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Identification of micro-segments in target audiences for personalised content delivery – a literature review

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Abstract

The growing reliance on data-driven marketing has increased the need for more precise approaches to audience identification and content personalisation. Traditional segmentation models, largely based on broad demographic and geographic criteria, are becoming less effective in digital environments characterised by dynamic user behaviour, multi-channel interaction, and continuous data generation. This paper aims to review the literature on the identification of micro-segments in target audiences for the provision of personalised content. The review focuses on the role of artificial intelligence, machine learning, clustering methods, behavioural data, and intelligent automation in contemporary digital marketing. Its scope includes studies on digital marketing strategy, AI-enabled personalisation, customer analytics, Google-based advertising ecosystems, natural language processing, large language models, and intelligent agents. The study is limited by its conceptual and review-based design and does not include empirical testing of a clustering model. Methodologically, the paper applies content analysis, comparison, and synthesis of relevant academic and applied literature. The literature review shows that micro-segmentation has substantial potential to improve relevance, engagement, and campaign efficiency by enabling more adaptive and context-sensitive content delivery. At the same time, the literature remains fragmented, as most studies examine segmentation, personalisation, AI, campaign optimization, or intelligent agents separately rather than as an integrated system. The originality of the paper lies in bringing these strands together within a unified conceptual perspective. The practical value of the study concerns the applicability of such models to startups and small and medium-sized enterprises seeking scalable and cost-effective digital marketing solutions.

Key words:

micro-segmentation, target audience, personalized content, digital marketing, Google Analytics 4, Google Ads, artificial intelligence, machine learning

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1. Introduction

Digital marketing has evolved from a channel-based communication practice into a complex system of data collection, behavioural interpretation, and content optimisation. In highly competitive online environments, organisations increasingly struggle to engage users through generic mass communication. As a result, marketing practice has shifted toward more precise audience identification and more individualised content strategies. Within this context, micro-segmentation has emerged as a particularly relevant approach because it allows marketers to move beyond broad audience categories and identify smaller, behaviorally meaningful groups of users.

Unlike traditional segmentation, which often relies on relatively static demographic or geographic criteria, micro-segmentation reflects a more dynamic understanding of audience behaviour. It focuses on patterns of interaction, intent, responsiveness, and context. This makes it especially suitable for personalised content delivery, where relevance is closely linked to engagement, conversion potential, and customer experience. In digital settings, content is more effective when it responds not only to who the user is, but also to how, when,

The growing role of artificial intelligence (AI), machine learning (ML), and automated analytics further strengthens the importance of micro-segmentation. AI-driven systems can process large volumes of behavioural data, detect hidden patterns, and support more accurate decision-making in real time (Davenport et al., 2020; Verhoef et al., 2020). At the same time, personalisation technologies are increasingly relying on NLP, large language models, and intelligent agents that can adapt content and communication flows to specific audience profiles (Huang & Rust, 2021; Qu et al., 2025).

The purpose of the present paper is to review the literature on the identification of micro-segments in target audiences for the provision of personalised content. The review aims to synthesise the main theoretical directions in the field, examine the contribution of AI-enabled analytics, and identify the research gap related to integrated models combining behavioural data, clustering techniques, personalised content, and intelligent agents.

The paper addresses the following research questions:

How is micro-segmentation conceptualised in contemporary digital marketing literature? What is the role of AI, machine learning, and clustering in identifying micro-segments? How can behavioural data from digital ecosystems support personalised content delivery? What are the main research gaps in the current literature?

2. Literature review on micro-segmentation

Segmentation has long been regarded as a central marketing tool for dividing markets into groups with relatively similar needs, characteristics, and behaviours. Classical segmentation frameworks rely on demographic, geographic, psychographic, and behavioural variables. However, in digital environments, these categories are often too broad to capture the complexity of actual user interaction. Chaffey and Ellis-Chadwick (2019) argue that digital marketing should be understood as an integrated system of channels, data, and customer experience management. From this perspective, more fine-grained forms of segmentation become increasingly necessary.

Micro-segmentation represents a further development of segmentation logic. It refers to the identification of smaller and more precise audience groups based on behavioural similarity, interaction patterns, and expected response to specific stimuli. Its importance lies in the fact that digital consumers do not behave uniformly even within the same demographic segment. Their browsing behaviour, click patterns, campaign response, and content preferences may differ substantially. Consequently, micro-segmentation offers a stronger basis for personalisation than conventional broad audience classification.

Personalised content has become one of the most important strategic instruments in digital marketing because it links analytics to customer experience. Its purpose is not merely to customise a message, but to deliver communication that is perceived as timely, relevant, and useful. The quality of personalization therefore

depends on the quality of the underlying audience understanding.

Rust (2020) argues that the future of marketing lies in combining technological efficiency with strong customer orientation. Similarly, Huang and Rust (2021) show that AI can improve service and interaction quality when it is used to interpret context, preferences, and probable user needs. This suggests that personalisation is most effective when it is based on meaningful micro-segments rather than broad assumptions about audiences. In other words, micro-segmentation is not separate from personalisation; it is one of its most important preconditions.

A major shift in the literature concerns the use of AI and machine learning to enhance marketing analytics. Davenport et al. (2020) note that AI changes marketing not only through automation, but also through improved pattern recognition and decision support. Verhoef et al. (2020) similarly emphasise that digital transformation requires adaptive and predictive marketing models built on behavioural data.

Within this context, clustering methods are especially relevant. Clustering enables the grouping of users according to similarities in observed behaviour rather than predefined categories. This is particularly valuable in online settings, where behavioural signals often provide more reliable insight than self-reported preferences. Through clustering, marketers can identify micro-segments that reflect real engagement patterns, campaign responsiveness, and potential purchase intent. Such segments are more actionable and better aligned with personalised communication strategies.

The practical application of micro-segmentation depends heavily on data availability and data quality. In digital marketing, behavioural data from platforms such as Google Analytics 4 and Google Ads are especially useful because they reflect actual user activity, including sessions, events, engagement, click behaviour, conversion paths, and campaign interaction. These signals provide a strong empirical basis for identifying meaningful audience groups and for connecting segmentation logic with personalised content delivery.

The importance of such data is also consistent with the broader literature on real-time engagement and adaptive marketing. Grewal et al. (2021) highlight the growing significance of real-time analysis for customer interaction and retail strategy. In practical terms, this means that segmentation is increasingly expected to reflect ongoing behavioural change rather than static classification. Behavioural data ecosystems therefore, support a more dynamic and responsive model of personalisation.

Another major development in the literature concerns the role of NLP, large language models, and intelligent agents in marketing automation. If clustering helps answer the question of who the micro-segments are, NLP and LLM-based systems help answer what content should be delivered to each segment and how that content can be adapted over time.

Applied studies suggest that AI can support campaign automation, A/B testing, keyword optimisation, search engine marketing, and personalized messaging (Anderson, 2022; Johnsen, 2024; Johnsen, 2025). Broader reviews also indicate that AI contributes to customer engagement, social media interaction, and adaptive service design (Żyminkowska & Zachurzok-Srebrny, 2025). More recent work extends this logic toward intelligent agents and multi-agent systems. Flores et al. (2024) discuss the role of AI agents in advertising, while Flores et al. (2025) and Qu et al. (2025) point to the potential of planning, memory, coordination, and intelligent task execution in digital systems. These developments suggest that future personalization systems may move beyond isolated analytics tools toward integrated environments where audience identification, content generation, and optimisation are coordinated automatically.

The literature reviewed above demonstrates substantial progress in the fields of AI in marketing, personalisation, customer engagement, and digital analytics. However, it also reveals a clear fragmentation. Most studies examine one of these elements in isolation. Some focus on AI-enabled marketing decision-making, others on personalisation, and still others on intelligent agents or customer analytics. Comparatively fewer studies address integrated models that combine behavioural data, micro-segmentation, clustering methods, personalised content, and intelligent automation within a unified framework.

This fragmentation defines the main research gap. There remains a need for a more coherent conceptual and methodological approach capable of linking audience identification with personalised content delivery

through data-driven clustering and intelligent support systems. Such an approach is particularly relevant for startups and small and medium-sized enterprises, which often require cost-efficient and scalable alternatives to traditional labour-intensive marketing processes (Rust, 2020).

To synthesise the reviewed literature more clearly, the key studies are summarised in Table 1 according to their thematic focus, main contribution, and relevance to the present study.

Table 1

Influential authors and their contribution to the present review

Author(s)	What they emphasise	Why it matters here
Chaffey & Ellis-Chadwick (2019)	Data-driven digital marketing	Frames the general logic of segmentation and content relevance
Davenport et al. (2020)	AI-enhanced marketing analytics	Justifies the use of AI in micro-segment identification
Verhoef et al. (2020)	Predictive and adaptive marketing models	Supports dynamic segmentation based on behavioural data
Huang & Rust (2021)	Personalised interaction through AI	Connects segmentation with content personalisation
Grewal et al. (2021)	Real-time customer engagement	Reinforces the value of live behavioural signals
Qu et al. (2025)	Intelligent agent systems	Extends the discussion toward automated next-generation marketing

Source: Author's compilation.

VOS Viewer is used to aggregate information from Scopus (for the period 2022-2026) on the topic of the literature review. A density visualisation diagram is created (Fig. 1). The association method is used for normalisation.

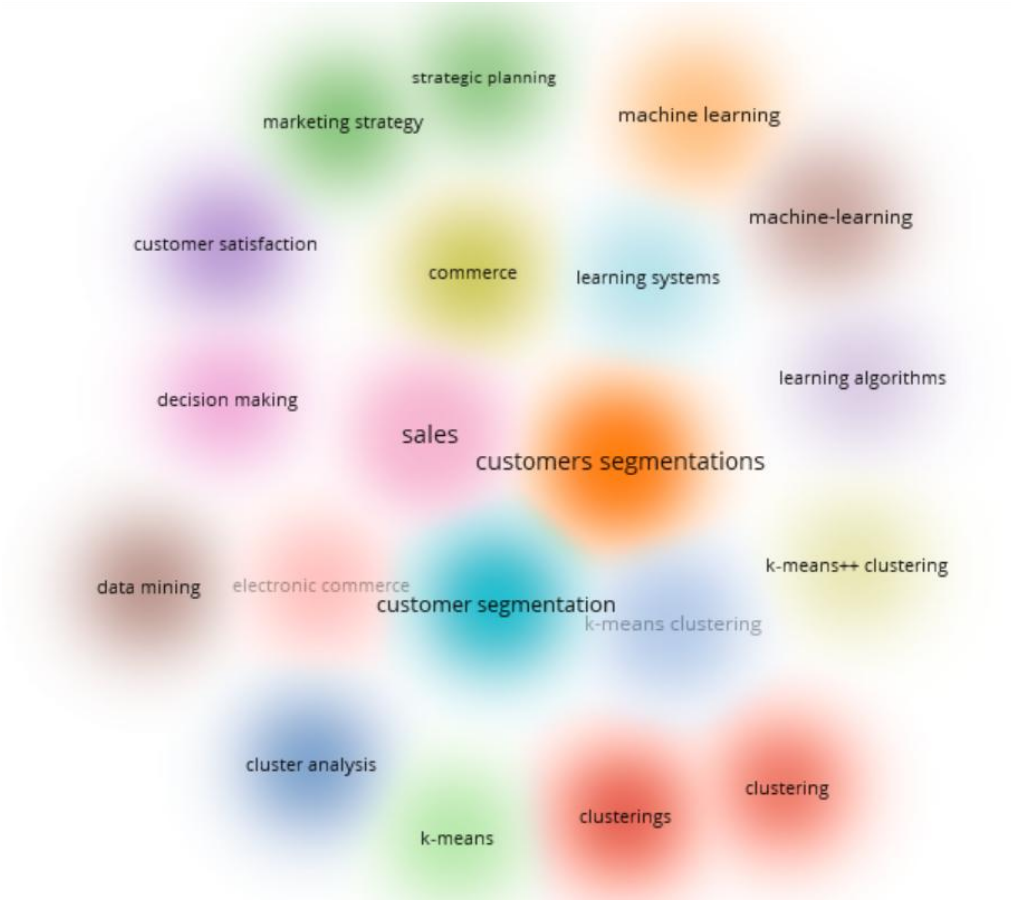


Figure 1. A density visualisation diagram on keyword search on the topic "algorithms for micro-segmentation of target audiences"; period 2022-2026
Source: Author's compilation.

The density visualisation diagram shows the most common occurrences of keywords on the topic.

3. Conclusion

The present study adopts a conceptual and review-based research design. Methodologically, it relies on analysis, comparison, and synthesis of academic and applied literature relevant to digital marketing, audience segmentation, personalised content, artificial intelligence, machine learning, clustering methods, customer analytics, and intelligent automation. The purpose of this approach is not to test an empirical model directly, but to identify major theoretical directions, recurring arguments, and underexplored intersections within the field.

The reviewed literature was selected according to its relevance to the following themes: digital marketing strategy, micro-segmentation, personalized content delivery, AI-enabled analytics, behavioural data, Google-based campaign ecosystems, NLP, LLMs, and intelligent agents. The inclusion of both conceptual and applied sources was necessary because the topic lies at the intersection of established marketing theory and rapidly developing technological practice.

A comparative literature synthesis is used to structure the discussion and to identify the main research gap. This synthesis is reflected in Table 1, which groups the key studies according to thematic focus, contribution, and relevance to the present paper. The study is limited by its review character and by the absence of direct empirical validation of a clustering model at this stage. Additional limitations concern the availability of consistent behavioural data, ethical issues related to data use, and the difficulty of maintaining stable results in rapidly changing digital environments.

References

1. Chaffey, D., & Ellis-Chadwick, F. (2019). *Digital Marketing*. Pearson Education.
2. Davenport, T., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science, 48*, 24-42.
3. Flores, L. J. Y., Shen, J., & Gu, G. (2024). *AI Agents in the Advertising Industry*. MPRA Paper.
4. Flores, L. J. Y., et al. (2025). *Towards reliable multi-agent systems for marketing applications via reflection, memory, and planning*. arXiv preprint.
5. Grewal, D., Gauri, D. K., Roggeveen, A. L., & Sethuraman, R. (2021). Strategizing retailing in the new technology era. *Journal of Retailing, 97*(1), 6-12.
6. Huang, M.-H., & Rust, R. T. (2021). Artificial intelligence in service. *Journal of Service Research, 24*(1), 3-28.
7. Johnsen, M. (2024). *AI in Digital Marketing*. Routledge.
8. Johnsen, M. (2025). *Artificial Intelligence in Digital Marketing*. Routledge.
9. Qu, X., Damoah, A., et al. (2025). *A comprehensive review of AI agents: Transforming possibilities in technology and beyond*. arXiv preprint.
10. Rust, R. T. (2020). The future of marketing. *International Journal of Research in Marketing, 37*(1), 15-26.
11. Verhoef, P. C., et al. (2020). Digital transformation and marketing: State of the art. *Journal of Business Research, 116*, 169-182.
12. Żyminkowska, K., & Zachurzok-Srebrny, E. (2025). The role of artificial intelligence in customer engagement and social media marketing: Implications from a systematic review for the tourism and hospitality sectors. *Journal of Theoretical and Applied Electronic Commerce Research, 20*(3), 184.