NEUROMARKETING IN THE BANKING INDUSTRY: NEW APPROACHES TO ENHANCING PRODUCT ATTRACTIVENESS

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Abstract: *This article investigates the application of neuromarketing technologies as a strategic approach to increasing the attractiveness of banking products and services. Due to the intangible and complex nature of financial offerings — often perceived as risky or difficult to understand — consumers frequently experience hesitation and distrust. Traditional marketing methods overlook the subconscious emotional and cognitive drivers that significantly influence decision-making. Neuromarketing leverages advanced techniques such as EEG, eye-tracking, and facial coding to uncover these hidden responses, providing deeper insight into consumer behavior. When incorporated into the 7P marketing mix, neuromarketing allows banks to enhance product appeal, reshape price perception, optimize service channels, refine promotional messages, and improve customer experience. International case studies illustrate how neuromarketing contributes to building trust, reducing perceived risk, and creating personalized, emotionally engaging customer journeys. The findings confirm that neuromarketing is not simply a complementary tool but a powerful strategic resource for modern financial marketing*

Key words: *neuromarketing, banking services marketing, trust, customer experience, banking products*

JEL: M31

1. Introduction

In the context of high competition and a wide variety of offerings in the banking services market, key success factors include providing advantageous, comfortable solutions and a personalized approach developed through a deep understanding of customers.

Currently, banking services are widely used and accessible; however, despite this, many consumers experience caution or even fear. This stems from the nature of these services, which complicates customer perception and decision-making.

Banking services are intangible; the client receives not a physical product but a promise of future benefits, which creates a sense of uncertainty (Ennew, C., Waite, N., 2013).

Another important aspect is complexity and information asymmetry. Banking products usually involve numerous conditions, professional terminology, and hidden risks. Without specialized knowledge, clients are often unable to fully assess the benefits of the offered service or compare it with competitors. This complexity generates a fear of making a mistake and ending up with an unprofitable decision, potentially leading to financial losses (Estelami, H., 2015).

In addition, banking activities involve a high degree of responsibility, as clients entrust the bank not only with their funds but also with personal data, expecting security and confidentiality.

Given these factors, trust becomes a key element in the relationship between the bank and the client. In their study, James F. Devlin, Christine T. Ennew, and Harjit S. Sekhon conducted a comprehensive analysis of consumer trust in financial services (Devlin, J. F., Ennew, C. T., Sekhon, H., 2015), identifying several components that influence customer trust:

• Cognitive trust: based on a rational assessment of the institution's competence and reliability.
• Affective trust: based on emotional connection and perceived goodwill from the organization.
• Perceived fairness: the sense of honesty and transparency in client relationships.

Thus, trust building and management become essential tasks for financial services marketing, requiring integration into all elements of the marketing mix. Establishing a trusting relationship is impossible without marketing research and a deep understanding of decision-making mechanisms and the factors influencing customer choice.

2. Irrational Consumer Behavior and the Limitations of Traditional Marketing Research

Traditional marketing research methods, such as surveys, focus groups, and interviews, have long been regarded as primary tools for understanding consumer behavior. However, these methods have significant limitations, as they fail to account for subconscious factors that influence consumer decision-making.

According to Professor Gerald Zaltman, "95% of our purchase decisions occur in the subconscious," meaning that people are often unaware of why they make certain choices and cannot accurately explain their motivations. Respondents tend to give answers that sound "correct" or socially acceptable rather than reflecting their genuine emotions or motivations (Zaltman, G., 2003).

Traditional marketing research assumes that consumers make decisions rationally and consciously. Yet decades of research in psychology and neuroscience, especially the works of Daniel Kahneman and Amos Tversky, prove that most decisions are made on a subconscious level — automatically, intuitively, and emotionally (Kahneman, D., Tversky, A., 1979).

In his well-known dual-system theory, Kahneman identifies two types of thinking: System 1 (fast, automatic, emotional) and System 2 (slow, logical, effortful). Most consumer decisions — including those involving financial products — are influenced by System 1, often before System 2 is even activated. This explains why clients may reject objectively advantageous offers due to emotional biases such as trust, fear, or discomfort.

In the financial domain, loss aversion, as described in Prospect Theory, plays a critical role: clients are highly sensitive to even potential losses and tend to overestimate low-probability risks.

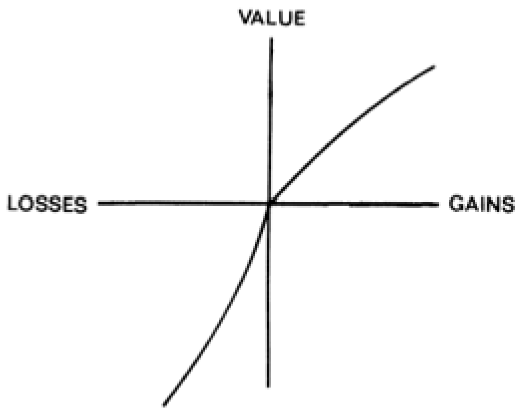

Figure 1. A hypothetical value function
Source: Kahneman, D., Tversky, A., 1979

The iceberg metaphor is a popular illustration that clearly demonstrates the essence of the modern consumer behavior model: the conscious mind is just the tip of the iceberg, while decisions are often made under the influence of subconscious factors (Ramsøy, T. Z., 2015).

Consumer decisions are shaped not only through logic and rational analysis (the "above water" portion) but also by emotions, impulses, associations, and fears hidden "beneath the surface." These subconscious influences, activated by Kahneman's System 1, exert a powerful impact on brand perception, trust in financial products, and purchase motivation. For example, a person may reject a bank offer not because it is objectively unfavorable, but because the color, font, or face in the advertisement triggered a subconscious sense of distrust.

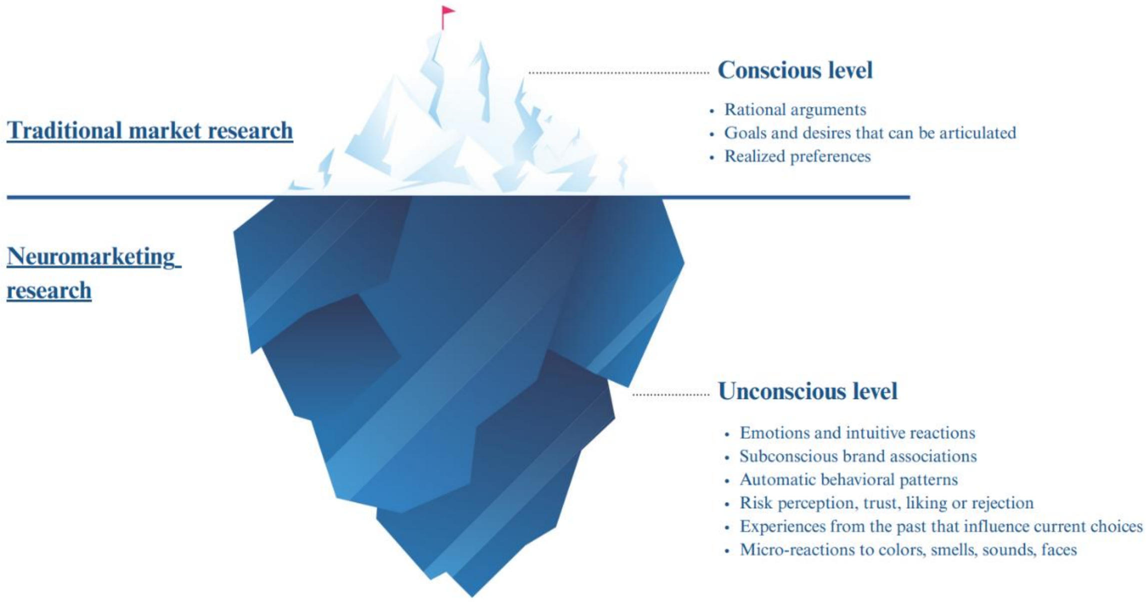

Figure 2. Consumer Behavior Model: Conscious and Subconscious Levels

Traditional marketing research provides valuable data but, without considering subconscious influences, cannot fully explain or predict consumer behavior. As a result, neuromarketing is becoming an increasingly in-demand tool for more accurate analysis and prediction of consumer preferences (Harris, J., Ciorciari, J., Gountas, J., 2018).

3. Neuromarketing: Understanding Consumer Response Through Neuroscience

Neuromarketing research is based on the application of neuroscience theories, concepts, and methods to study brain and nervous system activity for a deeper understanding of consumer behavior. These studies aim to identify both conscious and unconscious cognitive and emotional responses to various marketing stimuli (Lim, W. M., 2018).

One definition of neuroscience is the study of the nervous system aimed at understanding the biological foundations of human behavior. In this context, neuromarketing is the practical application of neuroscience in marketing to understand how and why consumers make decisions, what they feel, and what motivates them (Plassmann, H., Ramsøy, T. Z., Milosavljevic, M., 2012).

Neuromarketing methods allow researchers to observe consumers' psychophysiological responses in real time, analyzing how the brain and body react to different marketing stimuli. Neuromarketing encompasses both neurophysiological and biometric approaches to study cognitive (thought-related) and affective (emotional) processes.

Neurophysiological methods measure brain activity — either electrical or metabolic — in response to marketing stimuli. The most well-known methods for recording neural electrical activity include electroencephalography (EEG) and magnetoencephalography (MEG). Common techniques for measuring metabolic brain activity include functional magnetic resonance imaging (fMRI) and positron emission tomography (PET) (Camerer, C., Yoon, C., 2015).

Biometric methods record autonomic and behavioral reactions accompanying stimulus perception: galvanic skin response (GSR), electrocardiography (ECG), eye-tracking, and facial electromyography (EMG) (Tirandazi, P., Bamakan, S. M. H., Toghroljerdi, A).

By combining both approaches, companies can obtain a more complete picture of product perception — what draws attention, what emotions are triggered, and what decisions are formed on a subconscious level (Muñoz-Leiva, F., Hernández-Méndez, J., Gómez-Carmon, L., 2019).

4. Using Neuromarketing to Develop an Effective Marketing Mix

The 7P model represents an extended marketing mix that is particularly relevant to the service sector. It includes product, price, place, promotion, people, process, and physical evidence. Since banking services are intangible, all of these elements contribute to shaping how the product is perceived by clients and to building trust in the bank itself.

Neuromarketing research provides deeper insight into how consumers subconsciously respond to each component of the marketing mix.

Product

Banking services deal directly with intangible assets (i.e., money). The term 'banking product' broadly refers to a wide range of services tailored to diverse client needs. Typically, banking services require formal (contractual) relationships between the commercial bank and the client (Ennew, C., Waite, N., 2013).

A defining characteristic of banking products is their intangibility, which influences the nature of all other marketing mix elements.

Banking services are generally inseparable from their source, and they often require a higher degree of customer involvement than physical goods. Additionally, the quality of these services can be inconsistent, as customer service representatives are subject to the same range of emotions and moods as anyone else (Afsar, B., 2014).

Customers assess the quality and reliability of banking products not only by their functional attributes but also through the lens of brand perception. In this context, the brand becomes an integral part of the product itself, shaping emotional associations, signaling professionalism, and reducing perceived risk.

To enhance product effectiveness, neuromarketing helps identify hidden cognitive and emotional responses during the development and promotion of banking products. Analyzing subconscious reactions to key elements — such as visual design, wording, and interface structure — allows banks to detect barriers to perception and trust at early stages. This makes it possible to refine the product before launch, leading to higher customer loyalty and engagement.

Price

Financial products — such as loans, deposits, and investment services — often involve complex, multi-layered pricing structures that include fees, service charges, early termination penalties, and hidden costs. This lack of transparency can cause confusion and distrust, especially when customers do not fully understand what they are paying for. In this context, it becomes crucial for banks to shift the focus from the perception of cost to the perception of value (Ennew, C., Waite, N., 2013).

Neuromarketing helps reveal how clients emotionally respond to prices and assists in developing appropriate strategies.

For example, attention can be redirected from the "price" of the service to the "value" it provides — such as security, convenience, exclusivity, deeper personalization, bonuses, gifts, and more. Research shows that people are more accepting of prices when they are presented alongside visuals that evoke trust and pleasure (Afsar, B., 2014).

Neuroscientific data indicates that the act of payment activates areas of the brain associated with physical pain (Knutson, B., Rick, S., Wimmer, G. E., Prelec, D., Loewenstein, G., 2007). This underscores the importance of finding ways to reduce the so-called "pain of paying" (Knutson, B., 2015) — for example, through automatic deductions, installment plans, bundled offers, or presenting prices in a neutral or positive visual context.

Place (Distribution Channels)

Within the marketing mix of banking services, the "Place" element plays a key role in shaping the customer experience, building trust, and influencing brand perception. Today's consumers expect

seamless omnichannel interactions — for example, they may start applying for a service in a mobile app and complete it at a branch office without losing context or quality of service (Haynie, S., 2025). Service delivery channels include both online platforms (such as online banking, mobile apps, and chatbots) and offline points of contact like physical branches, call centers, and ATMs.
Neuromarketing can enhance customer interaction across all these touchpoints. For example, user experience testing using tools like eye-tracking and EEG helps assess how clients perceive an app, website, or digital service in terms of usability and intuitiveness.
Neuromarketing techniques can also be applied to evaluate how customers perceive bank branches, aiming to make them more comfortable, trustworthy, and conducive to effective communication.

Promotion

Promotion in the field of banking services is a critical component of the marketing mix aimed not only at informing but also at building trust and conveying the value of the product. Given the high level of competition and the complex nature of financial products, it is essential to create messages that are clear, credible, and emotionally resonant. Therefore, the effective promotion requires a combination of rational and emotional appeals.
A key feature of promotion in the financial sector is strict regulatory compliance. Bank advertising must be truthful, non-deceptive, and include appropriate risk disclosures. This necessitates precision in messaging and careful content preparation.
In this context, neuromarketing becomes a valuable tool. It enables marketers to identify which visual, auditory, and textual elements capture attention and elicit trust or interest. Understanding psychological triggers — such as fear of loss, the need for control, or the desire for security — helps craft more persuasive marketing messages.
Using neuromarketing techniques like EEG, facial expression analysis, and eye-tracking in A/B testing allows marketers to compare advertising formats and choose those that provoke the strongest emotional responses and are most memorable (Afsar, B., 2014).

People

In the financial services sector, staff are not just service providers — they are part of the product itself. The behavior, professionalism, and empathy of employees shape not only the first impression but also the overall perception of service quality. In banking marketing, employees represent the "face" of the company, and customer experience is directly influenced by their competence and demeanor.
Modern neuromarketing research helps deepen the understanding of interactions between clients and staff by identifying behavioral and emotional mechanisms that affect loyalty and trust.
With the help of neurotechnologies, banks can identify which forms of communication elicit the strongest emotional responses. This allows them to tailor staff communication styles to better meet client expectations. The analysis makes it possible to determine which behaviors (gestures, facial expressions, tone of voice) make customers feel at ease or, conversely, cause stress. These insights can be used to adjust employee behavior and improve service quality (Afsar, B., 2014).

Process

The "Process" component refers to all procedures, sequences of actions, and mechanisms through which a client receives a service. A well-designed process directly impacts customer satisfaction, trust, and loyalty (Ennew, C., Waite, N., 2013).
Neuromarketing allows researchers to understand how the client's brain perceives each stage of the service journey. The data obtained from such research helps simplify the customer journey and make it more intuitive. For example, neuromarketing insights can optimize navigation, eliminate unnecessary steps, and create a more user-friendly process.

Physical Evidence

All physical and visual elements accompanying the delivery of banking services are important components of how customers perceive service quality. These elements serve as the tangible representation of an otherwise intangible service.

Physical evidence includes elements such as the interior design of bank branches, documents, contracts, brochures, cards, devices, ATMs, website and app design, brand identity, and employee appearance and attire.

According to Ennew and Waite (2013), physical evidence can be categorized into:

• Substantial evidence – elements not owned by the client but visible (such as branch interiors);

• Peripheral evidence – physical elements given to the client for use (such as cards, documents, devices).

Neuromarketing research provides a deeper understanding of how clients subconsciously perceive these elements. Using technologies like eye-tracking, facial coding, and EEG, banks can adapt the visual design of branches to reduce anxiety, and improve the perception of physical materials such as bank cards, documents, interfaces, and devices.

5. Practical Application of Neuromarketing in the Banking Sector

Many banks around the world are actively using neuromarketing methods to improve the effectiveness of their services.

For example, Bank of America applied eye-tracking to analyze user interaction with its mobile banking app in real-life settings — at home, on the go, or while shopping. Facial expression analysis was also used. By tracking gaze direction, fixation duration, and navigation paths, the bank identified interface elements that caused user difficulties (Agrawal, V., 2025).

To simplify the perception of its products, Barclays conducted a study examining British consumers' reactions to financial terminology. The results showed that terms like "broker" and "investment risk" triggered stress reactions in two-thirds of participants. In response, Barclays simplified the language on its investment platform to reduce barriers for novice investors (Barclays, 2019). The bank also used neuromarketing to analyze design strategies. Using techniques such as eye-tracking and biometric measurement, it studied how customers perceived bank branch displays, identifying design elements that increase trust and engagement (The Creative Industries Council, 2014).

ING Bank also actively employs neuromarketing and behavioral economics to strengthen emotional connections with clients and improve communication effectiveness. A notable example is their use of fMRI to select the most effective brand melody. During the experiment, participants listened to five custom music tracks while their brain activity was scanned to assess pleasure center responses. This helped ING choose a melody that was not just pleasant but effective in reinforcing brand associations at the subconscious level (Neurensics).

Another example is KakaoBank, which optimized its loan application interface using neuromarketing research. Eye-tracking and facial expression analysis revealed stages of the application process that caused stress and confusion. As a result, the bank simplified the interface, added clear instructions, and implemented real-time support, reducing the number of application rejections (Agrawal, V., 2025).

These examples demonstrate that many financial institutions around the world are already actively applying neuromarketing methods.

6. Conclusions

The application of neuromarketing in the banking industry opens up new opportunities to enhance the effectiveness of financial service marketing and to develop more desirable products that align with client expectations. Because banking products often provoke anxiety and distrust — particularly due to their complexity and intangibility — neuromarketing enables the exploration of consumers' subconscious responses, making it a promising tool for building trust and improving the client experience.

Numerous studies, including the works of Daniel Kahneman, show that consumer behavior is largely driven by emotions, cognitive biases, and intuitive responses associated with System 1. This challenges the effectiveness of traditional marketing research methods such as surveys and focus groups, highlighting the value of neuromarketing in uncovering real — often unconscious — decision-making factors.

Modern technologies including EEG, eye-tracking, facial coding, and fMRI allow banks to analyze how clients respond to products, interfaces, advertising, and communications across both digital and physical channels. This facilitates not only the optimization of specific elements but the transformation of the entire customer journey from the first point of contact.

Neuromarketing is especially valuable in the context of strict regulatory requirements in financial advertising. It helps construct communications that are both compliant and emotionally resonant, enhancing trust, interest, and loyalty.

Thus, neuromarketing is not just a supplementary tool but a vital component of a strategic approach to creating personalized, transparent, and emotionally engaging customer experiences. Its integration into banking marketing enables stronger customer relationships, lowers perception barriers, and strengthens competitive advantage.

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