



INNOVATIVE APPROACHES TO FORMING CONSUMER LOYALTY IN DIGITAL RETAIL

N. Aidargaliyeva^{1*}, A. Maldynova², D. Mussabalina³

^{1*} L.N. Gumilyov Eurasian National University, Astana, Kazakhstan

² Kenzhegali Sagadiyev University of International Business, Almaty, Kazakhstan

³ Abai Kazakh National Pedagogical University, Almaty, Kazakhstan

E-mail: ¹aidargaliyeva@enu.kz, ²aizhanam@gmail.com, ³d.mussabalina@gmail.com

Abstract. *Objective* – to examine innovative approaches to forming consumer loyalty in digital retail and to assess the effectiveness of neuromarketing tools in managing customer behavior under conditions of digital transformation. *Methods* – mixed research methodology combining quantitative survey methods, comparative analysis, customer segmentation, and experimental neurosensory monitoring. The empirical study included 150 respondents divided into individuals, corporate clients, and dealers, as well as an experimental group of 40 participants exposed to different neuromarketing stimuli. *Results* – significant differences in satisfaction levels among customer segments were identified. Corporate clients and dealers demonstrated higher satisfaction with payment flexibility, service quality, and reliability of interaction, while individual consumers showed greater sensitivity to service speed and personalization. Neuromarketing stimuli, including dynamic lighting, video displays, background music, and scent marketing, positively influenced emotional engagement, duration of store visits, and purchase intention. In addition, 2025 retail trends confirm the growing role of mobile commerce, personalized offers, and omnichannel loyalty ecosystems in Kazakhstan. *Conclusions* – effective loyalty formation in modern retail requires the integration of behavioral analytics, segmentation strategies, and sensory marketing tools. The practical significance of the study lies in the possibility of applying the results to improve customer experience management and strengthen the competitive position of retail companies in Kazakhstan.

Keywords: economy, neuromarketing, consumer behavior, digital retail, customer loyalty, customer experience, sensory marketing.

Received 25.09.2025. Revised 25.02.2026. Accepted 20.05.2026. Available online 30.06.2026

*the corresponding author

Introduction

Modern retail is undergoing an intensive transformation under the influence of digital technologies, increased competition and changing consumer preferences. To better illustrate the structural transformation of modern retail, Figure 1 presents the key global drivers shaping customer loyalty and purchasing behavior in 2025. These trends demonstrate the growing importance of digital convenience, personalized communication, and trust-based customer relationships (Figure 1).

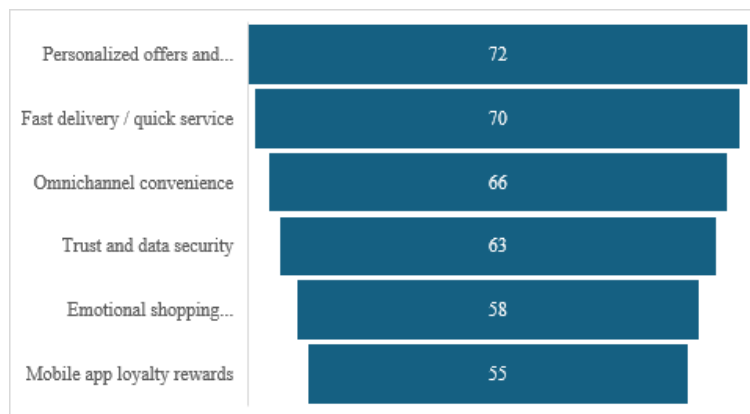


Figure 1 – Key retail loyalty trends in 2025

Note: compiled by authors

Personalization remains the strongest driver of customer loyalty in 2025, with 72% of consumers expecting tailored offers and relevant recommendations. Fast service and delivery rank second (70%), confirming rising expectations for speed and operational convenience. Omnichannel integration (66%) reflects the need for seamless movement between physical stores, websites, and mobile applications. Trust and data security (63%) also play a significant role, especially in digital transactions. These findings confirm that modern retail competition is increasingly based not only on price, but on customer experience, emotional engagement, and technological responsiveness.

Companies seeking to remain competitive are forced not only to adapt to changing demands but also to actively shape the behavioral models of buyers. In these conditions, scientifically based marketing approaches based on the study of cognitive and emotional reactions of consumers are in demand (Potluri et al., 2024).

One of the most promising areas is neuromarketing, which combines the achievements of neuroscience, psychology and digital marketing. Its tools allow you to identify hidden mechanisms of perception, predict audience reactions and build personalized interaction strategies. This is becoming especially significant in digital ecosystems, where the role of sensory communications, personalization and interactive formats is increasing (Kadyan, 2021).

The relevance of this research is determined by the insufficient study of the use of neuromarketing in the practice of domestic retail companies (Ndhlovu & Maree, 2023). Despite the active implementation of digital solutions, comprehensive studies of the impact of neuromarketing stimuli on customer satisfaction, engagement and loyalty remain limited.

The purpose of the article is to analyze the mechanisms of consumer behavior management in retail trade using the example of Idia Market LLC, paying attention to the influence of marketing and neuromarketing factors on customer experience.

The object of the research is the processes of interaction between the company and consumers in the context of the digital transformation of the retail sector.

The subject of the research is the perception of customer service by various categories of consumers (individuals, corporate clients and dealers) and the influence of neuromarketing stimuli on their behavior.

The working hypothesis is that the use of neuromarketing tools helps to increase the level of emotional involvement, satisfaction and trust of customers, creating the basis for long-term loyalty.

The practical significance of the research lies in the possibility of applying its findings in developing marketing strategies and optimizing customer service of retail companies in Kazakhstan.

Literature review

Consumer behavior in modern marketing discourse is considered a set of cognitive, emotional, and behavioral reactions of an individual to the influence of the external marketing environment. According to Kotler et al. (2021), consumer behavior reflects a complex process of choosing, purchasing, and using goods and services, in which not only rational decision-making but also the emotional perception of marketing stimuli plays a central role. This approach requires a systematic analysis of the factors shaping the experience of interaction between the consumer and the brand in the digital economy.

Abdul Haris (2024) emphasizes the importance of motivational structures, individual values, perception, and learning mechanisms as fundamental determinants of behavior that form the basis of consumer decisions. On this foundation, the concept of customer experience has developed, within which Lemon and Verhoef (2016) focus on the need to accompany consumers throughout all stages of the customer journey, from awareness to post-purchase behavior. This perspective is reinforced by the work of Molinillo et al. (2022), who highlight the importance of “moments of truth” and the continuity of customer experience as factors in building loyalty and brand differentiation.

In a highly competitive environment, the emotional connection between the consumer and the brand plays a special role. As noted by Fugate (2020), a strong brand can reduce perceived risk, increase trust, and create lasting attachment to a product, which is particularly important in digital environments where consumers face information overload. Research by Gensler (2022) confirms that in the age of digitalization, customer experience management requires adaptive strategies based on behavioral analytics and the brand’s emotional responsiveness.

The context of digital retail, as emphasized by Pine and Gilmore (2019), requires a rethinking of the traditional consumption model toward the creation of a unique customer experience. According to their concept of the experience economy, successful companies do not simply sell goods, but create memorable and emotionally engaging experiences that contribute to sustainable customer involvement with the brand.

A special place in modern marketing practice is occupied by neuromarketing as a tool for in-depth analysis of consumer reactions. Studies using neuroscientific approaches demonstrate how the human brain responds to various product stimuli and purchasing environments. In turn, Gécı et al. (2017) confirm that sensory marketing elements, including visual, auditory, and olfactory stimuli, play a key role in shaping behavioral responses and stimulating impulsive decisions.

In the context of the Kazakhstani retail market, an important trend is the growing significance of local brand identity and individualized approaches to target consumer segments. As shown by Sadykova and Islam (2022), brand perception in digital environments forms consumers’ intention to use products and creates stable emotional attachment through value co-creation. In this regard, the concept of a brand as a carrier of cultural and social identity becomes increasingly relevant, strengthening customer loyalty under conditions of competition between local and global brands.

Consumer segmentation in Kazakhstan is becoming more specific under the influence of demographic and behavioral factors. As demonstrated by Akhmetova et al. (2023), income level has a significant impact on consumer loyalty in the FMCG sector. Therefore, more precise targeting of marketing strategies is required, taking into account the economic characteristics of different customer groups. In addition, the need for a personalized approach to younger consumers with a high degree of digital involvement and sensitivity to rapidly changing market information remains highly relevant. According to Potluri et al. (2024), the behavior of Kazakhstani Generation Z consumers is significantly influenced by brand perception and pricing policy. Loyalty directly correlates with the emotional appeal of the brand and its positioning in the digital environment. Consequently, the need for strategic branding aimed at creating both functional and emotional value propositions becomes increasingly evident.

Particular attention should be paid to the transformation of behavioral patterns under the influence of digital channels. According to Tungushbayeva (2021), digital marketing has an increasingly significant impact on the behavior of Kazakhstani consumers by activating such mechanisms as impulsive purchases, increased sensitivity to visual stimuli, and susceptibility to personalized offers. This transformation is especially evident in online retailing, where response speed, ease of navigation, and the emotional richness of content play an important role.

The use of neuromarketing technologies opens additional opportunities for a deeper understanding of the cognitive and emotional reactions of consumers. Thus, Kamaladin and Kazybayeva (2021), as well as Smykova et al. (2023), demonstrate the effectiveness of biometric and neuropsychological tools in assessing the perception

of advertising messages and retail space elements. In the context of digitalization, the management of consumer perception and emotional experience becomes especially important. As emphasized by Mamatkulova (2024), neuromarketing contributes to a more accurate construction of the customer journey by taking into account consumers' psychophysiological characteristics, which in turn supports the formation of sustainable loyalty. Therefore, existing research confirms that consumer behavior management requires a comprehensive approach based on the synthesis of behavioral economics, branding, and neuromarketing.

In addition to theoretical approaches, current market statistics confirm the growing strategic importance of customer loyalty management in digital retail. According to UNCTAD and eMarketer estimates, global retail e-commerce sales exceeded USD 6 trillion in 2024 and continue to expand in 2025, accounting for an increasing share of total retail turnover. International analysts forecast that by the end of 2025, more than one-quarter of global retail purchases will be made through digital channels. At the same time, Statista reports that over 70% of online consumers worldwide expect personalized offers, while more than 60% are willing to return to brands that provide seamless omnichannel experiences.

In emerging markets, including Kazakhstan, digital commerce growth remains particularly dynamic. According to national statistical data and industry reports, the share of non-cash payments, mobile transactions, and marketplace purchases continued to rise throughout 2024–2025. Consumers increasingly rely on mobile applications, instant delivery services, loyalty ecosystems, and personalized recommendations when selecting retail brands. These changes indicate that competitive advantage in modern retail is shifting from price competition toward customer experience, trust formation, and data-driven personalization.

Furthermore, Deloitte and PwC retail outlooks for 2025 emphasize that the most successful retailers are those integrating artificial intelligence, predictive analytics, CRM automation, and sensory marketing tools into customer journey management. Therefore, modern loyalty strategies should be viewed not only as marketing instruments, but also as core elements of long-term digital competitiveness.

Research methods

This research focuses on retail trade in Kazakhstan, namely, the analysis of customer behavior of Idia Market LLC. The choice of this direction is due to the relevance of increasing consumer loyalty and the need to adapt the marketing strategy to new conditions. In addition, the characteristics of the Kazakhstani consumer require separate study due to cultural, social and economic factors.

The research is based on the use of a mixed method - a combination of quantitative and qualitative approaches. This method allows us to identify not only statistical patterns but also to interpret the motivational aspects of behavior. Particular attention is paid to consumer segmentation, customer journey analysis, and the study of reactions to marketing tools.

The target audience of the research is buyers of Idia Market LLC, representing both individuals and legal entities. The sample included customers from the cities of Astana and Almaty - the main regions where the company's branches are located. The sample size was 150 respondents, which ensures sufficient representativeness at the company level. The gender, age, professional and territorial structure of consumers were considered.

To obtain a more complete picture, buyers were divided into categories:

- private buyers (individuals),
- corporate clients (legal entities),
- dealers and purchasers for government tenders.

A standardized five-point scale (from 1 - "completely dissatisfied" to 5 - "completely satisfied") was used to assess customer satisfaction according to the following criteria:

1. Product quality - level of satisfaction with the technical and operational characteristics of equipment and furniture;
2. Service and support - level of attention, competence and politeness of employees;
3. Application processing speed - how quickly requests, calls, requests for calculation and delivery are processed;
4. Availability of managers - how easy it is to contact responsible specialists and get advice;
5. Flexibility of payment terms - availability of deferrals, installments, coordination of terms for the client.

The choice of these criteria is justified by the practical priorities of consumers and corresponds to international approaches to measuring customer experience (in particular, the SERVQUAL methodology).

Using the specified sample and assessment scale allowed:

- To obtain an objective picture of the current level of satisfaction in terms of customer groups;
- To identify the “strengths” and “weaknesses” of the company’s customer service;
- To formulate reasonable recommendations for managing consumer behavior and increasing their loyalty.

To study the influence of neuromarketing factors on consumer behavior in retail, an experimental method was chosen using psychophysiological and behavioral data.

The experiment involved 40 people of different genders and ages, who visited several stores with different conditions for applying neuromarketing approaches:

Group 1. A store using neurovisual elements (e.g., dynamic video ads on screens, lighting in certain areas).

Group 2. A store with neurophysiological effects (changes in the acoustic background, sensory elements).

Control group. A store without the use of neuromarketing technologies.

To assess consumers’ perception of the retail environment, devices for monitoring neuroparameters were used, such as portable EEG devices that record brain activity, as well as devices for measuring heart rate and sweating (Table 1).

Table 1 – Stages and methods of the experiment

№	Stages	Description	Methods
1	Registration of initial data	Participants were asked to complete a short survey that recorded their preferences, psychological state, and general perception of retail	Surveys and questionnaires to collect data on subjective feelings, preferences and stimulus perception
2	Exposure of the trading environment	Retail environment exposure. Participants were asked to walk through a store space in accordance with the conditions of their group	Observation of consumer behavior (time spent in store, number of items in the basket, reactions to marketing stimuli)
3	Post-exposure testing	After visiting the store, respondents were given self-assessment questionnaires, and additional measurements of psychophysiological indicators were taken	EEG (electroencephalography), monitoring of heart rate and stress levels

Note: compiled by authors

The experiment included three stages, each of which was aimed at a comprehensive study of the perception of the retail environment and assessment of the impact of neuromarketing stimuli. At the first stage, the initial attitudes and preferences of the participants were recorded. The second stage - exposure to the retail environment - provided an opportunity to observe the direct interaction of respondents with the space. Particular attention was paid to the indicators of time spent, dynamics of movement, number of purchases made, as well as the severity of reactions to visual and sensory stimuli.

The final stage of testing recorded subjective self-assessments and objective psychophysiological parameters. The use of portable EEG devices, monitoring of heart rate and sweating level provided a comprehensive analysis of emotional and behavioral reactions, which significantly increases the reliability of the data obtained compared to traditional survey methods.

The proposed methodology made it possible to combine qualitative and quantitative approaches, identify statistically significant differences between the experimental and control groups, and assess the effectiveness of various types of neuromarketing impact in retail settings.

Results and Discussion

Data analysis shows that the highest scores in all categories were received by dealers, which may be due to an individualized approach to partnerships and a more stable experience of interaction. At the same time, legal entities also demonstrate a high degree of satisfaction in almost all parameters, especially highlighting “Flexibility of payment terms” and “Product quality”, which reflect the importance of business conditions and stability of supplies for the corporate segment. Individuals demonstrated a moderately high level of satisfaction, especially for the criteria “Product quality” and “Availability of managers”. However, the lowest score was received for the criterion “Speed of application processing”, which indicates the need to optimize internal processes for working with retail customers, especially in response time to requests. The criterion “Service and support” also received a slightly lower rating from individuals compared to legal entities and dealers, which may indicate the need for a more personalized and customer-oriented approach in the retail segment (Table 2).

Table 2 – Degree of customer satisfaction by criteria (on a 5-point scale)

Criterion	Individual	Legal entity	Dealers
Product quality	4,5	4,6	4,7
Service and support	4,1	4,4	4,5
Application processing speed	3,9	4,3	4,1
Managers availability	4,3	4,5	4,0
Flexibility of payment terms	4,0	4,7	4,2

Note: compiled by authors

To provide a clearer comparative interpretation of satisfaction indicators across customer categories, the results were additionally visualized in Figure 2. The chart demonstrates differences in customer perceptions of service quality and operational efficiency among individuals, legal entities, and dealers (Figure 2).

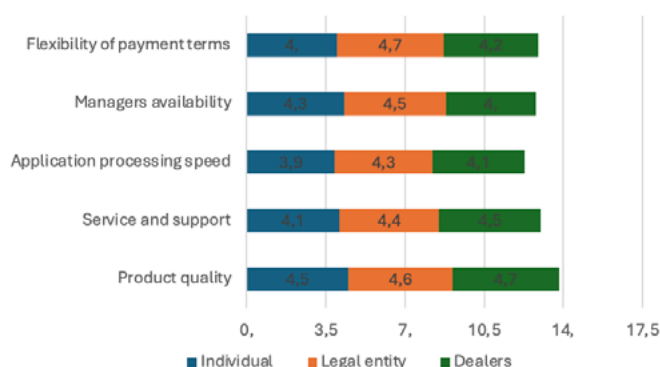


Figure 2 – Customer satisfaction by segment

Note: compiled by authors

The visual comparison confirms that legal entities demonstrate the highest overall satisfaction levels, particularly regarding payment flexibility and manager availability. Dealers report the strongest satisfaction with product quality and service support, reflecting the effectiveness of partnership-oriented interaction models. In contrast, individuals show comparatively lower evaluations of service speed and payment terms, indicating higher expectations for fast response and convenient purchasing conditions. These findings support the need for differentiated customer relationship strategies tailored to each segment.

Summarizing the data obtained, the following key findings can be highlighted:

- The highest level of satisfaction is observed in the corporate segment (legal entities), which is due to more flexible conditions and an individual approach.

- The most problematic area for all segments is the speed of processing applications - one of the most important indicators of operational efficiency.

- Individuals, as the most sensitive to speed and attention category of clients, require improvement in customer service.

- High scores for the criteria “product quality” and “manager availability” indicate high competence of the staff and stability of the main product offering.

The revealed differences in the degree of satisfaction between the client segments allow us to conclude that it is advisable to develop differentiated service strategies for each category: more automated and efficient processes - for individuals, in-depth support and financial flexibility - for legal entities and dealers.

The results obtained allow us to state that the company has built an effective service system, especially in the B2B segment. To strengthen positions in the retail direction, it is recommended to focus on increasing the response speed and improving online channels of interaction with private clients.

The results show that dealers and regular legal clients give the highest rating, which is due to the systematic work of the sales department and service support. At the same time, individuals interact less actively with the service, giving priority to a quick purchase.

Thus, the analysis of the customer relationship system in Idia Market LLC shows a high level of organization, a segmented approach and customer focus. The company competently builds communications with key groups of buyers - individuals and legal entities, dealers and representatives of the public sector. Work with legal entities and partner dealers is especially effective, which is confirmed by the high level of repeat purchases and a significant average check.

Analysis of the results of the consumer survey showed that neuromarketing factors have a significant impact on the behavior of buyers in retail. The most pronounced effect was recorded from bright lighting and dynamic video advertising: 78% of respondents noted that such elements encourage them to spend more time in the sales area. Pleasant background music has a positive effect on the emotional state and readiness to buy in 65% of respondents. Personalized advertising messages increased interest in the product among 72% of the study participants, and the use of space aromatization was positively perceived by 58% of respondents. Digital display windows that provide an interactive experience for choosing a product were attractive to 69% of buyers. In addition, 62% of customers confirmed that the emotional design of retail spaces contributes to the formation of trust and a positive perception of the brand (Figure 3).

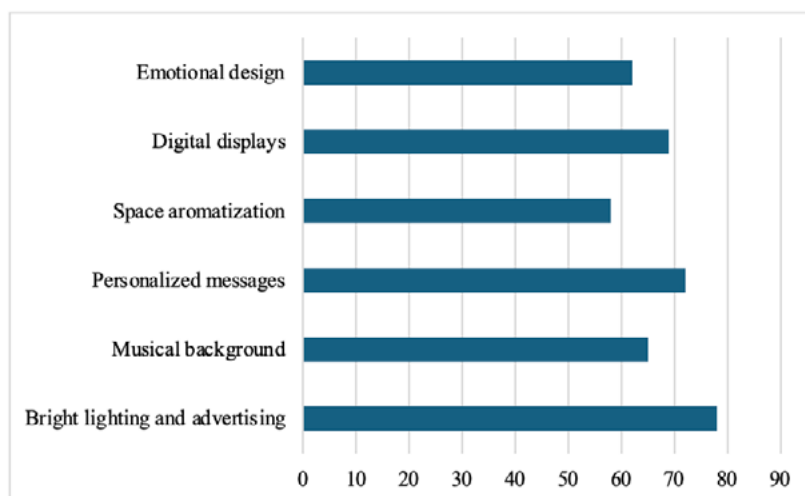


Figure 3 – The impact of neuromarketing factors on consumer behavior

Note: compiled by authors based on a survey

The data obtained indicate the high effectiveness of neuromarketing stimuli in creating a positive consumer experience, increasing the time spent in the store, and increasing customer engagement and loyalty.

Neuromarketing elements such as visual and audio stimuli have a significant impact on consumer behavior in retail. These stimuli lead to an increase in the time spent by customers in the store, as well as contribute to a greater number of purchases and an increase in the average check. Consumers interact more actively with the retail space when it is supplemented with such elements as dynamic video ads, specific lighting, or background sound effects. The use of neurophysiological stimuli, such as changes in background sound or lighting, causes noticeable changes in the emotional state of consumers. It manifests itself in increased activity in the emotional centers of the brain, as well as in an increase in heart rate, which indicates a more intense emotional involvement in the purchasing process. Such reactions confirm that neuromarketing stimuli are capable of evoking strong positive emotions that contribute to the formation of a positive brand image. Neuromarketing technologies have a significant impact on customer loyalty and satisfaction. Participants exposed to neuromarketing methods more often report a higher level of satisfaction with the shopping experience and demonstrate greater loyalty to the brand.

The results highlight the importance of neuromarketing in the long term, as a high degree of loyalty can be an important indicator of the effectiveness of consumer behavior management strategies and sales growth.

The obtained results of the empirical study indicate a high level of customer satisfaction at Idia Market LLC across most of the evaluated criteria, which confirms the effectiveness of the company's current customer service strategies. High ratings were observed in the B2B and dealer partnership segments, highlighting the importance of sustainable and personalized interactions between the organization and its key clients within the framework of relationship marketing (Morgan & Hunt, 1994).

The findings also suggest that flexibility of cooperation conditions, reliability of deliveries, and staff professionalism are the main drivers of customer loyalty in the corporate sector. These results are consistent with the work of Oliver (1980), who emphasized the role of expectation fulfillment, service quality, and operational consistency as determinants of customer satisfaction and repeated purchasing behavior.

At the same time, the segment of individual customers demonstrates greater sensitivity to response speed and the level of customer service, particularly regarding prompt application processing and after-sales support. This tendency may be explained by the growing role of emotional perception and brand-related cognitive responses in purchase decision-making, as discussed by Gupta et al. (2025).

According to it, consumer satisfaction is formed on the basis of comparing expectations with the actual quality of the service. However, the discrepancy between expectations leads to a decrease in the level of satisfaction even with high product quality. An important place in the study is occupied by the influence of neuromarketing factors on consumer behavior in retail. The results of the experiment showed high sensitivity of buyers to visual, sound and aromatic stimuli. The results obtained correspond to theories in the field of neuroeconomics and sensory marketing, that is, multimodal stimuli activate the emotional and motivational centers of the brain and increase the predisposition to purchase.

For example, visual stimuli in the form of electronic showcases and dynamic advertising increase the time spent in the retail space, while properly selected background music creates a positive emotional mood. According to the concept of emotional design of retail spaces and the atmospheric influence of the environment, the physical environment has a significant impact on consumer behavior at the point of sale. This theory is confirmed in practice, since the introduction of neuromarketing tools in retail areas creates a positive consumer experience and increases customer loyalty.

The results of the study confirm a number of provisions of modern marketing and neuromarketing theories, and also demonstrate the possibility of their successful application in practice within the framework of Kazakhstani retail. It is obvious that the development of differentiated service strategies based on segment differences (B2B, B2C, dealers) in combination with the introduction of neurosensory tools will become the basis for the formation of a sustainable competitive advantage.

However, it should be noted that high efficiency in the B2B segment does not reduce the priority of the retail direction. The development of online interaction channels, increasing operational efficiency, and the use of CRM systems with personalized service scenarios are key areas for improving customer service.

Conclusion

The results of the research confirm the high importance of consumer behavior management in modern retail. The success of retail in the context of active digitalization, increasing competition and rapidly changing consumer expectations and needs increasingly depends not on the range and pricing policy, but on the ability of a retail enterprise to influence the behavior and emotions of the buyer. As can be seen from the results of the study, the targeted use of neuromarketing tools has a significant impact on key aspects of consumer behavior, such as duration of stay in the sales area, satisfaction with the purchase, involvement in the purchase process, and the level of loyalty. The study revealed differences in the perception of customer service by individuals, legal entities and dealers. In this regard, there is a need for a segmented approach when forming a marketing communications plan.

The practical significance of the work is determined by the possibility of applying the research results in developing effective strategies for managing customer experience and retail space. To improve the efficiency of trading activities, companies need to rely on behavioral models when managing consumer behavior, which will allow taking into account external and internal stimuli (consumer reactions, cognitive and emotional factors). The results of the study prove the feasibility of integrating behavioral and neuromarketing approaches into operational and strategic processes of retail. Future research should be aimed at studying the long-term effect of these impacts, assessing the profitability of investments in sensory and emotional marketing in retail of various formats.

Contribution of the authors:

N. Aidargaliyeva – initiation of the research idea, development of the research design and coordination of the work at different stages.

A. Maldynova – conducting the main part of the research, organizing data collection, and ensuring the validity of the obtained results.

D. Mussabalina – analysis and interpretation of the data, preparation of the manuscript, and adaptation of the text in accordance with the journal's requirements.

All authors contributed equally to discussing the results, formulating conclusions, and approved the final version of the article.

Acknowledgments, conflict of interest

The authors report that there is no conflict of interest in writing and publishing this work.

References

1. Abdul Haris, A. (2024). Consumer behavior shifts in digital age: Impact on brand loyalty. *Advances: Jurnal Ekonomi & Bisnis*, 3(1), 38–51. <https://doi.org/10.60079/ajeb.v3i1.417>
2. Akhmetova, Z. B., Konopelko, A., & Kim, I. A. (2023). Dynamic analysis of consumer loyalty in the fast-moving consumer goods market in the Republic of Kazakhstan. *Bulletin of Turan University*, 2, 79–91. <https://doi.org/10.46914/1562-2959-2023-1-2-79-91>
3. Fugate, D. L. (2020). Neuromarketing: Exploring the intersection of neuroscience and consumer behavior. *Journal of Business Research*, 120, 344–353. <https://doi.org/10.1016/j.jbusres.2020.08.015>
4. Géci, A., Nagyová, L., & Rybanská, J. (2017). Impact of sensory marketing on consumer's buying behaviour. *Potravinárstvo Slovak Journal of Food Sciences*, 11(1), 709–717. <https://doi.org/10.5219/835>
5. Gensler, S. (2022). Managing customer experience and satisfaction in the digital age. *Journal of Interactive Marketing*, 59, 1–9.
6. Gupta, R. G. R., Kapoor, A. P., & Verma, H. V. (2025). Neuro-insights: A systematic review of neuromarketing perspectives across consumer buying stages. *Frontiers in Neuroergonomics*, 6, Article 1542847. <https://doi.org/10.3389/fnrgo.2025.1542847>
7. Kadyan, J. S. (2021). Insights of customer buying behavior in digital platform: An empirical study. SSRN. <https://doi.org/10.2139/ssrn.3789074>
8. Kotler, P., Kartajaya, H., & Setiawan, I. (2021). *Marketing 5.0: Technology for humanity*. Wiley.
9. Lemon, K. N., & Verhoef, P. C. (2016). *Understanding customer experience throughout the customer journey*.

-
- Journal of Marketing, 80(6), 69–96.
10. Mamatkulova, S. D. (2024). The role of artificial intelligence and marketing automation in a market economy. *Education Science and Innovative Ideas in the World*, 55(3), 57–64.
 11. Molinillo, S., Aguilar-Illescas, R., Anaya-Sánchez, R., & Carvajal-Trujillo, E. (2022). The customer retail app experience: Implications for customer loyalty. *Journal of Retailing and Consumer Services*, 65, Article 102842. <https://doi.org/10.1016/j.jretconser.2021.102842>
 12. Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, 58(3), 20–38.
 13. Ndhlovu, T., & Maree, T. (2023). The central role of consumer–brand engagement in product and service brand contexts. *Journal of Marketing Analytics*, 12, 944–961. <https://doi.org/10.1057/s41270-023-00241-7>
 14. Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17(4), 460–469.
 15. Pine, B. J., & Gilmore, J. H. (2019). *The experience economy: Competing for customer time, attention, and money*. Harvard Business School Press.
 16. Potluri, R., Zulpaidar, Z., & Kurmangazin, S. (2024). Impact of brand name and pricing on Kazakhstan Gen Z consumer behavior. *Innovative Marketing*, 20(3), 70–80. [https://doi.org/10.21511/im.20\(3\).2024.06](https://doi.org/10.21511/im.20(3).2024.06)
 17. Pozharliev, R., De Angelis, M., & Rossi, D. (2022). The influence of sensory marketing on consumer behavior: A systematic review and research agenda. *Journal of Business Research*, 141, 109–121. <https://doi.org/10.1016/j.jbusres.2021.11.041>
 18. Sadykova, D., & Islam, D. M. Z. (2022). Brand equity and usage intention powered by value co-creation: A case of Instagram in Kazakhstan. *Sustainability*, 14(1), Article 500.
 19. Smykova, M. R., Daurenbekova, K., & Artykbayeva, A. (2023). Neuromarketing research of communication efficiency of tourist advertising. *Bulletin of L. N. Gumilyov ENU. Economic Series*, 4, 301–311. <https://doi.org/10.32523/2789-4320-2023-4-301-311>
 20. Tungushbayeva, Z. (2021). Impact of digital marketing on consumer behavior: Descriptive study based on Kazakhstan customers. *International Journal of Innovative Science and Research Technology*, 8, 242–249.
 21. Камаладин, Д. Б., & Казыбаева, А. М. (2021). Нейромаркетинг в онлайн-образовании. *Вестник Казахского национального университета имени аль-Фараби. Серия «Экономика»*, 4(138), 22–32. <https://doi.org/10.26577/be.2021.v138.i4.03>

Н. Айдарғалиева^{*1}, А. Малдынова², Д. Мұсабалина³

¹Л.Н. Гумилев атындағы Еуразия ұлттық университеті, Астана, Қазақстан

²Кенжеғали Сағадиев атындағы Халықаралық бизнес университеті, Алматы, Қазақстан

³Абай атындағы Қазақ ұлттық педагогикалық университеті, Алматы, Қазақстан

Цифрлық бөлшек саудада тұтынушылардың адалдығын қалыптастырудағы инновациялық тәсілдер

Аңдатпа. Мақсаты – цифрлық бөлшек саудада тұтынушылар адалдығын қалыптастырудың инновациялық тәсілдерін зерттеу және цифрлық трансформация жағдайында тұтынушы мінез-құлқын басқаруда нейромаркетинг құралдарының тиімділігін бағалау. *Әдістері* – сандық сауалнама, салыстырмалы талдау, клиенттерді сегменттеу және эксперименттік нейросенсорлық мониторингті қамтитын аралас зерттеу әдістемесі. Эмпирикалық зерттеуге жеке тұлғалар, корпоративтік клиенттер және дилерлер болып бөлінген 150 респондент, сондай-ақ әртүрлі нейромаркетингтік стимулдарға ұшыраған 40 қатысушыдан тұратын эксперименттік топ қатысты. *Нәтижелері* – клиенттік сегменттер арасында қанағаттану деңгейінде елеулі айырмашылықтар анықталды. Корпоративтік клиенттер мен дилерлер төлем шарттарының икемділігіне, қызмет көрсету сапасына және өзара әрекеттесудің сенімділігіне жоғары баға берді, ал жеке тұтынушылар қызмет көрсету жылдамдығы мен жекелендіруге анағұрлым сезімтал болды. Динамикалық жарықтандыру,

бейнедисплейлер, фондық музыка және ароматтандыру сияқты нейромаркетингтік стимулдар эмоциялық тартылуды, дүкенде болу ұзақтығын және сатып алу ниетін арттырды. Сонымен қатар, 2025 жылғы бөлшек сауда трендтері Қазақстанда мобильді коммерцияның, жекелендірілген ұсыныстардың және омниканалды адалдық экожүйелерінің рөлінің артып келе жатқанын көрсетті. *Қорытындылар* – қазіргі бөлшек саудада тиімді адалдықты қалыптастыру мінез-құлық аналитикасын, сегментациялық стратегияларды және сенсорлық маркетинг құралдарын біріктіруді талап етеді. Зерттеудің практикалық маңызы нәтижелерді клиенттік тәжірибені басқаруды жетілдіруде және Қазақстандағы бөлшек сауда компанияларының бәсекелік позициясын нығайтуда қолдану мүмкіндігімен анықталады.

Түйін сөздер: экономика, нейромаркетинг, тұтынушы мінез-құлқы, цифрлық бөлшек сауда, клиенттік адалдық, клиенттік тәжірибе, сенсорлық маркетинг.

Н. Айдарғалиева^{*1}, А. Малдынова², Д. Мусабалина³

¹Евразийский национальный университет им. Л.Н. Гумилева, Астана, Казахстан

²Университет международного бизнеса им. Кенжеғали Сағадиева, Алматы, Казахстан

³Казахский национальный педагогический университет им. Абая, Алматы, Казахстан

Инновационные подходы к формированию лояльности потребителей в цифровой рознице

Аннотация. *Цель* - исследовать инновационные подходы к формированию потребительской лояльности в цифровой розничной торговле и оценить эффективность инструментов нейромаркетинга в управлении поведением потребителей в условиях цифровой трансформации. *Методы* - смешанная методология исследования, включающая количественные опросы, сравнительный анализ, сегментацию клиентов и экспериментальный нейросенсорный мониторинг. В эмпирическом исследовании приняли участие 150 респондентов, разделённых на физических лиц, корпоративных клиентов и дилеров, а также экспериментальная группа из 40 участников, подвергавшихся воздействию различных нейромаркетинговых стимулов. *Результаты* - выявлены значительные различия в уровнях удовлетворённости между клиентскими сегментами. Корпоративные клиенты и дилеры продемонстрировали более высокую удовлетворённость гибкостью условий оплаты, качеством обслуживания и надёжностью взаимодействия, тогда как индивидуальные потребители оказались более чувствительными к скорости обслуживания и персонализации. Нейромаркетинговые стимулы, включая динамическое освещение, видеодисплеи, фоновую музыку и ароматизацию, положительно влияли на эмоциональную вовлечённость, продолжительность пребывания в магазине и намерение совершить покупку. Кроме того, тренды розничной торговли 2025 года подтверждают растущую роль мобильной коммерции, персонализированных предложений и омниканальных экосистем лояльности в Казахстане. *Выводы* - эффективное формирование лояльности в современной розничной торговле требует интеграции поведенческой аналитики, стратегий сегментации и инструментов сенсорного маркетинга. Практическая значимость исследования заключается в возможности применения результатов для совершенствования управления клиентским опытом и укрепления конкурентных позиций розничных компаний Казахстана.

Ключевые слова: экономика, нейромаркетинг, поведение потребителей, цифровая розничная торговля, клиентская лояльность, клиентский опыт, сенсорный маркетинг.

References

1. Abdul Haris, A. (2024). Consumer behavior shifts in digital age: Impact on brand loyalty. *Advances: Jurnal Ekonomi & Bisnis*, 3(1), 38–51. <https://doi.org/10.60079/ajeb.v3i1.417> [in English].
2. Akhmetova, Z. B., Konopelko, A., & Kim, I. A. (2023). Dynamic analysis of consumer loyalty in the fast-moving consumer goods market in the Republic of Kazakhstan. *Bulletin of Turan University*, 2, 79–91. <https://doi.org/10.46914/1562-2959-2023-1-2-79-91> [in English].
3. Fugate, D. L. (2020). *Neuromarketing: Exploring the intersection of neuroscience and consumer behavior*.

-
- Journal of Business Research, 120, 344–353. <https://doi.org/10.1016/j.jbusres.2020.08.015> [in English].
4. Géci, A., Nagyová, L., & Rybanská, J. (2017). Impact of sensory marketing on consumer's buying behaviour. *Potravinárstvo Slovak Journal of Food Sciences*, 11(1), 709–717. <https://doi.org/10.5219/835> [in English].
 5. Gensler, S. (2022). Managing customer experience and satisfaction in the digital age. *Journal of Interactive Marketing*, 59, 1–9 [in English].
 6. Gupta, R. G. R., Kapoor, A. P., & Verma, H. V. (2025). Neuro-insights: A systematic review of neuromarketing perspectives across consumer buying stages. *Frontiers in Neuroergonomics*, 6, Article 1542847. <https://doi.org/10.3389/fnrgo.2025.1542847> [in English].
 7. Kadyan, J. S. (2021). Insights of customer buying behavior in digital platform: An empirical study. SSRN. <https://doi.org/10.2139/ssrn.3789074> [in English].
 8. Kotler, P., Kartajaya, H., & Setiawan, I. (2021). *Marketing 5.0: Technology for humanity*. Wiley [in English].
 9. Lemon, K. N., & Verhoef, P. C. (2016). Understanding customer experience throughout the customer journey. *Journal of Marketing*, 80(6), 69–96 [in English].
 10. Mamatkulova, S. D. (2024). The role of artificial intelligence and marketing automation in a market economy. *Education Science and Innovative Ideas in the World*, 55(3), 57–64 [in English].
 11. Molinillo, S., Aguilar-Illescas, R., Anaya-Sánchez, R., & Carvajal-Trujillo, E. (2022). The customer retail app experience: Implications for customer loyalty. *Journal of Retailing and Consumer Services*, 65, Article 102842. <https://doi.org/10.1016/j.jretconser.2021.102842> [in English].
 12. Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, 58(3), 20–38 [in English].
 13. Ndhlovu, T., & Maree, T. (2023). The central role of consumer–brand engagement in product and service brand contexts. *Journal of Marketing Analytics*, 12, 944–961. <https://doi.org/10.1057/s41270-023-00241-Z> [in English].
 14. Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17(4), 460–469 [in English].
 15. Pine, B. J., & Gilmore, J. H. (2019). *The experience economy: Competing for customer time, attention, and money*. Harvard Business School Press [in English].
 16. Potluri, R., Zulpaidar, Z., & Kurmangazin, S. (2024). Impact of brand name and pricing on Kazakhstan Gen Z consumer behavior. *Innovative Marketing*, 20(3), 70–80. [https://doi.org/10.21511/im.20\(3\).2024.06](https://doi.org/10.21511/im.20(3).2024.06) [in English].
 17. Pozharliev, R., De Angelis, M., & Rossi, D. (2022). The influence of sensory marketing on consumer behavior: A systematic review and research agenda. *Journal of Business Research*, 141, 109–121. <https://doi.org/10.1016/j.jbusres.2021.11.041> [in English].
 18. Sadykova, D., & Islam, D. M. Z. (2022). Brand equity and usage intention powered by value co-creation: A case of Instagram in Kazakhstan. *Sustainability*, 14(1), Article 500 [in English].
 19. Smykova, M. R., Daurenbekova, K., & Artykbayeva, A. (2023). Neuromarketing research of communication efficiency of tourist advertising. *Bulletin of L. N. Gumilyov ENU. Economic Series*, 4, 301–311. <https://doi.org/10.32523/2789-4320-2023-4-301-311> [in English].
 20. Tungushbayeva, Z. (2021). Impact of digital marketing on consumer behavior: Descriptive study based on Kazakhstan customers. *International Journal of Innovative Science and Research Technology*, 8, 242–249 [in English].
 21. Kamaladin, D. B., & Kazybaeva, A. M. (2021). Neyromarketing v onlayn-obrazovanii [Neuromarketing in online education]. *Vestnik Kazakhskogo natsionalnogo universiteta imeni al-Farabi. Seriya «Ekonomika»* [Bulletin of Al-Farabi Kazakh National University. Economics Series], 4(138), 22–32. <https://doi.org/10.26577/be.2021.v138.i4.03> [in Russian].

Information about the authors

Aidargaliyeva N. – corresponding author, PhD, Associate Professor, L.N. Gumilyov Eurasian National University, Department of Finance, 2 Satbayev Street, Almaty District, Astana 010000, Republic of Kazakhstan.

Maldynova A. – PhD, Associate Professor, Kenzhegali Sagadiyev University of International Business, 8a, Abai Avenue, Almaty 050000, Republic of Kazakhstan.

Mussabalina D. – PhD, Postdoctoral Researcher, Abai Kazakh National Pedagogical University, 13 Dostyk Avenue, Almaty 050010, Republic of Kazakhstan.

Айдарғалиева Н. – хат-хабар авторы, PhD, доцент, Л.Н. Гумилев атындағы Еуразия ұлттық университеті, Қаржы кафедрасы, Сәтбаев көшесі, 2, Алматы ауданы, Астана, 010000, Қазақстан.

Малдынова А. – PhD, доцент, Кенжеғали Сағадиев атындағы Халықаралық Бизнес университеті, Абай даңғылы, 8а, Алматы, 050000, Қазақстан.

Мусабалина Д. – PhD, постдокторант, Абай атындағы Қазақ ұлттық педагогикалық университеті, Достық даңғылы, 13, Алматы, 050010, Қазақстан.

Айдарғалиева Н. – автор для корреспонденции, PhD, доцент, Евразийский национальный университет им. Л.Н. Гумилёва, кафедра «Финансы», ул. Сатбаева, 2, Алматинский район, г. Астана, 010000, Республика Казахстан.

Малдынова А. – PhD, доцент, Университет Международного Бизнеса имени Кенжеғали Сағадиева, пр. Абая, 8а, г. Алматы, 050000, Республика Казахстан.

Мусабалина Д. – PhD, постдокторант, Казахский национальный педагогический университет имени Абая, пр. Достык, 13, г. Алматы, 050010, Республика Казахстан.



Copyright: © 2026 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY NC) license (<https://creativecommons.org/licenses/by-nc/4>).