Artificial Intelligence in Financial Services Marketing

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Background

AI technologies have been incorporated into marketing where big data has been used to develop hyper-personalized profiles of customers (Payne, Peltier, and Barger, 2021), predicting consumer demand and creating targeted advertisements (Mogaji et al., 2020). In response, financial service providers are adopting AI to enhance their business operations (Arli et al., 2020). AI application in financial services includes chatbots and virtual assistants, underwriting and lending decisions, relationship manager augmentation, fraud detection, personalised banking, process automation, credit scoring and analytics (Riikkinen et al., 2018). The context of financial services is distinctive as solutions that use AI, big data analytics, and blockchain technologies. Their rapid implementation is occurring at an unprecedented rate, posing new theoretical and managerial challenges (Bussmann et al., 2019).

This special issue explored the intersect of AI and financial services marketing, recognising the adaptiveness of financial service providers amidst the vast available data, making it an imperative for these providers to better understand their customer needs, attitudes, and preferences, and use this information to develop relevant financial services to enhance service delivery. In addition, there are implications for policymakers and regulators, as financial services are a highly regulated sector, and technology's impact on both customers and services provider are essential. Further implications arise in relation to information acquisition and information analysis (Duan et al., 2019). Financial services providers are required to collect data to teach and operate their AI systems, consequently, enabling concerns around AI policies, governance, and control over the data. Consumers' ethical considerations are also important. Their concerns relate to ethical data collection, biases in algorithms and discrimination, (e.g., gender and race; Mogaji et al., 2021). As an imperative, financial services providers must be held accountable for their algorithms and AI-enabled technologies, regardless of their different data and ecosystem conventions (Buckley et al., 2021).

The Selected Papers

This special issue includes nine articles, and it is structured as follows (a) The intersect of AI and political ideology in financial services marketing (Riedel et al., 2022; Cui, 2022), (b) Financial robo-advisors (Bouhia et al., 2022; Northey et al., 2022), (c) Developing AI for financial services marketing in emerging countries (Ghazwani et al., 2022; Omoge et al., 2022; Mogaji et al., 2021; Sheth et al., 2022) and (d) new theoretical and empirical approaches (Hentzen et al., 2021). Papers in each theme are subsequently discussed. The remainder of the editorial discusses both the future of, and future research themes in relation to AI in financial services marketing.

The intersect of AI and political ideology in financial services marketing

The articles by Riedel et al (2022) and Cui (2022) are a pioneering effort in investigating the impact of political ideology as a moderator of consumers' responses to AI in financial services. The article titled *"Feeling the love? How consumer's political ideology shapes responses to AI financial service delivery"* (Riedel et al., 2022) reveals that conservative consumers are shown to perceive somewhat similar levels of affection in financial advice provided by AI and human employees. Alternatively, liberal consumers perceive significantly lower levels of affection when serviced by AI in comparison to conservatives and human employee financial advice. Specifically, affection and trust explain consumers' WOM

and brand attitudes when financial services are provided by AI and that the investment type also plays an important role in consumers' reactions to the use of AI.

The article titled *"Sophia Sophia tell me more, which is the most risk-free plan of all? AI anthropomorphism and risk aversion in financial decision-making"* (Cui, 2022) shows that AI-enabled chatbot anthropomorphization leads to lower risk preference for politically liberal consumers, but not for their conservative counterparts. Furthermore, documenting that, in a financial decision-making context, anthropomorphizing AI leads to significantly greater risk aversion in investment decision-making This occurs because AI-enabled chatbot anthropomorphization activates greater psychological risk attachment, which enacts consumers to manifest stronger risk aversion tendency.

Financial robo-advisors

When receiving AI-enabled financial advice, Bouhia et al (2022) highlight that privacy concerns are influenced primarily by creepiness, followed by perceived risk and the need for privacy. The last two relationships are moderated by gender. Conversely, familiarity with chatbots does not affect privacy concerns in this context.

Lastly, Northey et al (2022) examine how financial advice received from a human advisor (vs robo-advisor) influences investment intentions in a retail banking context. They find that consumers have more belief in financial advice provided by a human financial advisor (vs. robo-advisor) when the level of involvement is high and further identify customer belief in the information and the customer's perception of the bank's "customer focus" as the causal mechanisms that have downstream effects on investment intentions.

Developing AI for financial services marketing in emerging countries

Due to the limited research of retailers going cashier-less, little is known about consumer reactions and how they may differ culturally. Ghazwani et al (2022) explore the reactions of Saudi Arabian consumers toward cashier-less stores versus traditional stores and show that the effect of AI-enabled checkouts depends on consumers' convenience perception. High- convenience consumers prefer AI-enabled checkouts over traditional ones, whereas low-convenience consumers are indifferent. This occurs because high-convenience consumers experience greater financial anxiety when using AI-enabled checkouts, which in turn leads to higher purchase intent.

Next, Omoge et al (2022) examine the importance of culture in technology usage and acceptance, specifically in an emerging country. The results indicate that technology usage has positive and direct effects on service quality, customer satisfaction and consumer buying behavior, whilst service quality was indifferent on consumer buying behavior. Furthermore, the authors establish that technology downtime acts as a boundary condition on technology usage, consumer buying behavior and customer satisfaction in a Nigerian banking context.

Furthermore, Sheth et al (2022) explored AI-driven banking Services for a personalized experience in an emerging market, they emphasized the relevance of AI mediation in emerging markets. In addition, they reiterate the importance of human intervention in AI-driven banking by introducing personalized service experience elements and highlighting the role of customer experience in AI-driven banking services.

From a cross-cultural perspective, Mogaji et al (2021) identify that finance managers are aware of the prospects of AI and are making efforts to address AI as a business need but find that certain challenges exist when it comes to accelerating AI adoption. Moreover, they specifically call into question certain preconceptions regarding AI and its role in financial services, the chatbots adopted for financial service delivery and the role of marketing managers in developing AI.

New theoretical and empirical approaches

Finally, the lead paper of this special issue, Hentzen et al (2021) systematically synthesize the literature on the use of AI in customer-facing financial services and identify a split between data-driven and theory-driven research, the authors call for more research building overarching theories or extending existing theoretical perspectives, such as actor networks. Moreover, the authors argue for balance and suggest the need for more empirical research, especially focusing on consumers' financial behaviors as well as the role of regulation, ethics and policy concerned with AI in financial service contexts, such as insurance or pensions.

Another area that remains overlooked in this context relates to the explainability dimension of AI-enabled algorithms used in financial services. This is already a challenge that other fields are experiencing (e.g., healthcare), where actionable predictions derived from machine learning-based models need to be able to be explained more clearly to receive buy-in from stakeholders and to comply with regulations and ethical requirements (Kopitar et al., 2020). Financial services providers face similar regulatory and ethical accountability challenges, and therefore this aspect of financial services research needs further theoretical and empirical development. In particular, research on the use of AI-enabled systems to make the distinction between global (i.e., when across all predictions the algorithm owner can attribute which components contributed the most to a specific outcome) and local explainability (i.e., for a particular subject why the model made a specific decision). In terms of empirical approaches, relying on Big Data to further support existing theoretical approaches as well as to enable the development of new ones is also warranted.

The future of AI in financial services marketing

The scope of AI in financial services marketing that warrants future investigation certainly exceeds what could be captured in this special issue. Nonetheless, the collective curiosity of the contributing authors, informed by their recent research on AI in financial services marketing, has led us to offer a list of topics for future research, summarized below. To us, there is a slew of interesting research areas that remain unexplored within the important domain of AI in financial services marketing.

Future research themes on AI in financial services marketing

Ethical questions

- What constitutes ethical and socially responsible AI provision from a firms' or consumers' perspective?
- Related to third-party AI vendor management, what are the implications for consumers' financial data protection?
- How can AI be employed to improve individuals' financial capability or how does consumer (financial) literacy and information asymmetry affect the adoption of AI-augmented services?

Strategic questions

- Does an information source (human vs AI-enabled system) affect an individual's emotional responses in a finance context?
- How might financial institutions use geopolitical segmentation to tailor their service delivery?
- How can AI facilitate cross-country information/data exchange and management, enhance international financial fraud detection systems focusing on tax evasion or illegal offshore accounts or investigate whether AI can reduce financial cybercrime?

Application questions

- Will emerging economies adopt cashier-less stores and how will this impact consumers purchase decisions?
- To what extent will AI-enabled tools be used to measure consumers' responses to return on financial investments or other types of service outcomes such as perceptions of service failure or delight?
- Will AI augment/replace current insurance claim systems and processes or investigate the impact of data and open-source protocols on ecosystems?

General research questions

- To what extent does the role of gender play on AI-enabled technology acceptance and purchase intent in different cultural settings?
- How can AI-enabled machine learning algorithms be more transparent to customers and what are the implications of lack of explainability in different financial encounters?
- How might employee perspectives regarding the role of AI-enabled systems affect their work, their attitudes toward serving consumers utilizing their platforms and their perceptions and experiences regarding customer satisfaction and service quality in the context of disruptive technologies?
- Does anthropomorphizing AI-enabled chatbots in the context of financial decision-making involving risks result in greater risk aversion, as the focal risks involved appear to be more psychologically attached?

Thank you to our reviewers

Clearly, there are many areas worthy of investigation under the general dome of AI in financial services marketing. We believe this special issue provides an important push toward answering some of these open questions. However, this issue would not have been possible without the generous contributions of time and thought by the reviewers. To them, we extend our thanks for their vital contributions to the publication of this issue of the *International Journal of Bank Marketing*.

References

Arli, D., van Esch, P., Bakpayev, M., & Laurence, A. (2020), "Do consumers really trust cryptocurrencies?", *Marketing Intelligence & Planning*, *39*(1), 74-90.

Bouhia, M., Rajaobelina, L., PromTep, S., Arcand, M. and Ricard, L. (2022), "Drivers of privacy concerns when interacting with a chatbot in a customer service encounter", *International Journal of Bank Marketing*, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/IJBM-09-2021-0442

Buckley, R. P., Zetzsche, D. A., Arner, D. W., & Tang, B. W. (2021), "Regulating artificial intelligence in finance: Putting the human in the loop", *Sydney Law Review, The*, *43*(1), 43-81.

Bussmann, N., Giudici, P., Marinelli, D., & Papenbrock, J. (2020), "Explainable AI in fintech risk management", *Frontiers in Artificial Intelligence*, *3*, 26.

Cui, Y.(G). (2022), "Sophia Sophia tell me more, which is the most risk-free plan of all? AI anthropomorphism and risk aversion in financial decision-making", *International Journal of Bank Marketing*, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/IJBM-09-2021-0451

Duan, Y., Edwards, J. S., & Dwivedi, Y. K. (2019), "Artificial intelligence for decision making in the era of Big Data–evolution, challenges and research agenda", *International Journal of Information Management*, *48*, 63-71.

Ghazwani, S., van Esch, P., Cui, Y.(G). and Gala, P. (2022), "Artificial intelligence, financial anxiety and cashier-less checkouts: a Saudi Arabian perspective", *International Journal of Bank Marketing*, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/IJBM-09-2021-0444

Hentzen, J.K., Hoffmann, A., Dolan, R. and Pala, E. (2021), "Artificial intelligence in customer-facing financial services: a systematic literature review and agenda for future research", *International Journal of Bank Marketing*, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/IJBM-09-2021-0417

Kopitar, L., Cilar, L., Kocbek, P., & Stiglic, G. (2019). Local vs. global interpretability of machine learning models in type 2 diabetes mellitus screening. In *Artificial intelligence in medicine: Knowledge representation and transparent and explainable systems* (pp. 108-119). Springer, Cham.

Mogaji, E. and Nguyen, N.P. (2021), "Managers' understanding of artificial intelligence in relation to marketing financial services: insights from a cross-country study", *International Journal of Bank Marketing*, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/IJBM-09-2021-0440

Mogaji, E., Soetan, T. O., & Kieu, T. A. (2021). The implications of artificial intelligence on the digital marketing of financial services to vulnerable customers. *Australasian Marketing Journal, 29*(3), 235-242. https://doi.org/10.1016%2Fj.ausmj.2020.05.003

Mogaji, E., Olaleye, S., & Ukpabi, D. (2020), "Using AI to personalise emotionally appealing advertisement". In *Digital and social media marketing* (pp. 137-150). Springer, Cham.

Northey, G., Hunter, V., Mulcahy, R., Choong, K. and Mehmet, M. (2022), "Man vs machine: how artificial intelligence in banking influences consumer belief in financial advice", *International Journal of Bank Marketing*, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/IJBM-09-2021-0439

Omoge, A.P., Gala, P. and Horky, A. (2022), "Disruptive technology and AI in the banking industry of an emerging market", *International Journal of Bank Marketing*, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/IJBM-09-2021-0403

Payne, E. H. M., Peltier, J., & Barger, V. A. (2021), "Enhancing the value co-creation process: artificial intelligence and mobile banking service platforms". *Journal of Research in Interactive Marketing*.

Riedel, A., Mulcahy, R. and Northey, G. (2022), "Feeling the love? How consumer's political ideology shapes responses to AI financial service delivery", *International Journal of Bank Marketing*, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/IJBM-09-2021-0438

Riikkinen, M., Saarijärvi, H., Sarlin, P., & Lähteenmäki, I. (2018), "Using artificial intelligence to create value in insurance". *International Journal of Bank Marketing*.

Sheth, J., Jain, V., Gourav Roy, G and Chakraborty, A. (2022), AI-driven Banking Services: The Next Frontier for a Personalised Experience in the Emerging Market *International Journal of Bank Marketing*, Vol. ahead-of-print No. ahead-of-print.