UDC 658.8:004.8 DOI: https://doi.org/10.64076/iedc250905.07

Enhancing marketing strategy through AI-augmented competitive intelligence: a new decision framework

Mark Ungurian
Alfred University, Alfred, NY
https://orcid.org/0009-0001-1430-8685

Abstract. *The relevance of the study lies in the need to enhance marketing strategies in the context of digital transformation and the high dynamism of the market environment. The purpose of this work is to determine the role of advanced competitive intelligence, based on artificial intelligence, in the formation of a new decision-making structure for marketing activities within companies. The results of this work demonstrate that integrating artificial intelligence into competitive intelligence offers significant benefits for businesses, particularly by enhancing the accuracy and speed of decision-making.*
Keywords: *competitive intelligence, AI on the marketworkplace, intelligence studies in business, quantitative.*

The concept of advanced competitive intelligence in modern marketing means a qualitatively new approach to collecting and analyzing information about the competitive environment [1, p. 963]. While traditional competitive intelligence was based mainly on monitoring open sources, analyzing competitors' actions and identifying their strategies, at the current stage of development, it becomes necessary to integrate a much wider range of data. This is not limited to structured information, but refers to large arrays of unstructured data originating from digital platforms, social networks, customer reviews, search query analytics or even consumer behavioral patterns. The use of behavioral analytics enables the identification of hidden patterns in consumer choices and the prediction of their reactions to marketing stimuli. Predictive models built using machine learning methods enable both the description of the current market state and the prediction of potential scenarios for its development, thereby increasing the accuracy and speed of managerial decision-making.

Artificial intelligence plays a key role in enhancing the system of advanced competitive intelligence, as it automates the processes of data collection, processing, and interpretation. Unlike traditional analysis methods that require significant time and human resources, machine learning algorithms can quickly work with multidimensional arrays of information, isolating relevant signals from a large amount of information noise. The use of intelligent algorithms enables the creation of dynamic forecasting models that accurately reflect market trends and potential competitor behavior. Of particular importance is the ability of artificial intelligence to detect hidden correlations that remain beyond the scope of traditional analysis and to form new knowledge necessary for strategic management. In addition, thanks to natural language processing and computer vision tools, it is possible to integrate unstructured data from texts in social networks to visual content, which expands the horizons of analytical capabilities [2]. As a result, artificial intelligence transforms competitive intelligence from an auxiliary tool into a full-fledged decision-making support mechanism capable of operating in real-time and providing businesses with a high level of adaptability and resilience to changes in the external environment.

The new decision-making structure in marketing strategy, influenced by artificial intelligence, is based on a shift in emphasis from intuitive and empirical approaches to data-driven management models. Suppose earlier marketing decisions were formed mainly based on historical data, expert assessments, and general trends. In that case, modern intelligent systems provide complex analysis in real-time, which allows you to form more flexible and adaptive strategies. Such a structure involves the integration of automated information collection systems, forecasting algorithms, and mechanisms for identifying risks and hidden opportunities that cannot be captured by traditional tools [3]. Artificial intelligence becomes the leading link that combines data from various sources and transforms them into practical management decisions. The result is a multi-level model in which strategic, tactical, and operational decisions are made, taking into account the speed of reaction to market changes, the accuracy of forecasts, and the personalization of approaches to consumers. This allows companies to minimize uncertainty, reduce costs and increase competitiveness in the global market. The analytical differences between traditional and AI-oriented decision-making structures in marketing strategy are presented in Table 1.

Table 1. Key differences between traditional and AI-driven decision-making frameworks in marketing strategy

Indicator	Traditional approaches	AI-driven approaches
Speed of analysis	Low, requires time and human resources	High, real-time
Nature of decisions	Intuitive and expert assessments	Data, forecasts and algorithmic models
Forecasting	Linear and retrospective methods	Scenario and adaptive forecasting
Response to market changes	Late and slow	Operational and proactive
Personalization of strategies	Limited, segmentation by standard features	High, individualized approaches to the client
Risk management	Based on experience	Using analytics to identify hidden threats
Role of the manager	Dominant in decision-making	Coordinative, relying on the results of AI analytics
Data sources	Limited, mainly formal and historical	Big data, including behavioral and unstructured information

Source: author development.

Scenario modeling is a key element of the new marketing strategy, as it enables the prediction of market processes and the behavior of participants in a competitive environment. Its essence lies in the formation of several alternative scenarios of the future, taking into account various combinations of economic, social, technological and political factors. Thanks to the use of artificial intelligence tools, scenario modeling has evolved beyond traditional descriptive approaches and has been transformed into a dynamic forecasting system. Machine learning algorithms analyze large data flows, including consumer trends, competitor marketing activities, macroeconomic indicators, and digital audience behavior, which enables the creation of multidimensional scenarios with a high level of accuracy. Within the framework of

competitive intelligence, this opens up the opportunity not only to track competitors' actions but also to predict their strategic steps, assess potential risks, and identify windows of opportunity for your own business. The combination of scenario modeling and competitive intelligence provides an analytical basis for decision-making that minimizes uncertainty and enables proactive action. Thus, companies receive a strategic planning tool that provides increased flexibility, adaptability and resilience to external challenges. At the same time, the active use of artificial intelligence in competitive intelligence puts forward new requirements for the ethical and legal support of these processes. The primary challenge is striking a balance between legitimate information collection and the protection of consumers' personal data and trade secrets. Violation of this balance can damage the company's reputation and lead to legal sanctions [4, p. 159]. In this context, a crucial task is to implement internal standards of ethical behavior, ensure transparency in the use of algorithms, and comply with international data protection standards. Analytical differences between the benefits for companies and key ethical and legal aspects are presented in Table 2.

Table 2. Benefits and ethical and legal challenges of advanced competitive intelligence based on artificial intelligence

Aspect	Benefits for companies	Ethical and legal challenges
Quality of decision-making	High accuracy thanks to predictive models and AI analytics	The risk of using unreliable or biased algorithms
Speed of response	Real-time responsiveness	The issue of the legitimacy of data sources
Optimization of resources	Reducing marketing costs and reducing strategic errors	The need to comply with commercial data protection standards
Personalization of strategies	Forming individual offers for customers	The need to protect personal data in accordance with GDPR and other regulations
Competitive advantages	Proactive in identifying new opportunities and risks	The requirement to ensure transparency of algorithms and prevent manipulation
Long-term sustainability	Ensuring the adaptability of the business model to market changes	The balance between commercial interests and public expectations regarding the ethics of using AI

Source: author development.

The prospects for the development of self-learning marketing systems are influenced by the increasing role of artificial intelligence in shaping management strategies and market interactions. Unlike traditional analytics tools, such systems are not only able to process data and build forecasts, but also to improve their own algorithms through self-learning continually. This means that the efficiency of decision-making increases due to the accumulation of experience and adaptation to new conditions. A key feature is the integration of such systems into corporate information ecosystems, which ensures continuous data exchange between different departments and creates a unified analytical space for strategic management. It is expected that the further development of self-learning marketing systems will be associated with the use of generative models that can analyze and simultaneously create new scenarios for communication and management decisions.

References

1. Cekuls, A. (2022). AI-Driven competitive intelligence: Enhancing business strategy and decision making. *Journal of Intelligence Studies in Business, 12*(3), 961–975. https://doi.org/10.37380/jisib.v12i3.961

2. Csaszar, F. A., Ketkar, H., & Kim, H. (2024). Artificial intelligence and strategic decision-making: Evidence from entrepreneurs and investors. *arXiv preprint*. arXiv:2408.0881. https://arxiv.org/abs/2408.08811

3. Gallego, V., Lingan, J., Freixes, A., Juan, A. A., & Osorio, C. (2024). Applying machine learning in marketing: An analysis using the NMF and k-means algorithms. *Information, 15*(7), Article 368. https://doi.org/10.3390/info15070368

4. Overgoor, G., Chica, M., Rand, W., & Weishampel, A. (2019). Letting the computers take over: Using AI to solve marketing problems. *California Management Review, 61*(4), 156–185. https://doi.org/10.1177/000812561985931

UDC 159.98 DOI: https://doi.org/10.64076/iedc250905.08

Features of the formation of communication skills of modern managers

Oksana Zhuk
Ivan Franko National University of Lviv, Lviv
https://orcid.org/0000-0003-0979-6028
Igor Fedoryshyn
Ivan Franko National University of Lviv, Lviv

Abstract. *The essence and features of the formation and development of basic communication skills and abilities of modern managers in the conditions of active development of information and communication technologies are considered.*
Keywords: *communications, communication skills, abilities, competencies, information technologies.*

Особливості формування комунікаційних навиків сучасних менеджерів

Оксана Жук
Львівський національний університет імені Івана Франка, м. Львів
https://orcid.org/0000-0003-0979-6028
Ігор Федоришин
Львівський національний університет імені Івана Франка, м. Львів

Анотація. *Розглянуто сутність та особливості формування і розвитку основних комунікаційних навиків і вмінь сучасних менеджерів в умовах активного розвитку інформаційно-комунікаційних технологій.*
Ключові слова: *комунікації, комунікаційні навики, вміння, компетенції, інформаційні технології.*