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The next 'deep' thing in X to Z marketing: An artificial intelligence driven approach

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The Next 'Deep' Thing in X to Z Marketing: An Artificial Intelligence-Driven Approach

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Abstract
The existing body of literature indicates a growing interest in research pertaining to the influence of artificial intelligence (AI) on marketing strategies, processes, and practices. However, further studies are required to fully unravel its complete potential and the implications it holds for practical application. The aim of this special issue on "The Next 'Deep' Thing in X to Z Marketing: An Artificial Intelligence-Driven Approach" is to explore the next frontiers and delve into the various facets of AI-driven marketing, shedding light on cutting-edge research and practical insights that can shape the future of the field. It also focuses on novel ways of using AI techniques to derive innovative insights that can streamline marketing processes and make businesses more effective. The papers herein contribute not only to the advancement of knowledge and understanding surrounding the utilisation of AI in marketing but also play a crucial role in establishing a renewed and revitalised research agenda.

Keywords Artificial intelligence · Digital technologies · Data-driven decision-making · Marketing strategy · Consumer behaviour

1 Introduction

Historically, marketing departments have relied on data analytics and key performance indicators to measure their progress towards revenue generation and customer growth targets (Morgan et al., 2002). Today, however, such undertakings are challenged by overwhelming amounts of data, complex environments, increased competitive pressures, and rapidly changing customer behaviours. At the same time, the explosion in digital technologies has opened unprecedented opportunities for the mining of new insights into customer needs and behaviours, from individuals to corporations and governments (Zaki, 2019). The advent of digital technologies has indeed ushered in a new era of innovation and possibilities, revolutionising the way businesses interact with customers, understand their needs, and create value (Bednar & Welch, 2020). All of these factors have created a pressing need for a new paradigm in marketing—one driven by the power of digital technologies and their ability to extract invaluable insights from the vast data landscape.

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The rapid advancements in artificial intelligence (AI) have brought about significant transformations in various industries, and marketing is no exception (Yang & Siau, 2018; Davenport et al., 2020). AI techniques are tools that can be used to process large data sets and uncover hidden knowledge to enable organisations to deliver, in real-time, more revenue growth and further strengthen customer relationships in the process (Hyder et al., 2019; Wang & Siau, 2019). In fact, a survey by Salesforce reveals that AI is poised to become the most widely embraced technology among marketers in the forthcoming years (Columbus, 2019). Although some attempts have already been made to explore the impact of AI on marketing strategies, processes, and practices (Davenport et al., 2020; Kopalle et al., 2022), more research is needed to realise their full potential and implications for practice. Used suitably, such tools, and in particular 'deep learning' models, can emerge as a game-changer and have the potential to become a source of competitive advantage to understand, anticipate, predict, and act faster than competitors. Among others, they can help organisations to: (a) improve their understanding of their target consumers; (b) know consumers on a deeper level; (c) understand how interactions with consumers can be optimised; (d) foster marketing personalisation for the individual consumer; (e) design products that meet consumers' personal needs; (f) automate simple yet time-consuming tasks, boosting productivity; (g) generate tailored and personalised advertisements using Generative AI technologies; and (h) provide 24/7 marketing services using advanced AI technologies such as ChatGPT. In a nutshell, AI has the potential to revolutionise marketing.

The aim of this special issue on "The Next 'Deep' Thing in X to Z Marketing: An Artificial Intelligence-Driven Approach" is to explore the next frontiers and delve into the various facets of AI-driven marketing, shedding light on cutting-edge research and practical insights that can shape the future of the field. It also focuses on novel ways of using AI techniques to derive innovative insights that can streamline marketing processes and make businesses more effective. With a laser focus on X to Z marketing, which spans diverse domains such as B2B and B2C, this special issue encompasses nine research papers by authors from Australia, India, Iran, Ireland, Germany, Norway, the United Kingdom, and the United States. The first seven papers adopt a quantitative approach. Among these, the first two papers employ AI as the primary research method, while the subsequent five papers primarily utilise a structural equation modelling approach. The last two articles employ a qualitative approach through interviews.

2 Papers in this Special Issue

In "MarkBot – A Language Model-Driven Chatbot for Interactive Marketing in Post-Modern World", Kushwaha and Kar (2024) develop the MarkBot framework, a chatter robot. The framework uses an AI application to engage with website visitors browsing through the product catalogue. The authors employ a long short-term memory recurrent neural network (LSTM) to predict user responses and enhance the chatbot's performance. The MarkBot framework is designed to reduce the lead time for firms to adopt it and improve their marketing efforts. The authors provide empirical evidence by using user-generated content on social media platforms like Twitter to respond to and query digital campaigns on the same product. The management frameworks used in the study make it a valuable contribution for future information systems scholars to conceptualise marketing applications of chatbots. Overall, the MarkBot framework offers a promising solution for businesses seeking to improve their interactive marketing in the post-modern world.

In "Multiple Treatment Modeling for Target Marketing Campaigns: A Large-Scale Benchmark Study", Gubela et al. (2024) focus on causal ML/AI models for campaign targeting. More specifically, the authors introduce multiple treatment revenue uplift modelling to improve decision-making in target marketing campaigns in an attempt to answer the research question of whether multiple treatment models for continuous outcomes realise more campaign return on marketing than multiple treatment models for binary outcomes and single treatment models. A large-scale analysis was carried out based on eight marketing data sets from leading B2C retailers. Among others, the results demonstrate that multiple treatment revenue approaches yield a higher campaign return on marketing than baseline heuristics. The study is a contribution to the growing research on uplift modelling.

In "Cognitive Chatbot for Personalised Contextual Customer Service: Behind the Scene and beyond the Hype", Behera et al. (2024) conduct a quantitative study to examine the use of cognitive chatbots for personalised contextual customer service. The study expands upon the technology acceptance model and the information systems success model and applies confirmatory factor analysis and structural equation modelling to data collected from 300 respondents working in B2B businesses. The research findings indicate that customers highly value cognitive chatbots, particularly when it comes to checking real-time information on product or service reliability and accessibility. The study contributes to the limited research on chatbots and offers insights to improve the customer experience by designing new information systems that leverage new technology. The authors also suggest several managerial implications of their

findings, such as how businesses can use cognitive chatbots to drive automation in customer service. Overall, the study provides valuable insights for B2B businesses looking to enhance their customer service using chatbots.

In "Enablers and Inhibitors of AI-Powered Voice Assistants: A Dual-Factor Approach by Integrating the Status Quo Bias and Technology Acceptance Model", Balakrishnan et al. (2024) investigate the relationship between status quo factors and resistance towards adoption of AI voice assistants (AIVA), and the relationship between technology acceptance model factors and attitudes towards AIVA. By deploying status quo bias theory and the technology acceptance model within the framework of dual-factor modelling, the study adopts a structural equation modelling approach using a sample of 420 respondents. Among others, perceived value was found to have a negative but significant relationship with resistance to AIVA. The results provide a holistic picture of the enablers and inhibitors that are present in the AIVA. The study offers various theoretical contributions as well as managerial implications, especially for IS managers and marketers.

In "Impact of Digital Assistant Attributes on Millennials' Purchasing Intentions: A Multi-Group Analysis using PLS-SEM, Artificial Neural Network and fsQCA", Sharma et al. (2024) use a combined approach of Partial Least Square – Structural Equation Modelling, Artificial Neural Network, and Fuzzy-set Qualitative Comparative Analysis to predict the purchasing intentions of 345 millennials. The study extends empirical research through uncanny valley theory, social presence, and the theory of planned behaviour, integrating digital assistants and their consequences on customer (millennials) buying intentions. Among others, the findings suggest that millennials perceive digital assistants to be sensitive, human-like, show empathy towards millennials' expectations, and are highly influenced by the interactivity characteristics of digital assistants. The findings are significant for marketers and developers to develop future strategies that will deliver an enjoyable, contextual, interactive, and memorable experience to millennials.

In "Assessing the Implementation of AI Integrated CRM System for B2C Relationship Management: Integrating Contingency Theory and Dynamic Capability View Theory", Chatterjee et al. (2024) examine the success and failure of the implementation of AI-integrated CRM systems in an organisation from a B2C perspective using Contingency theory and Dynamic Capability View theory. The study employs a Partial Least Square – Structural Equation Modelling technique on a sample size of 326 managers of organisations where AI-CRM was implemented. The study finds that information quality, system fit, and organisational fit significantly and positively impact the implementation of AI-CRM for B2C relationship management. Also, there is a moderating impact of technology turbulence on both acceptance and failure of AI-CRM capability in the organisation. This study makes several theoretical contributions to the existing literature on how the implementation of new technology in an organisation could lead to success and sometimes failure. It also offers practical recommendations.

In "CSR marketing through social media and contextual effects on stakeholder engagement: a multinational cross-industry analysis", Nasr et al. (2024) examine the country- and industry-level effects on stakeholder engagement in relation to CSR communications of Multinational Enterprises (MNEs) via Twitter. This study is grounded in legitimacy theory and stakeholder theory as theoretical foundations. The authors opt for a multilevel generalised structural equation modelling approach and use a sample of 1021 posts from Twitter from 12 MNEs, each of which represents a MNE in a specific country and in a specific industry. Among others, this study revealed that achieving legitimacy through CSR initiatives, especially via social media communications, is a complex challenge for MNEs, as it requires a nuanced understanding of stakeholder reactions based on the specific industry and country contexts in order to be effective. Several research contributions to both theory and practice are advanced.

In "Snakes and Ladders: Unpacking the Personalisation-Privacy Paradox in the Context of AI-Enabled Personalisation in the Physical Retail Environment", Canhoto et al. (2024) aim to advance the conceptual understanding of AI-enabled personalisation by examining how consumers experience and respond to highly personalised offers that are delivered to their smartphones while they are in a store. The study is grounded in the personalisation-privacy paradox. The paper is a qualitative case study that includes in-depth, semi-structured interviews with eighteen female millennial fashion retail shoppers who had been exposed to a personalised advert. The data are analysed using NVIVO and thematic analysis. The findings reveal that attempts to use AI-enabled personalisation for customer acquisition may be ineffective or even detrimental for the brand. Among others, trust has been shown to impact the perception of a personalised offer. The study offers several theoretical and managerial contributions and draws an analogy to the Snakes and Ladders game to discuss the implications.

In "Implementing Artificial Intelligence in Traditional B2B Marketing Practices: An Activity Theory Perspective", Keegan et al. (2024) use activity theory as a theoretical lens to examine AI-powered B2B marketing as a collective activity system and to illuminate the contradictions that emerge when adopting and implementing AI into traditional B2B marketing practices. Based on eighteen interviews with industry and academic experts, the study identifies contradictions with which marketing researchers and practitioners

must contend. The study shows that these contradictions can be culturally or politically challenging to confront, and even when resolved, they can have both intended and unintended consequences. The study provides empirically based insights surrounding the hype of AI in an area of B2B business practice and practical insights that can enable B2B practitioners to avoid pitfalls when considering the adoption and implementation of AI-powered technologies in the context of B2B marketing.

3 Future Research Agenda

The articles included in this special issue offer a wide-ranging exploration of the latest applications of AI in marketing. They cover various aspects, such as the use of chatbots and AI voice assistants to enhance personalised customer service, the implementation of causal ML/AI models for campaign targeting, the integration of AI into traditional B2B marketing practices, and the adoption of AI-integrated CRM systems for B2C relationship management. Through the examination of these and other topics, the special issue aims to provide a comprehensive understanding of the impact and potential of AI in the marketing landscape, addressing both theoretical and practical perspectives. In conclusion, this special issue brings together a collection of insightful and forward-thinking articles that shed light on the transformative potential of AI in the marketing domain. These papers not only advance our knowledge and understanding of the use of AI in marketing, but they also help to outline a renewed research agenda.

One area that emerges from these papers is the need for further research into the ethical dilemmas associated with AI implementation in the areas of marketing and information systems (Dwivedi et al., 2021; Rana et al., 2023; Vassilakopoulou et al., 2022). Future investigations should prioritise the ethical dimensions of cognitive chatbots during interactions with humans. Understanding the ethical implications of these AI systems is crucial for their responsible and effective deployment (Siau & Wang, 2020). Also, insufficient attention has been given to the exploration of data privacy in conjunction with technological advancements. Consequently, a more comprehensive investigation of data privacy issues in the realm of AI and marketing is warranted, drawing upon prior research (Charles et al., 2015, 2022).

Additionally, there is a call for more research on the adoption of digital technologies and the role of AI in emerging markets, incorporating insights from different countries, regions, and sectors. Exploring how AI is adopted and utilised in diverse contexts will provide valuable insights for marketers operating in these markets (Baabdullah et al., 2022; Pillai et al., 2023; Vassilakopoulou et al., 2023). This area of study underscores the necessity for the cooperation of a range of stakeholders, including scholars, policymakers, practitioners, and other individuals engaged in governance (Pappas et al., 2023a), which can be more impactful through interventionist research approaches (e.g., Action Research, Clinical Research, and Action Design Research) (Pappas et al., 2023b). Examining the interplay between AI and existing conceptual frameworks and stakeholders will enhance our understanding of how AI can be effectively incorporated into marketing strategies.

Furthermore, the use of various types of analytics (Charles, Emrouznejad, Gherman, & Cochran, 2022) is highlighted, not only to study AI itself but also its integration into different organisational processes and systems. This calls for the adoption of innovative research methods and approaches from a wide array of disciplines, including behavioural sciences, psychology, and sociology, that allow the study of the practice of AI in marketing in meaningful and impactful ways (Charles & Gherman, 2018). All academics and researchers who contributed papers and the experts within the field who reviewed the papers have made this Special Issue on "The Next 'Deep' Thing in X to Z Marketing: An Artificial Intelligence-Driven Approach" of Information Systems Frontiers possible. We wish you, our readers, informative reading!

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