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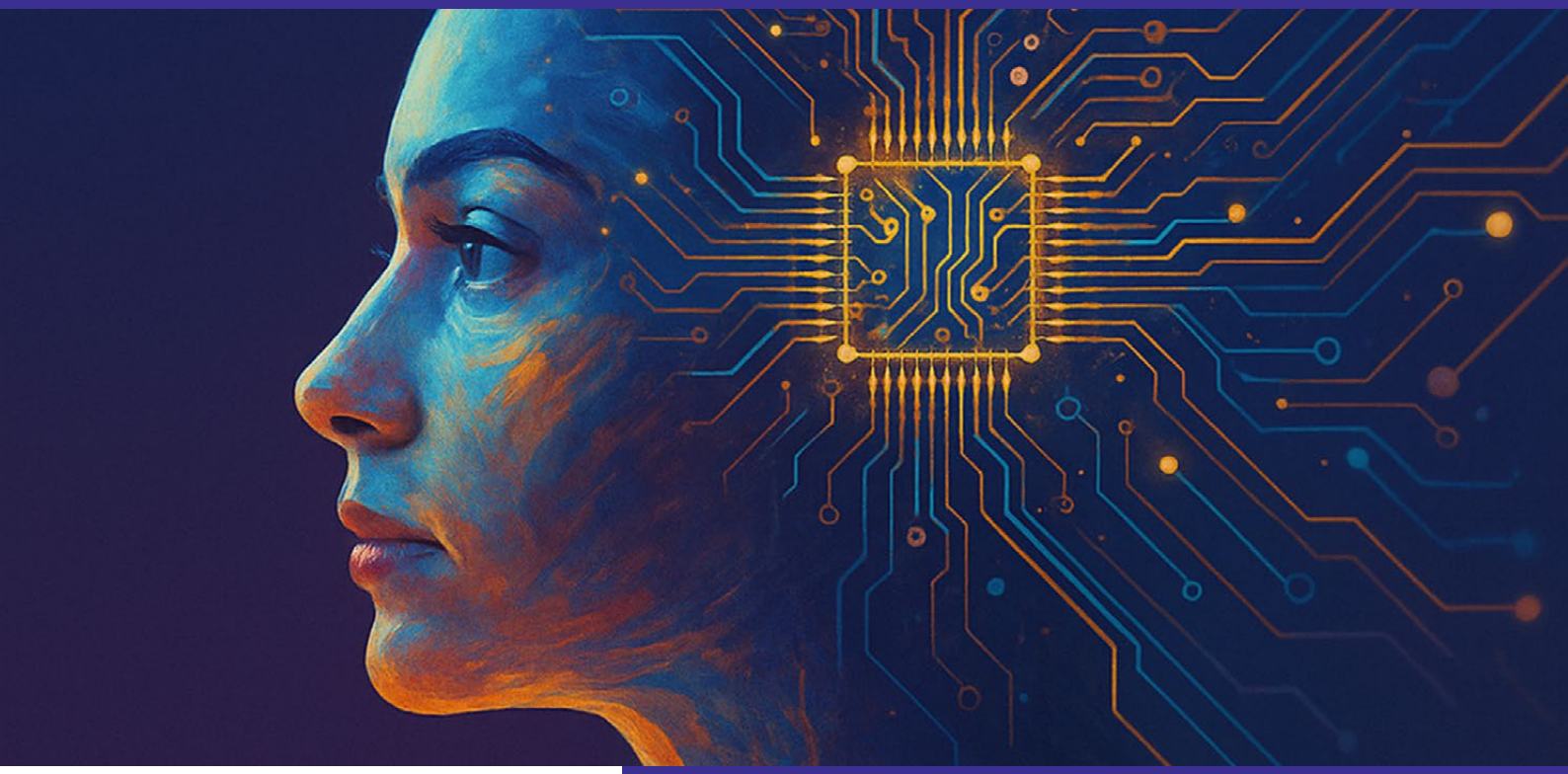

LIGHTS - Technology

From passive tech adoption to value-driven innovation: How inclusive AI robots empower people and drive results in hospitality

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Abstract

In the hospitality industry, the inclusion of workers with disabilities remains very restricted, despite growing awareness. This paper first discusses the challenges disabled individuals may face in hospitality. Next, evidence is presented on how a new generation of AI service robots can enable people with mobility impairments to participate meaningfully in customer-facing roles. In a series of experimental studies, we explored how AI service robots, remotely operated by employees with mobility impairments, can not only create meaningful employment opportunities but also improve key customer outcomes. When customers learned that their interaction supported workplace inclusion, they tipped more, reported stronger purchase intent, and showed greater willingness to pay premium prices. For managers and business leaders, the message is clear: inclusive AI goes beyond automation, it's a chance to align social impact with commercial performance.

Keywords: artificial intelligence, hospitality industry, social inclusion, inclusive technology, ethical innovation

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The human cost of inaccessible hospitality

The hospitality sector has long struggled with accessibility. Although many companies have adopted diversity charters, the actual inclusion of people with disabilities in service roles remains rare. According to the World Economic Forum (2023), only about half of businesses actively engage in disability inclusion. Disability inclusion, or lack thereof, can affect disabled customers. For instance, research suggests that facility design and unfulfillment of special needs requests may often not be adequate to accommodate the needs of disabled guests (Ee Kim and Lehto, 2012). Moreover, besides customers, disabled employees may also be disadvantaged. For people with mobility impairments, physical access barriers and bias in hiring practices often mean exclusion from public-facing jobs in hotels, restaurants, and cafés (Boxall et al., 2018).

Meanwhile, there has been an increase in the integration of AI and robot technologies in the hospitality sector. For example, the integration of AI service robots can create new environments that offer new stimuli to customers, improved efficacy during bookings, while positively affecting customer engagement (Akdim et al. 2023; Yin et al., 2023). Indeed, collaborative efforts that combine the strengths of both the technology and humans offer real promise (Huang and Rust, 2022).

Such a collaborative and pioneering example comes from the Dawn Avatar Café in Tokyo, where AI service robots are remotely operated by individuals with severe physical disabilities. These robots serve customers, take orders, and navigate space under the control of workers who might otherwise be excluded from employment. This isn't remote work—it is remote embodiment. Specifically, disabled workers control the AI service robot from their home and thus have the opportunity to actively participate in the workplace from a distance. This means that assistive technologies have the potential to shift the narrative from "technology replaces people" to "technology enables people" (Forbes, 2022).

This concept, referred to in the research as "immersive augmentation," leverages X reality (XR) and AI service robots to give disabled employees a presence in the hospitality environment (Rauschnabel et al., 2022). Rauschnabel et al. (2022) suggest redefining XR, where "X" represents various forms of reality-altering technologies. This redefinition emphasizes the continuum of experiences from the physical to the virtual. At first sight, traditional AI service robots (those that operate autonomously) may worsen disability inclusion, excluding more people from the workplace. However, through immersive augmentation, in our work, AI service robots represent the "X". As such, these robots offer the disabled employee a "body" to actively participate in a hospitality setting. In our study, we wanted to find out whether customers would see inclusive AI service robots (compared to traditional AI service robots) as more ethical, and if that perception would lead them to respond more generously and positively during their experience.

What we observed in real conditions

Across three studies we surveyed a total of 393 coffee shop and restaurant customers. The participants represented a balanced sample in terms of gender and an average age in the low 40s. We presented participants with scenarios set in restaurants and cafés, where they were served by an AI robot. In some versions, the robot was described as fully autonomous.

In others, it was framed as a device operated remotely by a person with a disability. As evidenced by our statistical analysis (t-tests, mediation and moderation tests), this seemingly small narrative detail had a clear impact on customer response.

In the restaurant setting, participants tipped significantly more—16.2% compared to 6.5%—when they knew the robot was a conduit for a disabled employee. This substantial increment in tips has a direct impact on the economic well-being of the disabled employee, thus further enhancing the social value of this initiative. They also rated the company significantly higher in ethical standing, with no drop in perceived competence (Pinto et al., 2019).

In the café setting, participants showed increased willingness to try the product and to pay a higher price when the service was framed as inclusive. Again, perceptions of ethics drove this effect: people were responding not only to the coffee, but to the company's decision to create meaningful employment opportunities through technology.

The third study explored whether the customer's familiarity with AI would affect their response. It found that individuals with less exposure to AI responded more strongly to the inclusive framing. The observed pattern may be due to the novelty effect when customers interact with inclusive AI service robots. However, even among those who regularly interacted with AI technologies, the inclusive robot still boosted ethical perceptions and supportive behaviors, though to a slightly lesser degree (Gonzalez-Jimenez and Costa Pinto, 2024).

These findings suggest that customers reward businesses that use technology not only to optimise operations, but also to uphold and embody ethical values. They respond to stories of inclusion with higher engagement, greater generosity, and a deeper connection to the brand.

Why this matters for business leaders

The findings from this research offer practical and strategic insights for decision-makers in hospitality and service-oriented industries.

1. Ethical innovation through assistive technologies can translate into immediate, measurable gains. A doubling in tip value, as observed in the restaurant scenario, signals a shift in how customers evaluate service quality when it is tied to a visible social commitment, thus also directly benefiting the disabled employee. Moreover, such an innovative service experience seems to motivate customers to pay a premium, while increasing consumption of the offered products and services.
2. The results suggest that *framing* matters. It is not enough to deploy new technologies; how those technologies are explained and perceived influences consumer behavior. Highlighting that a robot is an extension of a disabled employee's agency and effort changes the entire customer experience. It makes service feel *human*, even if delivered through a machine. As such, by fostering collaboration between humans and technology, rather than replacement, companies can leverage the efficiency perceptions of such technologies as well as the human touch provided by the employee. This represents the "best" of both worlds.
3. Competence and inclusion are not at odds. Across all experiments, participants did not view inclusive robots and employees operating them as less capable. On the contrary, they saw the companies deploying the technology to foster inclusion as

more innovative and socially responsible. This is critical for businesses that worry inclusion may compromise efficiency or guest satisfaction.

4. These effects hold across different customer segments. While familiarity with AI reduces the intensity of the response, it does not eliminate it. In other words, the positive effects of inclusive AI service robots on supportive consumer behaviors (e.g., tipping) remain for customers that are both more or less familiar with AI. This promising result opens the door for inclusive AI strategies to be implemented in diverse market contexts and geographies.

In sum, inclusive AI can serve not only as a technological investment, but also as a signal of brand values. When introduced with clarity and purpose, it strengthens a company's ethical identity in the eyes of its customers.

From concept to competitive edge

For hospitality businesses, this research provides a blueprint for ethical transformation. Despite the sometimes warranted criticism of including technology in the workplace, especially when it comes to potential job replacement, inclusive AI allows companies to move beyond efficiency narratives and toward stories of empowerment, contribution, and shared value creation. Indeed, such innovation is not without challenges. For instance, the integration of inclusive AI service robots requires additional training and technological support for the disabled person. Moreover, small businesses may struggle financially to cover the initial investment required to implement such a business model.

Nevertheless, as consumers become increasingly attuned to the social and ethical dimensions of business, companies that integrate inclusive technologies stand to benefit both reputationally and financially. They tap into an emerging expectation: that technology should serve not only operational goals but human well-being. Fundamentally, human-centric technology integration gains prominence and importance.

It presents a success story that AI can serve to expand the workforce, creating opportunities for those who have historically been excluded, and designing customer experiences that reflect a company's deeper values. Inclusive AI is already here—and those who act early will shape not only their competitive position, but the future culture of service.

References

Boxall, K., Nyanjom, J., & Slaven, J. (2018), Disability, hospitality and the new sharing economy, *International Journal of Contemporary Hospitality Management*, Vol. 30 No. 1, pp. 539-556.

Yokoi Tomoko (2022), Robots and machines making work inclusive, *Forbes*, at: www.forbes.com/sites/tomokoyokoi/2022/07/30/some-machines-are-making-work-more-accessible/

Horowitz, M.C., Kahn, L., Macdonald, J. and Schneider, J. (2023), Adopting AI: how familiarity breeds both trust and contempt, *AI and Society*, pp. 1-15, doi: 10.1007/s00146-023-01666-5.

Pinto, D.C., Herter, M.M., Gonçalves, D. and Sayin, E. (2019), Can luxury brands be ethical? Reducing the sophistication liability of luxury brands, *Journal of Cleaner Production, Vol. 233, pp. 1366-1376.*

Rauschnabel, P.A. Felix, R., Hinsch, C., Shahab, H. and Alt, F. (2022),What is XR? Towards a framework for augmented and virtual reality, *Computers in Human Behavior*, Vol. 133, p. 107289.

World Economic Forum (2023), "The Future of Jobs Report", available at: www3.weforum.org/docs/WEF_Future_of_Jobs_2023.pdf

Gonzalez-Jimenez, H. and Costa Pinto, D. (2024). Can AI robots foster social inclusion? Exploring the role of immersive augmentation in hospitality, *International Journal of Contemporary Hospitality Management*, Vol. *36*, No. 11, pp. 3889-3905.

Ee Kim, S. and Lehto, X. Y. (2012). The voice of tourists with mobility disabilities: insights from online customer complaint websites, *International journal of contemporary hospitality management*, Vol. *24* No. 3, pp. 451-476.

Akdim, K., Belanche, D. and Flavián, M. (2023). Attitudes toward service robots: analyses of explicit and implicit attitudes based on anthropomorphism and construal level theory, *International Journal of Contemporary Hospitality Management*, Vol. *35*, No. 8, pp. 2816-2837.

Yin, D., Li, M. and Qiu, H. (2023) Do customers exhibit engagement behaviors in AI environments? The role of psychological benefits and technology readiness, *Tourism Management*, Vol. *97*, 104745.

Huang, M. H., and Rust, R. T. (2022). A framework for collaborative artificial intelligence in marketing, *Journal of Retailing*, Vol. *98*, No. 2, pp. 209-223.