

# Neuromarketing and Perception of the Well-being of Human Talent: A Preliminary Approach for Latin America

*Neuromarketing y percepción del bienestar del talento humano:  
Una aproximación preliminar para América Latina*

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## Abstract

This study examines the effectiveness of the theory of the somatic marker in the changes of perception of human capital from neuro communication campaigns, following Mauri's (2022) approach. A diagnostic test was applied to thirty-five employees of the administration department of the Rafael Belloso Chacin University (URBE) to verify their previous knowledge in marketing, a pretest based on the four variables of Wellman et al. (2018), a post-test after teaching neuromarketing concepts for three months that would allow adjusting their perception of said educational organization, and a focus group to identify the most relevant ideas on the experiment. Neuromarketing campaigns were found to adjust the perception of organizational favorability, presenting results like those of Mauri (2022). This study contributes to identifying alternative ways to verify the effectiveness of internal marketing campaigns in organizations of various sizes in Latin America.

**Keywords:** Neuro communication; case study; human talent; neuromarketing, Colombia.



## Resumen

Este estudio examina la efectividad de la teoría del marcador somático en los cambios de percepción del capital humano a partir de campañas de neurocomunicación, siguiendo el enfoque de Mauri (2022). Se aplicó una prueba de diagnóstico a treinta y cinco empleados del departamento de administración de la Universidad Rafael Belloso Chacín (URBE) para verificar sus conocimientos previos en marketing, un pretest basado en las cuatro variables de Wellman et al. (2018), un post-test después de impartir conceptos de neuromarketing durante tres meses que permitiera ajustar su percepción sobre dicha organización educativa, y un grupo focal para identificar las ideas más relevantes sobre el experimento. Se encontró que las campañas de neuromarketing ajustaron la percepción de favorabilidad organizacional, presentando resultados como los de Mauri (2022). Este estudio contribuye a identificar formas alternativas para verificar la efectividad de las campañas de marketing interno en organizaciones de varios tamaños en América Latina.

**Palabras clave:** Neurocomunicación; caso de estudio; talento humano; Neuro-marketing, Colombia.

## 1. Introducción

Corporate companies have succeeded in handling disputes within their organizational structures in an evolving global context. Small and Medium Enterprises (SMEs) have been urged to explore new forms of internal communication that allow them to overcome these disputes, and to push their staff to raise their productivity following global economic openness and multinationals' strategic actions. Internal communication and marketing are essential aspects in channeling the behavior of members of companies, as it may increase worker performance and make them feel more dedicated to achieving company goals. Internal dysfunctional conflicts can be triggered by habitual patterns of verbal and nonverbal communication based on damaging everyday behaviors, including low assertiveness, low empathy, and hierarchical attitudes.

The theory of somatic markers is one of the conceptual approaches applied in recent years in different geographical and cultural contexts, since is based on the premise that neuromarketing campaigns contribute to adjusting the perception of an organization. Internal communication between bosses and employees, and between employees, based on neuromarketing techniques enhance labor productivity (Ferland et al., 2019). This is relevant in contexts such as Latin America, where low productivity negatively impacts regional production, in addition to knowing the effectiveness of this theoretical approach from an unconventional context.

This study examines the effectiveness of the somatic markers theory, which states that experiences (stimulation of the senses) generate sensations that evoke feelings and physical reactions through the automatic nervous system, over a three-month period in 2022, following the study by Mauri (2022), who suggests that this theory should be tested in different geographical contexts to facilitate both theoretical and methodological understanding. For this, a study on the effectiveness of neuromarketing campaigns was applied with in thirty-five employees of the university welfare department of Rafael Belloso Chacin University (URBE) during 2022. An initial diagnostic test to determine if the study participants knew the theoretical approach of somatic markers was also applied.

A pretest based on four variables was also carried out, which according to Wellman et al. (2019), contributes to changes in the perception of the internal well-being of corporate organizations. This pretest revealed the initial perception of the participants regarding the expected impact of the four variables on the perception of well-being at work from neuromarketing campaigns. After three months of teaching on neuromarketing led by the main researcher, a post-test was applied to verify that the neuromarketing campaigns were effective in changing the perception of well-being at work of the participants.

The Kolmogorov-Smirnov test showed that the questions asked for the pretest and posttest did not have a normal distribution behavior, but the sample is large. Additionally, the Levene test was applied, which guarantees that the variances are statistically similar, and the t-student test was applied to determine the differences between the two dependent samples, and the effect size was also calculated with Cohen's D. Then, a focus group was held to identify the most shared ideas about the effectiveness of neuromarketing campaigns on changes in the perception of well-being at work.

Before the Likert test, the participants completed a survey to illustrate their expectations for improved organizational communication from a perceptual standpoint (neuro communication), based on the earlier discussion on the notion of somatic markers. Every participant already knew the discussed theory approach because of their entry training from the Universidad Rafael Belloso Chacín's Administrative Sciences department.

A diagnostic test was used to estimate prior knowledge of basic concepts of human resources marketing campaigns. This study seeks to know if the variables that lead to changes in the perception of Wellman et al. (2018) contribute to changes in the somatic markers of thirty five URBE employees, who are previously aware of this theoretical approach. In accordance with the preceding statement, the general objective is to analyze the effectiveness of neuromarketing models, specifically the somatic marker theory applied in internal neurocommunication campaigns, and their impact on the perception of well-being in organizations. This is considered a management tool for the neurocommunication of small and medium-sized enterprises (SMEs) in innovating corporate culture, oriented towards organizational development through observation of current practices.

## 2. Literature Review

Various authors define a somatic marker as physical and emotional manifestations that occur when receptors are exposed to signals that modify their senses. This data is used for a variety of objectives, including the promotion of social, personal, and economic behavior, as well as measuring individuals' reactions to changing situations in the areas in which they operate (Poppa & Bechara, 2018).

Personal preferences and psychosomatic reactions are regulated by intrinsic factors. These reactions appear to be innate in nature, and they are set up so that the organism can live and maintain a healthy state, which includes coping with hunger, thirst, resting, and so on (Schmitz et al., 2020).

The search for advertising efficacy and understanding of “real” customer demands focuses on the merging of marketing and advertising, with new brain knowledge connected to advances in neurosciences, to comprehend consumer emotions (Xu et al., 2020). Cognitive responses lead to advertising’s attitude, which is linked to the brand’s attitude through affective or conditioned learning mechanisms. Emotions have three functions in marketing communication: they assist explain product qualities and have an impact on consumers’ attitudes (Xu, 2020).

Somatic markers are a subset of experiences derived from secondary emotions that have been linked to predicted outcomes under assumptions through learning. Somatic markers aid in the elimination of some choices, either for or against, from further examination (De La Puente Pacheco & Maury Campo, 2020; Landazury et al., 2022). It is an automated grading system that acts, voluntarily or unwillingly, to assess future assumptions. There are two ways for processing somatic markers.

In the first, the prefrontal cortices and amygdala demand the body to take a given state profile, the outcome of which is then sent to the somatosensory cortex, which receives attention and is made conscious. The body is bypassed in the second, alternative method, and the cortices, prefrontal nerves, and amygdala direct the somatosensory cortex to organize into the explicit activity pattern that it would have assumed if the body had been placed in the desired condition and it had gotten that signal. Although the “as if” pattern of activity cannot be the same as the pattern of activity, the cortex acts as if it were receiving messages about a certain physical condition (de la Puente Pacheco et al., 2021; Rico et al., 2021).

In various contexts, the influence of somatic markers on company internal and external marketing has been investigated. Cabrera-Paniagua and Rubilar-Torrealba (2021) discussed how artificial somatic reactions might be included in emotional autonomous agents that make stock market decisions. The findings of the experiments showed that emotional autonomous agents might have fake somatic reactions and make decisions with effectiveness and efficiency, thus affecting the partners’ behavior inside the company, and persuading outside investors to increase their capital stock.

Lowe et al. (2019) investigate embodiment as a gap in meaning-making in the literature on business relationships in IMP and business marketing academic discourse, challenging the dominant worldview of Cartesian dualism, which marginalizes the influence of the body in meaning-making, and exploring relevant implications of an embodiment agenda for research and practice. In India, Ojha (2020) investigated the influence of somatic markers in consumer durable brand selection in e-commerce. The author discovered that the consumer profile has changed. With acculturation,

customer buying habits are fast-changing and shifting toward high-end technological items, prompting microenterprise employers to modify their marketing efforts to enhance experiences, rather than simply articulating the advantages of their supplied goods and services. Changes in internal and external advertising impact employees' perception of a company once they perceive economic benefits, leisure activities, and professional growth opportunities.

According to Shen et al. (2018), persuasive internal corporate communication between bosses contributes to effective external communication between employees and customers, since the positive perception of employees about the working conditions in which they operate is reflected in better attention to intermediate and final customers.

Lin et al. (2018) found that informal internal communication channels, such as word of mouth, have a higher impact on the perception of the well-being of employees in a business organization than formal communications, because, in conditions of uncertainty on the economic future of the organization, employees tend to trust those who have been with a business organization longer than human resource representatives. The Human Resources departments of the studied business organizations are perceived to benefit business organizations more than contract employees.

Wellman et al. (2018), Kandel (2000), and Kotler (2018) identified the variables that contribute to a favorable perception of employees of their working conditions that can be adjusted according to neuromarketing campaigns. The first is the implementation of clear and intelligible formal procedures, understood as the issuance of clear orders that facilitate their execution by employees. The second is the visual and aural internal labor campaigns that promote feelings of job security and appreciation for the business organization in which you work (Rigby, 2001). The third is the proactive use of verbal and nonverbal language that exalts the qualities of the employees, rather than exposing the risks of not fulfilling the designated tasks. The fourth is the amount of remuneration of the business organization compared to other companies in the same sector. According to the author, if a company compensates above the labor market average in a productive sector, it promotes the employee's sense of belonging to the business organization. This study applied the four variables of perception of business quality to the case study following the procedural approach of Mauri (2022) and Wellman et al. (2018) in the pre-test and post-test, which contributed to the effectiveness of marketing campaigns in somatic markers in the interviewed employees. The study hypothesis is that marketing campaigns for employee loyalty based on Wellman's four variables are effective in the perception of the quality of the analyzed company.

### 3. Methodology

The information on the surveyed population was gathered from a group of thirty-five staff from Universidad Rafael Belloso Chacín (URBE) who were given a description and explanation of the somatic markers theory, which states that interactions generate sensations that generate feelings, that is, reactions through the automatic system (age, gender, educational level, and educational level).

The subject in charge of the collection and data analysis was a master's student in Business Management from URBE. A pretest was then administered based on their perceptions of the effectiveness of neuromarketing campaigns in improving internal communication components, visual and auditory stimuli, assertive verbal and non-verbal language, and salary compensation as framed in the theory in question. A post-test was applied three months after the use of the theoretical technique to validate the changes in perception that were first observed.

A diagnostic analysis was also conducted to see whether both groups had features in common that would ease the statistical analysis. The scores ranged from 1 (lowest level) to 5 (highest level). Since some participants reported confusion about how to fill out the forms digitally, all were filled physically.

A post-test was used three months after the theoretical technique to validate the changes in perception that were first observed. Finally, respondents shared their experiences revealing their perceptions of the theoretical approach's success beyond filling out surveys to collect more information from primary sources. The pre-test questionnaire to the participants, which applied the four Wellman's variables that identifies the perception of employees about their working conditions, were the following: Do you believe that internal communication, defined as the implementation of clear and intelligible formal procedures, will assist you in doing your assigned activities more effectively? Do you think the visual and aural internal labor campaigns will help you achieve the job objectives you've been assigned? Do you believe that using proactive verbal and nonverbal language will help you communicate better with your coworkers? Do you believe that your remuneration will help you communicate more effectively with your coworkers and superiors? While the post-test questions were the following: Do you believe that internal communication, defined as the implementation of clear and intelligible formal procedures, helped you perform better on your given tasks? Do you think the visual and aural internal labor campaigns helped you achieve the job objectives you've been assigned? Do you believe that using proactive verbal and nonverbal language helped you communicate better with your coworkers? Do you believe that your remuneration helped you communicate more effectively with your coworkers and superiors?

The focus group was divided into three sections: 1 Participants' presentations exposing their roles within the company. The instructor presented the dynamic of the focus group. 2. Positive and negative experiences with the chosen neuro communication approach (judgment of the communication theory). 3. Opinions on how the theory may adapt to changing circumstances, 2.1. Perceptions about the relationship between the components to be examined in the case study, 2.2. Shared opinions about the deficiencies of the components to be evaluated) (recommendations for future field studies using the selected theory).

The study reliability was based on interviews and the questionnaire applied to both courses validated with a Cronbach alpha of 0.7. The data was tabulated, then analyzed in the statistical program RStudio version 3.6.3. afterwards. Statistical methods were used to conduct a descriptive analysis, which included the use of proportions and central tendency measures in each case. The Kolmogorov-Smirnov test revealed that the pretest and posttest questions did not have a normal distribution.

The Levene test, which ensures that the variances are statistically equivalent, was also used, as was the t-student test to evaluate the differences between the two dependent samples, and Cohen's D to compute the effect size following Mauri's approach. All the calculations were done with a 95% confidence level. The participants in the research are on average 43 years old (SD = 9.9 years old), with 42 percent of them being under 42 years old. Furthermore, the minimum and maximum ages are 31 and 72 years old, respectively.

The bulk of the participants were women, with 57% having completed postgraduate education. With 57 percent of participants having worked for the firm for fewer than six years, the average length of time spent working for the company was 8.2 years (SD = 5.2 years).

**Table 1. General characteristics of the subjects studied.**

Variables		
	SD	Mín-Máx
Age		
	43 (9,9)	42 (31-72)
Time in the company		
	8,16 (5,27)	7 (1-21)
	N	%



Gender		
Female	32	61.2
Male	15	38.76
Educational level		
PO	26	50.42
PR	23	49.76

The t-student test reveals that the post-test had a lower average score than the pretest in questions Q1 ( $t = 18.014$ ,  $p$ -value  $0.003$ ) and Q3 ( $t = 25.3$ ,  $p$ -value  $0.003$ ), with a substantial effect size in each question. Otherwise, the t-student test reveals that there are no statistically significant variations in average score between the pre-test and post-test for questions Q2 ( $t = 0.78$ ,  $p$ -value =  $0.75$ ) and Q4 ( $t = 1.26$ ,  $p$ -value =  $0.27$ ), and the effect size for questions Q2 and Q3 is minor.

#### 4. Focus Group Results and Discussion

The focus group’s first segment began with a formal introduction of the members, and a lengthy description of the focus group’s dynamics by the lead researcher. It was noted that virtual and face-to-face participants could provide their opinions on the researcher’s questions. After the key ideas had been identified, the participants were asked to vote for the one with which they felt the most affinity. It was suggested that they vote for one to get a clear picture of the group’s stance, even though participants might raise their hands to signal agreement with an exposed thought, they chose not to minimize misunderstanding regarding postures.

The participants in the second section of the focus group discussed the importance of somatic markers in neuro communication campaigns. Twenty-two participants felt that the theory adequately explains the contents of neuro communication campaigns manifested in visuals, phone calls, and initially informative advertising against a backdrop of continual institutional image enhancement.

The participants also gave their opinions on the relationship between the components to be examined and the case study in the second section. With the use of the examined institution’s neuromarketing campaigns, twenty-eight people correctly identified the components of the pre-test and post-test. Although they agreed that the four components were appropriate, they expressed some dissatisfaction with the inclusion of the salary compensation component since they appeared to want to avoid associating their responses with their salary compensation and appear just interested in their pay (although the answers presented in the tests, they were anonymous, so

their opinions on the matter denote a marked profile of the workers to avoid appearing materialistic).

They stated that the calls made by the care personnel of URBE, regarding their mental and physical health position, are critical in boosting their view of the organization and their coworkers. This is because they believe they work for a company that cares about their well-being. Fifteen participants stated that this encourages them to like, empathize with, and pay attention to their coworkers. In other words, this study discovered that using customized attention via phone calls to check workers' physical and mental health was beneficial in boosting internal organizational perspective, particularly among peers.

Reaching out to them over the phone, according to all the participants, was far more important than reaching out to them via email or text messages on their mobile devices. "I felt significant to the business since they phoned and contacted me by name," said one participant, and "it makes me assume that the individuals who work there are just as attentive and sensitive as the Organizational Wellbeing department." The participants also shared their thoughts on the deficiencies of the components to be reviewed in the second half of the focus group.

The most widely held idea was that including internal communication and salary compensation components in addressing the target audience after getting the right explanation from the researcher was inappropriate. This is even though they earlier argued that the four components fully describe the hypothesis of somatic markers. For them, the first simply defines how ideas are disseminated in the educational institution on a regular basis. That is, the participants do not place a higher priority on how their peers and superiors express themselves in the workplace.

The second variable is deemed unsuitable in a work satisfaction survey since 18 participants stated that wage remuneration is adequate in comparison to similar job positions in other institutions and that it is not essential to include it in an anonymous poll. The organization has persuaded the participants that they are well compensated, therefore they do not feel compelled to discuss their contentment with their salary. This study is intriguing because it challenges long-held beliefs about the link between work satisfaction, interpersonal relationships, and remuneration in all situations. Remuneration as a source of professional fulfillment varies depending on the work circumstances and reputation of the investigated firm.

Although mobility restrictions made it difficult to conduct the focus group wholly in person, it was agreed to conduct it online. While they agreed with the use of the physical questionnaire because of its perceived importance, they suggest that the ins-

tructions be made clearer, with a wider writing format because 21 participants had difficulty reading and properly interpreting the questions at first. As a result, numerous individuals emailed each other to double-check that they had understood them correctly.

## 5. Conclusion

This study found that internal marketing campaigns based on Wellman's four variables of impact somatic markers from audiovisual tools and favorable perception of labor compensation, thus contributing to optimal labor relations and encouraging labor productivity. The components of visual and auditory stimuli, as well as assertive verbal and non-verbal language, were slightly appreciated by those polled as being of value in improving internal communication (especially between peers) through follow-up campaigns on the health situation and personnel from the Department of Organizational Welfare calling employees.

For them, the corporate organization's ability to relate to its employees is an extra valuable issue that enhances their image among their peers, supervisors, and the educational institution. As a result, the capacity of a corporation to capitalize on opportunities by predicting events and promptly reacting to changes in the environment is critical to its success. Entrepreneurial organizations should adjust their internal neuro communication campaigns to their cultural, social, and geographic settings to improve neuro communication amongst peers, superiors, and lower-ranking workers. The mention of wage perks beyond what is publicly known by the studied employees of the educational institution does not affect the enhancement of neuro communication amongst peers, according to our case study.

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