

# Guest editorial: Service transformation: key forces, challenges and implications

561

Transformative changes in society and service contexts call for dedicated investigation to set future research priorities and provide guidelines for practice (Ostrom *et al.*, 2021). The world is experiencing significant changes (McColl-Kennedy *et al.*, 2023; Ostrom *et al.*, 2021), from global pandemics, climate change, multiple wars, the widespread pervasiveness of digital technologies, especially artificial intelligence (AI), the increased need for cybersecurity and AI ethics (Breidbach and Maglio, 2020), concerns for sustainable ecosystems (Finsterwalder *et al.*, 2024) and the circular economy (CE) (Gain *et al.*, 2026a), and increased customer proactivity. These changes are impacting how service is designed and delivered. Yet, we still know relatively little about the key forces, challenges and implications of these service transformations.

This Special Issue seeks to address these critical areas. First, AI is impacting many aspects of service. Generative AI (GenAI), with its ability to generate text, images, videos, or other data using Large Language Models (LLMs) developed typically in response to word prompts or instructions initially posed by humans, especially impacts service ecosystems. GenAI models learn patterns and structure of the training data from which they can generate new data and provide recommendations. Advances in Natural Language Processing and Deep Learning in particular, are changing service research and practice, providing businesses with more methods and techniques to analyze and generate data in innovative ways, particularly unstructured textual data (McColl-Kennedy *et al.*, 2024). These methods enable fine-grained sophisticated data interpretation, allowing for deeper insights and more personalized customer interactions, ultimately driving significant improvements in employee productivity, business operations and strategic decision-making. LLMs offer significant opportunities as they work on very large, disparate, previously unwieldy data sets to provide recommendations to a business (McColl-Kennedy *et al.*, 2019). But do they always work in the customer's best interest?

Digital responsibility is gaining importance in service (Breidbach, 2024; Wirtz *et al.*, 2023). While we have seen for some time AI agents acting on behalf of organizations, more recently, attention is being given to addressing consumer vulnerabilities (Field *et al.*, 2021) and how digital technologies could assist (Jha *et al.*, 2026). Further, it has even been proposed that AI could or will attain consciousness (Francken *et al.*, 2022), which may further benefit consumers. Notwithstanding the potential benefits, researchers and practitioners need to exercise caution to ensure AI follows accepted customer service practices, balancing transparency and strategic interests (Snyder *et al.*, 2022). Hence, it is important to (1) deeply understand the roles human actors (customers and service providers) and AI actors play and should play in service ecosystems in an increasingly digitalized world; and (2) put in place frameworks, guidelines and guardrails, taking a "digitaltech-humanness approach" (McColl-Kennedy *et al.*, 2023) in order to build resilience in service ecosystems (Field *et al.*, 2021).

The first of the seven articles, "*Digital twins: a game changer in customer experience*" by McColl-Kennedy *et al.* (2026), introduces digital twins to the services and customer experience (CX) literature to address complex challenges in CX management. Unlike traditional approaches, which rely on customers or frontline service providers identifying a problem *after* the event, a CX digital twin integrates real-time data streams with simulation capabilities to anticipate emerging issues and dynamically test potential intervention strategies. Drawing on insights from engineering, manufacturing, information systems and computer science literature, this article positions CX digital twins as a transformative



proactive approach, recasting CX management to a focus on predicting and intervening in contrast to attempting to address problems only after customers report them. The article provides a five-step actionable roadmap (AAICE) – Assessing, Analyzing, Identifying, Co-designing and Evaluating – designed to enable organizations to implement CX digital twins, and concludes with five avenues for future research.

The second article co-authored by [Breibach et al. \(2026\)](#) “*Conscious artificial intelligence in service*” seeks to identify, analyze and explain the implications that could arise for service settings if AI systems develop, or are perceived to develop, consciousness. AI consciousness is the ability to acknowledge its own existence and the capacity for positive or negative experiences. The article proposes and explores four hypothetical scenarios in which conscious AI in service could manifest in the health service context. The authors integrate extant literature on technology-enabled service, AI consciousness and AI ethics into the narrative. This is designed to enable future service researchers to apprehend, explain and predict how functionally conscious AI in service could unfold and provide practical implications, stressing the ethical use of conscious AI as a distinct competitive advantage in the future. Achieving this necessitates training, guiding and controlling how humans engage with such systems; developing appropriate wellbeing protocols for functionally conscious AI systems and establishing AI rights and governance frameworks.

The third article, “*Artificial intelligence and work design: implications for frontline service employees and future research*” by [Jooss et al. \(2026\)](#), examines the impact of AI on the work characteristics of frontline service employees and implications for their roles and future research. Grounded in socio-technical systems theory, this article uses a five-pronged conceptualization of AI in conjunction with the Stimulating, Mastery, Autonomous, Relational, Tolerable (SMART) Work Design Model to examine the impact of AI on work characteristics. Evidence is provided from five service sectors: education, finance, healthcare, hospitality and retail, revealing context-dependent and technology-specific effects. The authors argue that organizations can optimize service work through top-down redesign and bottom-up crafting, jointly optimizing AI’s characteristics and SMART work characteristics to improve both employee well-being and organizational performance. A conceptual model of a socio-technical AI–work design system is presented, illustrating a dynamic co-design process in which AI and work characteristics shape one another.

The fourth article by [Snyder et al. \(2026\)](#) “*Balancing truth and lies: ethical management of AI in service encounters*” drills down on key ethical issues in the management of AI as a frontline service technology in service encounters. It examines the phenomenon of lying by proxy, in which AI, under human direction, may distort the truth to varying degrees, from white lies to significant fabrications. The article reviews existing literature on deceptive behaviors in service encounters, exploring AI’s potential as both a substitute for and complement to frontline employees. Illustrative mini cases are provided to demonstrate how the proposed conceptual framework applies to real-world contexts. A framework is offered to guide organizations in the ethical use of AI within service encounters. The importance of aligning AI applications with ethical standards to preserve trust and legal compliance while highlighting AI’s potential to enhance the customer experience without breaching ethical limits is highlighted and a research agenda is offered to guide future studies.

“*Cyber-attackers as a social force: conceptualizing value sabotage in cybersecurity services*” co-authored by [Bongiovanni et al. \(2026\)](#), continues the “dark side” theme, examining the role of cyber-attackers as a critical social force within the cybersecurity service ecosystem. Building on service-dominant logic and ecosystem theory, a conceptual framework is proposed, integrating attackers into the traditional service triad, reframing them as attackers who influence value co-creation and service dynamics within the cybersecurity industry. Cyber-attackers are viewed as agents of “value sabotage,” a novel concept that captures how threat actors reshape service dynamics. Findings reveal attackers as adversarial social forces driving innovation and adaptation in the CSaaS ecosystem. Analysis of motivations and strategies reveals how their actions compel organizations and service

providers to prioritize resilience and defensive value co-creation. In turn, attackers' actions "sabotage" the value co-creation process. Framing attackers as malicious orchestrators of disruption, this article offers a new lens to understand how threat actors shape service design, resilience and co-creation strategies in digitally mediated service environments.

The sixth article, "*Navigating circular economy adoption: a service ecosystem perspective*" by Gain *et al.* (2026b) continues the ecosystem perspective to examine the important service ecosystem of the CE, providing a novel conceptual framework to explain the processes facilitating a system-wide transition towards the CE. The framework aims to provide CE scholars, practitioners and policymakers with a deeper understanding of how to navigate the complex government-led initiatives aiming to facilitate a large-scale transition from a linear to a CE. The framework is illustrated using the example of Australian government initiatives aimed at reducing food waste. The Circular Service Ecosystem (CSE) Adoption framework and illustrative case identify the key processes that facilitate CE adoption. In particular, the framework shows how CSEs evolve through dynamic states (from reproducing a linear economy paradigm to transitioning to a CE paradigm). CSE adoption is facilitated by mobilizing driving processes of evolution towards CSE and managing its inhibitors.

The final article in this Special Issue, "*University-industry collaboration for AI-driven service innovation*" by Kris *et al.* (2026), demonstrates the importance of universities and industry working together to deploy AI-driven service innovations. Service innovation is undergoing a fundamental transformation due to digitization, sustainability imperatives, platformization and particularly the rapid diffusion of AI. Thus, AI-driven service innovation requires specialized and domain-specific expertise, which can be derived from university– industry collaboration (UIC) contexts. Using a qualitative, illustrative case study research design featuring expert interviews and secondary data sources, data were analyzed using interpretive thematic analysis and augmented with deductive insights from the literature. Drawing on service-dominant logic and service ecosystems literature, a framework designed to enhance the success of UIC for AI-driven service innovation is proposed. The framework incorporates mechanisms for thriving partnerships and defines how AI-driven stakeholder value can be enhanced. The framework identified key enablers, processes/practices and outcomes/benefits of UIC for AI-driven service innovation and offers a future research agenda.

The Guest Editors wish to thank all 43 authors from ten different countries (Australia, Belgium, Chile, Germany, New Zealand, Norway, Singapore, Sweden, the United Kingdom and the USA) for their insightful contributions and their diligent revisions to the articles in this special issue. Thanks also go to the reviewers for their helpful suggestions designed to improve the manuscripts. Thanks go to Professor Jay Kandampully, the previous Editor of the *Journal of Service Management* and the current Co-Editors-in-Chief Professor Sertan Kabadayi and Professor Linda Alkire for their advice and encouragement. Finally, thanks to Dr Fiona Willer, who assisted us with the organization of events and to the Service Innovation Alliance Research Hub, at the Business School, The University of Queensland, for providing funding to assist this international initiative.

**Janet McColl-Kennedy**

*UQ Business School, The University of Queensland, Brisbane, Australia*

**Jochen Wirtz**

*National University of Singapore, Singapore, Singapore, and*

**Christoph Breidbach**

*UQ Business School, The University of Queensland, Brisbane, Australia*

**References**

- Bongiovanni, I., Goyeneche, D., Tsen, E., Christopher James, E., Singh, P. and Ko, R. (2026), "Cyber-attackers as a social force: conceptualizing value sabotage in cybersecurity services", *Journal of Service Management*, Vol. 37 No. 4, pp. 664-695, doi: [10.1108/JOSM-12-2024-0537](https://doi.org/10.1108/JOSM-12-2024-0537).
- Breidbach, C.F. (2024), "Responsible algorithmic decision-making", *Organizational Dynamics*, Vol. 53 No. 2, 101031, doi: [10.1016/j.orgdyn.2024.101031](https://doi.org/10.1016/j.orgdyn.2024.101031).
- Breidbach, C.F. and Maglio, P.P. (2020), "Accountable algorithms: the ethical implications of data-driven business models", *Journal of Service Management*, Vol. 31 No. 2, pp. 163-185, doi: [10.1108/josm-03-2019-0073](https://doi.org/10.1108/josm-03-2019-0073).
- Breidbach, C.F., Casper Ferm, L.E., Maglio, P.P., Beverungen, D., Wirtz, J. and Twigg, A. (2026), "Conscious artificial intelligence in service", *Journal of Service Management*, Vol. 37 No. 4, pp. 597-621, doi [10.1108/JOSM-12-2024-0536](https://doi.org/10.1108/JOSM-12-2024-0536).
- Field, J.M., Fotheringham, D., Subramony, M., Gustafsson, A., Ostrom, A.L., Lemon, K.N., Huang, M.-H. and McColl-Kennedy, J.R. (2021), "Service research priorities: designing sustainable service ecosystems", *Journal of Service Research*, Vol. 24 No. 4, pp. 462-479, doi: [10.1177/10946705211031302](https://doi.org/10.1177/10946705211031302).
- Finsterwalder, J., Anderson, L., Corus, C., Giraldo, M., Kabadayi, S., McColl-Kennedy, J., Mende, M., Mick, D.G., Ostrom, A., Rosenbaum, M. and Russell-Bennett, R. (2024), "Novel perspectives on transformative service research", *Journal of Service Management Research*, Vol. 8 No. 2, pp. 52-73, doi: [10.5771/2511-8676-2024-2-52](https://doi.org/10.5771/2511-8676-2024-2-52), available at: <https://research.ebsco.com/c/nsk4sj/search/details/xfb7fb5zc5?db=bsu>
- Francken, J.C., Beerendonk, L., Molenaar, D., Fahrenfort, J.J., Kiverstein, J.D., Seth, A.K. and Van Gaal, S. (2022), "An academic survey on theoretical foundations, common assumptions and the current state of consciousness science", *Neuroscience of Consciousness*, Vol. 22 No. 1, niac011, doi: [10.1093/nc/niac011](https://doi.org/10.1093/nc/niac011).
- Gain, A.M., McColl-Kennedy, J.R., Breidbach, C.F. and Willer, F. (2026a), "Orchestrating sustainable service ecosystems", *Journal of Service Research*, accepted in press 5 June.
- Gain, A.M., Brodie, R.J., Kemper, J.A., Gonzalez-Arcos, C., Tabilo, M. and Derbyshire, E. (2026b), "Navigating circular economy adoption: a service ecosystem perspective", *Journal of Service Management*, Vol. 37 No. 4, pp. 696-725, doi: [10.1108/JOSM-12-2024-0539](https://doi.org/10.1108/JOSM-12-2024-0539).
- Jha, G., Wright, J., Singhal, A., Zhang, Y., Burton, J. and McColl-Kennedy, J. (2026), "Addressing vulnerability in customer experience with AI-agents", *Journal of Service Management*, Vol. 37 No. 3, pp. 418-450, doi: [10.1108/JOSM-04-2025-0182](https://doi.org/10.1108/JOSM-04-2025-0182).
- Jooss, S., Solnet, D., Knight, C., Worsteling, A., Rinta-Kahila, T. and Hansen, A. (2026), "Artificial intelligence and work design: implications for frontline service employees and future research", *Journal of Service Management*, Vol. 37 No. 4, pp. 622-643, doi: [10.1108/JOSM-12-2024-0535](https://doi.org/10.1108/JOSM-12-2024-0535).
- Kris, A., Zhe, C., Hartley, N., Verreynne, M.-L., Indulska, M. and Vegh, V. (2026), "University-industry collaboration for AI-driven service innovation", *Journal of Service Management*, Vol. 37 No. 4, pp. 726-754, doi [10.1108/JOSM-12-2024-0545](https://doi.org/10.1108/JOSM-12-2024-0545).
- McColl-Kennedy, J.R., Zaki, M., Lemon, K.N., Urmetzer, F. and Neely, F. (2019), "Gaining customer experience insights that matter", *Journal of Service Research*, Vol. 22 No. 1, pp. 8-26, doi: [10.1177/1094670518812182](https://doi.org/10.1177/1094670518812182).
- McColl-Kennedy, J.R., Breidbach, C., Green, T., Zaki, M., Gain, A. and van Driel, M. (2023), "Cultivating sustainable service ecosystems in turbulent times: evidence from primary health care", *Journal of Services Marketing*, Vol. 37 No. 9, pp. 1167-1185, doi: [10.1108/JSM-03-2023-0100](https://doi.org/10.1108/JSM-03-2023-0100).
- McColl-Kennedy, J., Coote, L., Andrade, J., Culpepper, S., Dick, M., Lee, M., Pham, T.R., Septianto, F., Tarbit, J., Willer, F. and Witheriff, M. (2024), "AI enhancing consumers' food experience", in McColl-Kennedy, J. and Hine, D.C. (Eds), *Food AI: A Game Changer for Australia's Food and Beverage Sector*, pp. 57-68, available at: [https://faba.au/wp-content/uploads/2024/04/FINAL\\_Food-AI-Whitepaper-Manuscript.pdf](https://faba.au/wp-content/uploads/2024/04/FINAL_Food-AI-Whitepaper-Manuscript.pdf)

- 
- McColl-Kennedy, J.R., Zaki, M., Andreassen, T.W., Coote, L., Brea, E., Willer, F. and Andrade, J. (2026), "Digital twins: a game changer in customer experience", *Journal of Service Management*, Vol. 37 No. 4, pp. 566-596, doi: [10.1108/JOSM-12-2024-0540](https://doi.org/10.1108/JOSM-12-2024-0540).
- Ostrom, A.L., Field, J.M., Fotheringham, D., Subramony, M., Gustafsson, A., Lemon, K.N., Huang, M. and McColl-Kennedy, J.R. (2021), "Service research priorities: managing and delivering service in turbulent times", *Journal of Service Research*, Vol. 24 No. 3, pp. 329-353, doi: [10.1177/109467052111021915](https://doi.org/10.1177/109467052111021915).
- Snyder, H., Witell, L., Gustafsson, A. and McColl-Kennedy, J.R. (2022), "Consumer lying behavior in service encounters", *Journal of Business Research*, Vol. 141, pp. 755-769, doi: [10.1016/j.jbusres.2021.11.075](https://doi.org/10.1016/j.jbusres.2021.11.075).
- Snyder, H., Witell, L., van Riel, A.C.R., Magor, T., Lutze, S. and Bougoure, U.S. (2026), "Balancing truth and lies: ethical management of AI in service encounters", *Journal of Service Management*, Vol. 37 No. 4, pp. 644-663, doi [10.1108/JOSM-12-2024-0538](https://doi.org/10.1108/JOSM-12-2024-0538).
- Wirtz, J., Kunz, W.H., Hartley, N. and Tarbit, J. (2023), "Corporate digital responsibility in service firms and their ecosystems", *Journal of Service Research*, Vol. 26 No. 2, pp. 173-190, doi: [10.1177/10946705221130467](https://doi.org/10.1177/10946705221130467).