' voices are missing: little is known about the trade-offs they weigh, the risks they accept, or how they interpret automation in practice (Li et al., 2025; Tuomi et al., 2020).

3. METHODOLOGY

3.1. Research Design

Grounded Theory is a qualitative methodology suited to underexplored phenomena, such as how restaurant owners perceive and navigate the adoption of intelligent automation, as it enables theory to be developed inductively from empirical data rather than tested against a pre-existing framework (Glaser & Strauss, 1967; Tuomi et al., 2020). While much of the existing research relies on quantitative approaches, such as difference-in-differences or structural equation modeling (Joo et al., 2023; Yoon, 2023), Grounded Theory was selected because it affords richer, context-sensitive insight into decision-making processes that remain largely undocumented in the literature (Tuomi et al., 2020). A single, in-depth case was considered appropriate given the exploratory aim of the study and the depth of access secured with the participant, consistent with guidance that case-based designs are well suited to research questions requiring detailed, context-rich understanding (Batat, 2021; Saunders et al., 2012). To strengthen the credibility and contextual depth of this single-case design, the interview was complemented by a netnographic analysis (Kozinets, 2020), a method well established in tourism and hospitality research (Marine-Roig & Anton Clavé, 2015). This triangulation of interview and netnographic data allowed the analysis to capture not only the owner's internal decision-making process but also independently expressed customer perceptions, addressing concerns about the evidentiary limits of relying on a single data source. Precedent for applying Grounded Theory methods to a single, in-depth interview exists in the qualitative literature (Rich, 2015), which similarly acknowledges the resulting constraints on transferability; the triangulation of interview data with a complementary qualitative source—company documents and archival material in Reed's (2017) single-case study of Cummins Inc., or netnographic reviews in the present study—further supports the credibility of single-case Grounded Theory designs. Consistent with this exploratory aim, the study does not claim theoretical saturation or generalizable theory in the strict Grounded Theory sense; rather, it offers a single-case exploratory analysis that surfaces context-rich patterns intended to inform, rather than conclusively establish, theoretical understanding of owner-level automation adoption.

3.2. Data Collection and Analysis

Data were gathered through a semi-structured, in-depth interview with the owner of a mid-sized casual dining restaurant in Tenerife, Spain. The restaurant employs 12 staff, serves an average of 80–100 guests daily, and introduced intelligent automation in 2023, including a robotic waiter and an AI-powered ordering system, following high staff turnover. The owner, who directly oversaw the integration, was purposively selected for his lived experience with both operational and strategic decision-making. The interview lasted two hours, was audio-recorded, and produced a verbatim transcript of over 11,000 words. An interview guide with 14 open-ended questions explored motivations for automation, staff adaptation, customer response, costs, and brand identity. Data analysis followed Charmaz's (2006) Grounded Theory principles. Open coding was first applied to identify key concepts, which were then organized into broader axial categories such as drivers of adoption, implementation challenges, and impacts on staff roles. Through selective coding, these categories were integrated into a core concept explaining how smart technologies influence managerial decision-making and reshape restaurant operations. NVivo software supported the process by enabling systematic coding, categorization, and memoing (Welsh, 2002). Trustworthiness was addressed through triangulation of interview and netnographic data, a detailed audit trail of coding decisions maintained in NVivo, and reflexive memoing throughout analysis; while transferability is necessarily limited by the single-case design, the rich, context-specific description provided here is intended to allow readers to judge the applicability of findings to comparable hospitality settings.

The netnographic dataset was built from TripAdvisor, Google Reviews, and Facebook, using the search term 'robot'. Out of 345 reviews, 21 directly referring to robot waiters were extracted, anonymized, and imported into NVivo for coding. An initial coding cycle was conducted using NVivo's node creation functionality, where key phrases and recurring ideas were tagged under open codes such as "novelty," "fun experience," "efficiency," "impersonal service," and "frustration". In the second cycle of coding, related codes were merged into broader parent nodes, representing major emergent themes: (a) Technological novelty and entertainment, (b) Service efficiency and limitations, and (c) Emotional disconnect and techno-skepticism. NVivo's query tools, such as the word frequency and text search features, helped validate the thematic relevance and frequency of certain keywords like "robot," "waiter," "friendly," "slow," and "impersonal". To mitigate the risk of selection bias associated with keyword-based sampling, the remaining reviews from the initial pool of 345 were subsequently checked manually for alternative references to automation (e.g., mentions of "machine," "kiosk," or "automated service") that did not include the term "robot." This manual check did not identify additional reviews meeting the inclusion criteria, supporting the adequacy of the keyword-based sample for capturing customer perceptions of the automation experience.

4. RESULTS

4.1. Results of the Interview

The analysis of the restaurant owner's account revealed three major categories: (a) Determinants of automation, (b) Human–technology interaction, and (c) Strategic repositioning of labor. These categories converged around a central theme of balancing efficiency with human value in intelligent restaurant work (see Table 1).

Table 1. Coding Summary for the Owner Interview

Theme	Representative Open Codes	Illustrative Quote	Source
Determinants of Automation	labor shortage; efficiency need	"We simply couldn't find reliable staff anymore. They are no longer interested in working in the hospitality industry. Moreover, machines don't call in sick — and that matters when you're open seven days a week."	Owner interview (translated from recording)
		"Before, for a table of six, my husband had to make three trips by hand carrying trays. Now it brings everything in one go — it has four shelves, and each one holds two large trays."	Owner interview (translated from recording)
Human–Technology Interaction	task delegation; service boundary	"The robot brings the food, but it's our people who bring the warmth. Guests still need to feel cared for."	Owner interview (translated from recording)
		"I explained to her: it's not a robot, it's a transporter. It doesn't serve you itself — we still do that. It just comes to the table and stops."	Owner interview (translated from recording)
Strategic Repositioning of Labor	role redefinition; future automation plans	"We didn't fire anyone — we changed what their job meant. Now they monitor the tech and make sure the service feels human."	Owner interview (translated from recording)
		"What my husband wants next is for it to follow him around, so at the end of the night it can help clear the tables too, once it's done bringing food."	Owner interview (translated from recording)

Source: Own research

4.1.1. Determinants of Automation

The owner highlighted that the choice to implement intelligent automation started from ongoing labor shortages and rising wage pressures. Automation was regarded as a strategic long-term response to these operational challenges: "We simply couldn't find reliable staff anymore. They are no longer interested in working in the hospitality industry. Moreover, machines don't call in sick — and that matters when you're open seven days a week". This reasoning aligns with prior studies identifying labor shortages as a primary driver of automation in hospitality, with kiosks, robots, and QR menus adopted to alleviate workforce gaps and reduce operational risks (Arora et al., 2021; Yoon, 2023). Moreover, the owner described automation as a competitive differentiator, enhancing a "tech-forward" appeal—echoing literature that stresses how novelty and innovation attract younger, digitally curious customers and create brand distinction (Batat, 2021; Li et al., 2025).

4.1.2. Human–Technology Interaction

The owner emphasized a strategic focus on human–machine collaboration instead of complete staff replacement. Automated systems were assigned procedural and repetitive tasks, such as order taking and billing, enabling staff to concentrate on high-touch, relational aspects of service: "The robot brings the food, but it's our people who bring the warmth. Guests still need to feel cared for." This reflects findings that IA reshapes the division of labor, with machines delivering efficiency and humans ensuring personalization and emotional connection (Li et al., 2025). In addition to operational efficiency, the owner observed that customers were highly curious and

amused by the robot, often interacting with it playfully. This novelty created memorable experiences (Zhu, 2022) and contributed to a distinctive, tech-forward brand image: "Some guests even film the robot or ask for selfies with it - it becomes part of the dining experience."

4.1.3. Strategic Repositioning of Labor

Automation led to a redefinition of roles. Existing staff were upskilled and repositioned as "guest experience agents" or "system overseers." The owner noted: "We didn't fire anyone — we changed what their job meant. Now, they monitor [sic] the tech and make sure the service feels human". He also referred to training employees on artificial intelligence in the workplace: "The automation system occasionally required manual overrides or technical maintenance, and staff had to learn to monitor, support, and troubleshoot the technology". This resonates with research noting that automation not only redistributes tasks but also requires staff training and hybrid role development to manage both service and technology (Tuomi et al., 2021). While some studies emphasize fears of job loss (Tussyadiah, 2020), the owner's perspective highlights a more constructive integration where staff retain employment but evolve into tech-fluent hospitality roles.

4.2. Results of the Netnography

The netnographic analysis revealed three main themes: (a) technological novelty and entertainment, (b) service efficiency and technical limitations, and (c) emotional disconnect and techno-skepticism. Out of the 21 reviews, 11 expressed positive attitudes, 6 were negative, and 4 were ambivalent. Customers valued robots as amusing novelties, yet some criticized delays, inefficiency, or the lack of human warmth (see Table 2).

Table 2. Coding Summary for the Netnographic Analysis

Theme	Representative Open Codes	Illustrative Quote	Source
Technological Novelty and Entertainment	novelty; fun experience	"The robot waiters are a brilliant touch."	Facebook, Lee Maggs, Aug 7, 2024
		"Absolutely loved the robot, bringing drinks and food to table."	Facebook, Arthur Davies, Jun 26, 2024
		"Highlight is the robot waiter … great touch."	TripAdvisor, Sep 2024
		"He [the robot] does get a bit lost most of the time—bit funny."	Google, AntiMagicDragon, ca. Nov 2024
Service Efficiency and Limitations	efficiency; frustration	"The delight of the service are the very polite and friendly waiters and their robots that bring the food and drinks to the tables."	Google, Andreea T., ca. May 2025
		"The robot… is the slowest, most pointless thing I've ever seen."	TripAdvisor, Oct 2024
		"We had to wait 45 minutes for our mains … Perhaps the delivery robot's fault!"	TripAdvisor, Mar 2025
		"The robot, whilst amusing once, is a bit of an unnecessary gimmick."	TripAdvisor, Nov 2024

Theme	Representative Open Codes	Illustrative Quote	Source
Emotional Disconnect and Techno-Skepticism	impersonal service	"Personally, I don't like the service/waitress robot. In my opinion, it feels impersonal and a bit out of place in a nice restaurant like this."	Google, Lotte Corijn, ca. Mar 2025
		"Just the fact they substitute the People for robots—I will never be there! … I like traditional service with empathetic people, not ROBOTS!"	Facebook, Miguel Martins, Nov 2024
	warmth attribution (inverse case)	"The staff weren't very friendly or welcoming. The robot waiters were more friendly."	Google, Jonny Smith, ca. May 2025

Source: Own research

4.2.1. Technological Novelty and Entertainment

Many reviewers perceived the robot waiters as an appealing and innovative feature that enhanced the dining experience. Comments frequently described the robots as a "great touch" or a "brilliant touch" (TripAdvisor, Sep 2024; Facebook, August 7, 2024), indicating their function as a novelty that added value to the customer experience. This finding aligns with Batat's (2021) study. One Google user highlighted the entertainment value by stating, "He [the robot] does get a bit lost most of the time—bit funny," illustrating how malfunctions were sometimes interpreted playfully (Google, AntiMagicDragon, Nov 2024).

The robots were often seen as initial attractions that differentiated the restaurant from others. A TripAdvisor reviewer noted, "They were the initial draw but the food and service eclipsed the robots very quickly," indicating that while the technology attracted attention, traditional service components still defined satisfaction (TripAdvisor, Jul 2024), which confirms earlier arguments that while technological innovation attracts attention, traditional hospitality factors such as taste and relational service ultimately drive overall evaluations (Tan & Netessine, 2020).

4.2.2.Service Efficiency and Limitations

A second theme focused on the functional dimension of robotic service. Some customers appreciated the integration of robots in improving logistics and speed of delivery. For instance, one Google reviewer emphasized, "The delight of the service are the very polite and friendly waiters and their robots that bring the food and drinks to the tables" (Google, Andreea T., May 2025). Similarly, TripAdvisor users described the service as "different" and "efficient," praising how robots were seamlessly integrated into the dining routine (TripAdvisor, Aug 2024). This corresponds with literature that describes robots and IA tools as "helpers" reducing workload and enhancing logistical flow during peak hours (Harpanahalli et al., 2020; Tuomi et al., 2020). However, not all experiences with robots were positive in this regard. Several reviewers criticized the slow pace and limited responsiveness of robot waiters. One noted, "The robot… is the slowest most pointless thing I've ever seen," expressing frustration with the robot's inefficiency (TripAdvisor, Oct 2024). Another reviewer blamed delayed and incorrect orders on the delivery robot: "We had to wait 45 minutes for our mains… perhaps the delivery robot's fault!" (TripAdvisor, Mar 2025). These reviews underscore the gap between technological promise and operational reliability and also confirm that while robots can contribute to efficiency, their limitations often highlight the continued importance of human adaptability and oversight (Blöcher & Alt, 2021; Joo et al., 2023).

4.2.3. Emotional Disconnect and Techno-Skepticism

The third theme identified was a concern over the loss of human interaction and a perceived lack of emotional connection. A Google reviewer remarked, "Personally I don't like the service/waitress robot. In my opinion, it feels impersonal and a bit out of place in a nice restaurant like this" (Google, Lotte Corijn, Mar 2025). This sentiment was echoed by others who valued the emotional warmth typically associated with hospitality. On Facebook, critiques took a more ideological turn, raising concerns about automation and job displacement. One user wrote, "Just the fact they substitute the People for robots—I will never be there! That scares me… I like traditional service with empathetic people, not ROBOTS!" (Facebook, Miguel Martins, Nov 2024). Such perspectives echo broader debates about the cultural and ethical implications of automation, particularly the tension between efficiency-driven innovation and the preservation of empathy, authenticity, and meaningful human work (Li et al., 2025; Tuomi et al., 2020; Wirtz et al., 2018).

5. CONCLUSION

This study provides a nuanced understanding of how intelligent automation (IA) and artificial intelligence (AI) are reshaping restaurant work, combining both the lived experience of a restaurant owner and the perceptions of customers expressed in online reviews. By integrating these perspectives, the study addresses a significant gap in the literature, which has often emphasized customers or employees through large-scale quantitative approaches (Li et al., 2025; Yoon, 2023) while overlooking the strategic voice of owners (Blöcher & Alt, 2021; Tuomi et al., 2021). The owner's account illustrates that automation was primarily implemented as a response to labor shortages and rising costs, reflecting broader industry trends (Tan & Netessine, 2020; Yoon, 2023). However, instead of replacing staff, the technology was integrated in a hybrid way: machines were assigned repetitive, procedural tasks, while human employees focused on relational and supervisory responsibilities. This transition from substitution to collaboration (Tuomi et al., 2020) shows how owners act as strategic integrators, balancing efficiency with the preservation of hospitality's emotional essence. Employee roles were redefined as "guest experience agents" or "system overseers," underlining the principle of decent work through automation. At the same time, the owner recognized automation as a branding asset but remained cautious about excessive reliance on robots that might undermine authenticity.

Findings from the reviews mirror the owner's account: robots were perceived as attractive and entertaining, yet their limited performance and lack of empathy often generated frustration. This reflects prior studies emphasizing that while novelty and innovation can differentiate restaurants and create memorable experiences (Batat, 2021; Romano et al., 2020; Zhu, 2022), such effects are short-lived if food quality or emotional service is compromised (Tan & Netessine, 2020; Yoon, 2023). The mixed reactions also reinforce arguments for hybrid service models, where robots handle routine logistics and humans deliver warmth and personalization (Chi et al., 2023; Li et al., 2025; Tuomi et al., 2020). Netnographic evidence complements the owner's narrative by highlighting a balance of curiosity and criticism: customers enjoy the novelty but express techno-skeptic concerns when efficiency falters or human empathy seems displaced. This confirms earlier findings that automation is best received when it enhances rather than replaces human labor (Blöcher & Alt, 2021; Tussyadiah, 2020; Wirtz et al., 2018). From a managerial standpoint, this underlines the owner's role not only as a technology adopter but also as a mediator of change—aligning operational efficiency with employee well-being, customer trust, and brand authenticity (Ivanov & Webster, 2019; Joo et al., 2023). Theoretically, this study makes an original methodological contribution by combining Grounded Theory with netnography to examine intelligent automation simultaneously from the owner's strategic

perspective and the customer's experiential perspective—a dual-lens design that remains rare in the hospitality technology literature, which has tended to study these actors separately and predominantly through quantitative methods (Blöcher & Alt, 2021; Tuomi et al., 2021; Yoon, 2023). Compared with prior work, which has typically examined either owner-level strategic decisions or customer-level acceptance in isolation, this study is among the first to analyze both simultaneously within a single hospitality setting, offering an integrated account of how automation is enacted and experienced across both sides of the service encounter. This triangulated design extends established models of technology adoption, such as the Technology Acceptance Model (Davis, 1989) and the Service Robot Acceptance Model (Wirtz et al., 2018), which explain adoption primarily through rational, individual-level constructs such as perceived usefulness and ease of use. By situating customer techno-skepticism and owner decision-making within the broader, threefold tension between novelty, efficiency, and emotional authenticity, the findings suggest that acceptance of automation in hospitality settings is also shaped by relational and affective factors—such as perceived warmth and authenticity—that are not fully captured by existing acceptance models (Li et al., 2025; Tuomi et al., 2021). Practically, the results suggest positioning automation as an enabler rather than a disruptor. Clear communication that robots support staff, investment in training for hybrid roles, and systematic monitoring of customer feedback through social media can foster stronger acceptance. Emotional authenticity remains the cornerstone of hospitality and should guide technological integration (Batat, 2021; Tussyadiah, 2020).

By combining interview data with netnographic insights, the study achieves methodological triangulation. This dual perspective shows that while robots can enrich dining through novelty and efficiency, emotional authenticity remains the cornerstone of hospitality. While the study draws on a single-owner case, the addition of netnographic data enhances its contextual depth. Nevertheless, the findings are not intended as broad generalizations. Accordingly, the study is best understood as an exploratory, single-case investigation rather than a fully saturated Grounded Theory account, and its contribution lies in generating context-specific insight rather than in producing generalizable theory. It is also worth noting that the restaurant is located in Tenerife, Spain, a Mediterranean, tourism-driven market with a longstanding tradition of personalized, relationship-based hospitality service; owner and customer attitudes toward automation observed here may not directly generalize to markets with different service cultures or a lower reliance on tourism. Future research should build on this foundation by conducting comparative case studies or cross-cultural analyses, exploring how different ownership types and cultural contexts influence the adoption and adaptation of automation.

In conclusion, intelligent automation in restaurants offers more than cost reduction or labor substitution: it represents a strategic tool for shaping customer experiences, empowering employees, and redefining brand identity. The challenge for owners is to reconcile technological efficiency with the human essence of hospitality, ensuring that innovation supports, rather than undermines, the values that define the dining experience.

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