



THE IMPACT OF ARTIFICIAL INTELLIGENCE ON THE MARKETING MIX: FROM PERSONALIZATION TO PREDICTIVE STRATEGY

Horia MIHĂLCESCU

Faculty of Business Administration in Foreign Languages

Bucharest University of Economic Studies

Bucharest, Romania

horia.mihalcescu@mk.ase.ro

Abstract

This paper explores the concept of the marketing mix and the need to adapt it to the dynamics of the digital environment, particularly the expansion of Artificial Intelligence (AI) technologies. The four classical components of marketing (price, product, place/distribution, and promotion) are analyzed, together with the debate between *conservative/dogmatic* and *revisionist/iconoclastic* perspectives on whether the traditional model requires structural change. The revisionists ground their argument in technological advances that have also reshaped business models. The study highlights the importance of coordination and compatibility among the elements of the mix and argues that AI provides the basis for a dynamic, performance-oriented approach. Marketing research and strategic planning remain essential for ensuring the sustainability of marketing decisions in an increasingly digital context.

Keywords: *marketing mix, 4Ps, strategy, coordination, artificial intelligence, digitalization, business models.*

1. Literature Review

The concept of the *marketing mix* (McCarthy, 1960) defines the set of controllable tactical tools through which an organization influences its target market. The term, derived from the English *mixture*, designates the systematic combination of company resources to achieve desired outcomes efficiently.

In its classical form, the marketing mix comprises four components—**product, price, place,** and **promotion** (the “4Ps”). For decades, since E. Jerome McCarthy introduced the concept in the mid-twentieth century, it has served as the dominant paradigm of marketing thought.

However, the transition to the information and digital economy has generated not only new channels and modes of value creation and capture but also intangible digital products. Simultaneously, the growth of the service sector required further adaptation of the model. Booms and Bitner (1981) introduced the **7Ps** framework by adding *People*, *Process*, and *Physical Evidence*—elements crucial for ensuring consistent service quality and tangible proof of value delivery. This extended model was later incorporated into the work of Kotler and Armstrong (2022), who emphasize efficient service-delivery processes and responsive feedback mechanisms.

The acceleration of technological change has raised new conceptual issues. As Išoraitė (2016, p. 25) notes, “Companies must change their usual practices. Today, firms aiming to satisfy customer needs cannot rely on previously established techniques for task implementation.”

According to Armstrong and Kotler (2022, p. 54), service marketers must develop efficient and effective delivery processes that ensure consistent service quality—from anticipating customer needs to responding to feedback. The element of *physical evidence* highlights the necessity of offering tangible proof of quality in addition to intangible service characteristics. This theoretical perspective suggests the need to refine each of the 4Ps rather than to abandon the classical conceptual framework altogether.

Marketing research continues to support decision-making across the mix. Zikmund et al. (2017, p. 9) argue that testing creative options, messages, or brand ambassadors remains indispensable for assessing the effectiveness of each component. For instance, one study examined whether a famous Hollywood actress could successfully endorse a hair-color brand; although viewers recognized her as a celebrity, they did not perceive her as an authentic user or expert, leading to the cancellation of the campaign (Zikmund et al., 2017, p. 9).

Starting from the premise that strategy must ensure long-term profitability, Dominici (2009, p. 18) emphasizes that the marketing mix itself should be designed strategically—*long-term, profitable, and sustainable*. Through continuous analysis, planning, implementation, and control, companies monitor and adapt to the actors and forces of the marketing environment.

Dominici (2009, pp. 17–18) poses a crucial question underpinning the revisionist debate: “*Is it possible to create a new list of elements that could adequately modify the traditional mix to fit digital contexts?*” He identifies two major schools of thought:

- **Conservatives (dogmatics)**, who maintain that the 4Ps remain valid if the sub-mixes within each P are adjusted to digital realities.
- **Revisionists (iconoclasts)**, who consider the 4P structure obsolete and advocate adding or redefining components.

Gatignon (1993, p. 698) emphasizes that coordination among marketing-mix activities enables management to exploit complementarities and avoid incompatibilities among instruments, considering both budget constraints and the interdependence of variables. Likewise, Birnik and Bowman (2007) find that while the degree of mix standardization across multinational corporations varies, identifiable patterns persist across industries.

Kotler, Armstrong, and Balasubramanian (2023) conceptualize the product as a multi-layered construct encompassing:

1. the **core product**—the fundamental benefit or value purchased (e.g., knowledge, comfort, status);
2. the **actual product**—the tangible item or delivered service;
3. the **augmented product**—additional advantages such as convenience or time saving; and
4. the **system or extended product**—supplementary elements like manuals, training, or after-sales support (see also Ahmed & Rahman, 2015, p. 19).

2. Artificial Intelligence and the Reconfiguration of the Marketing Mix

In recent years, AI-based solutions have transformed firms' ability to deliver customer value, thereby reshaping the **place (distribution)** dimension of the marketing mix. AI technologies have become essential for information processing, highly personalized customer experiences, and the optimization of marketing strategies as consumer data volumes expand (Reghioui & Soukeur, 2024, p. 52).

In digital marketing, AI enables precise audience segmentation and hyper-personalized campaigns. Raymond and Theodore (2025, p. 557) argue that whereas traditional segmentation relied primarily on demographic variables, AI analyzes media behavior, purchase history, and browsing patterns to build deep consumer profiles—identifying even latent needs.

Modern technology also redefines **pricing**, allowing dynamic adjustments in real time according to consumer behavior and market conditions. Consequently, AI affects every P within the mix. While the conceptual foundation of the 4Ps remains intact, the **operationalization** of each component becomes data-driven and continuously adaptive.

AI's integration introduces a new layer of feedback and optimization: companies can monitor the performance of each element in real time and adjust almost instantaneously. Hence, recent literature proposes adding a fifth element to the marketing mix—**Performance**—representing the capacity to measure, automate, and optimize outcomes dynamically.

3. Methodology

This theoretical paper is based on a systematic review of the academic literature addressing the impact of AI on the marketing mix. Sources were selected from peer-reviewed journals and books according to relevance, credibility, and recency. The analysis identified key concepts and theoretical models, emphasizing both similarities and divergences among authors.

4. Results and Discussion

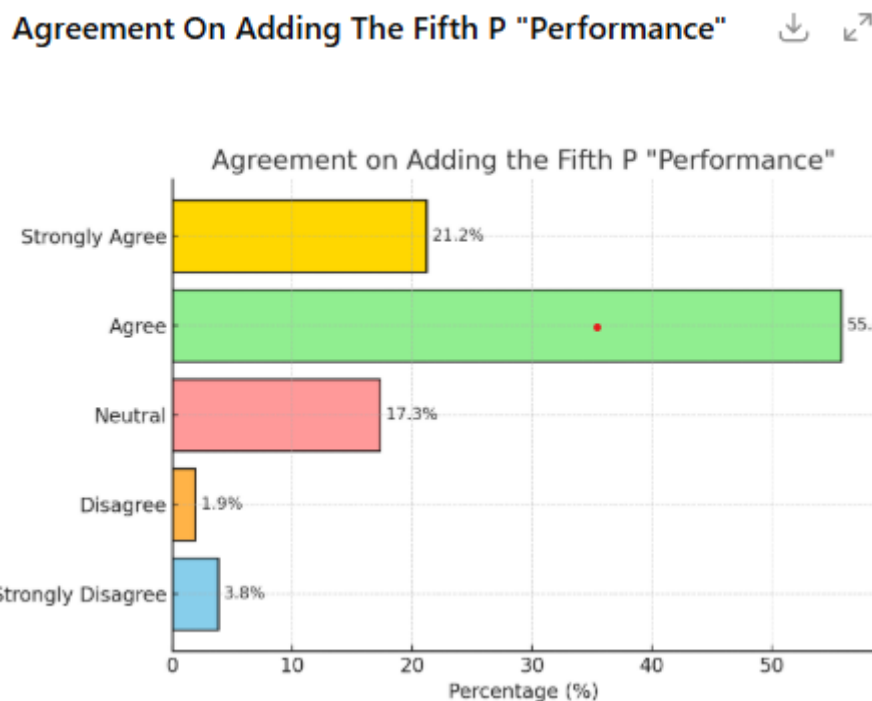


Figure 1. *Distribution of responses supporting the inclusion of “Performance” as the fifth P (Redrawn by the author after Reghioui & Soukeur, 2024, Figure 1, p. 53)*

Findings reported by Reghioui and Soukeur (2024) indicate a strong perceived impact of AI on the reshaping of the marketing mix, with approximately **77 percent** of respondents supporting the inclusion of *Performance* as the fifth P. AI thus enables real-time personalization, measurement, and automation—making performance a central factor in modern marketing strategies.

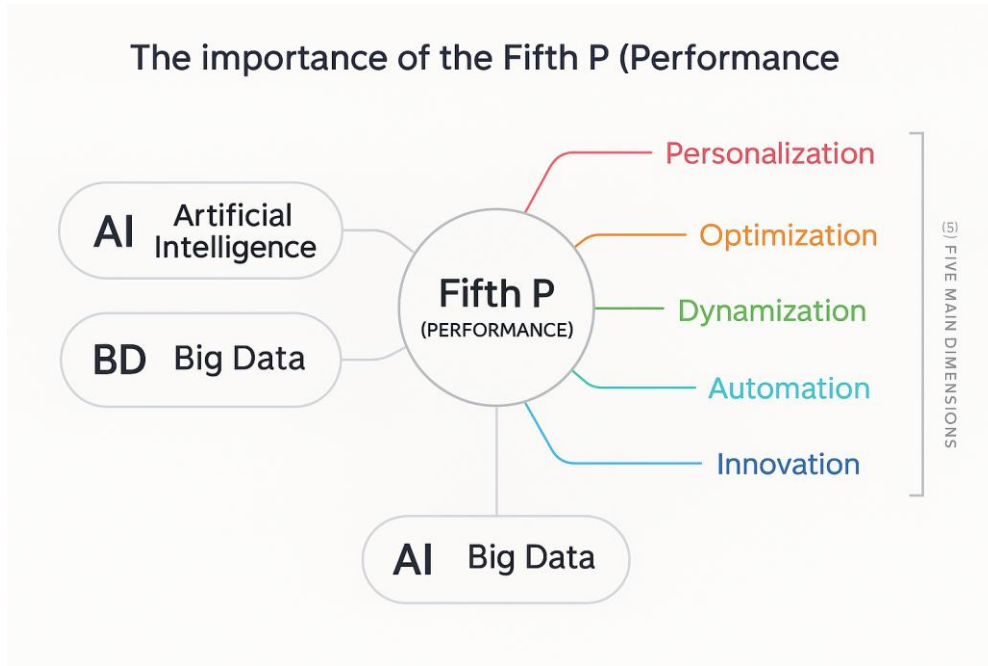


Figure 2. *Dimensions of Performance in the Digital Marketing Mix*
(Redrawn by the author after Reghioui & Soukeur, 2024, Figure 2, p. 54)

AI underpins five key dimensions of the contemporary mix:

1. **Personalization** – tailoring prices, products, channels, and promotions to individual preferences.
2. **Dynamization** – rapidly adapting strategies to market trends.
3. **Automation** – reducing manual effort and enabling repetitive executions.
4. **Optimization** – leveraging real-time analytics and algorithms to maximize efficiency.
5. **Innovation** – driving new products, channels, and promotional formats.

5. Conclusions

Artificial Intelligence exerts a major transformative impact on the traditional marketing mix, shifting it from a static 4P framework toward a data-driven, adaptive, and performance-oriented model. AI enables marketers to go beyond conventional strategies by enhancing audience segmentation precision, dynamic adjustments, and predictive analytics of consumer behavior and market trends.

Ultimately, the integration of AI represents not merely an evolution but a **necessary reconfiguration** of marketing strategies. *Performance* emerges as the core metric of effectiveness in the digital environment, signaling a paradigm shift from managerial control to continuous learning and real-time responsiveness.

References

- Ahmed, S., & Rahman, M. H. (2015). *The effects of marketing mix on consumer satisfaction: A literature review from Islamic perspectives. Turkish Journal of Islamic Economics*, 2(1), 17–30.
- Armstrong, G., & Kotler, P. (2022). *Marketing: An Introduction* (15th ed.). Pearson.
- Birnik, A., & Bowman, C. (2007). *Marketing mix standardization in multinational corporations: A review of the evidence. International Journal of Management Reviews*, 9(4), 303–324.
- Booms, B. H., & Bitner, M. J. (1981). *Marketing strategies and organizational structures for service firms*. In J. H. Donnelly & W. R. George (Eds.), *Marketing of Services* (pp. 47–51). American Marketing Association.
- Dominici, G. (2009). *From marketing mix to e-marketing mix: A literature overview and classification. International Journal of Business and Management*, 4(9), 17–24.
- Gatignon, H. (1993). *Marketing-Mix Models*. In J. Eliashberg & G. L. Lilien (Eds.), *Handbooks in Operations Research and Management Science* (Vol. 5, pp. 697–732). Elsevier.
- Işoraité, M. (2016). *Marketing mix theoretical aspects. International Journal of Research-Granthaalayah*, 4(4), 25–37.
- Kotler, P., Armstrong, G., & Balasubramanian, S. (2023). *Principles of Marketing* (19th ed.). Pearson.
- Raymond, L. J., & Theodore, R. (2025). *The impact of artificial intelligence on digital marketing strategies. International Journal of Research in Management*, 7(1), 556–563.
- Reghioui, M. Z., & Soukeur, K. (2024). *The impact of artificial intelligence on the marketing mix: Introducing the digital marketing mix 4.0. Remittances Review*, 9(5), 50–67.
- Zikmund, W., D'Alessandro, S., Winzar, H., Lowe, B., & Babin, B. (2017). *Marketing Research*