Assessment of Neurolinguistic Programming Techniques in the Context of Neuromarketing Attributes

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Abstract

The paper aims to verify the existence of statistically significant links between neurolinguistic programming techniques and neuromarketing attributes on a sample of 309 respondents, of which 168 (54.4%) were women and 141 (45.6%) were men aged 18 to 68 years (M = 35.30 years, SD = 13.1 years). Addressed were 148 (47.9%) sellers and 161 (52.1%) customers and two research hypotheses were formulated and verified using the mathematical-statistical methods of Pearson's correlation coefficient and t-test for two independent samples. The first hypothesis related to the existence of statistically significant correlations between neurolinguistic programming techniques and neuromarketing attributes, the second one to statistically significant differences in the assessment of the attributes of neuromarketing and neurolinguistic programming techniques between sellers and customers. The data obtained by the questionnaires aimed at the attributes of neuromarketing (SSP) and neurolinguistic programming techniques (NLPt) were processed by means of the statistical software IBM SPSS 26. Based on the research results it can be concluded that the formulated hypotheses were supported as statistically significant differences and correlations between the neurolinguistic programming techniques and the neuromarketing attributes were detected.

Keywords: neurolinguistic programming – NLP, techniques, neuromarketing

1.   Neurolinguistic Programming (NLP)

Tosey and Mathisona (2006) describe neurolinguistic programming (NLP) as an external view of the approach to personal development and communication. Bandler and Grinder (1975) argue that there is a link between neurological processes, patterns of behavior, and speech that can be altered to achieve life goals and outcomes. Bandler and Grinder's (1975) primary goal was to create a name that would reflect the principle that humans as such are a coherent connection between learned behavioral strategies, neurological processes, and language itself (Tosey & Mathison, 2003).

Knight (2002) states that NLP identifies the way of thinking, behavioral patterns, and speech that individuals use to create a set of strategies that can influence people, make decisions, negotiate, and learn more effectively. According to O'Connor and Seymour (2000), neurolinguistic programming is an art form and at the same time a science of subjective uniqueness, as everyone brings the uniqueness of their individuality and style to everything they do. NLP is effectively and systematically applicable to every individual in all areas of human existence to the maximum support of subjective and objective benefit, flexibility and many other abilities (Lübeck, 1996). It is based on an individual's neurological processes such as language and responses in their behavior. All subconscious sensory stimuli such as verbal, visual or tactile actions can adapt the conversation to what is our intention. NLP is a practical dexterity that can teach people how to achieve what they really want to achieve or achieve in a given field and also create benefits for others (O'Connor & Seymour, 2000).

Every person who perceives their surroundings processes all the captured information in a diverse way. People filter their information and the way they perceive and process excitement in their surroundings using three VAK systems (Fleming & Baume, 2006):

- Visual
- Auditory
- Kinesthetic (Emotional)

One can process information using all of these systems at once, but only one is dominant. The dominance of the visual side causes the storage and coding of experiences through the editing of images using visual thinking. Dominance of the auditory site means storing information processing with the help of sounds. Dominance of the kinesthetic system processes information with the help of one's feelings (Brown & Turnbull, 2000).

Neurolinguistic programming as a way of communication is often used in the field of trade, sales and marketing. NLP helps us to be able to better evaluate an individual's way of thinking and get to know them better overall.

- **Visual marketing:** Through visuals, we create our inner images, visualize, dream, fantasize and create ideas, and use our visual system (O'Connor, 2001). Visual marketing

is a set of techniques and elements that are applied in store to make products available to the consumer and to make them proceed with a purchase.

- **Auditory marketing:** Creates a shopping experience. It focuses on the type of music that can be used in selling to influence purchasing in the decision making process. When applying music to devices, it is important to analyze the type of store, the consumer, and the appropriate music. According to O'Connor (2001), the auditory system is used for internal conversation with oneself, internal listening to music, listening to the voices of others, and the like. Auditory thinking is often a mixture of different words and sounds.

- **Kinesthetic marketing:** Tactile sensation is our inner and outer feelings of touch and body awareness. It is considered a separate representational system and includes a sense of balance. Emotions are also involved in the kinesthetic system. It is the feelings of a stimulus that are represented kinesthetically in the body (O'Connor, 2001). Kinesthetic marketing includes everything that is perceived by touch, taste and smell. It is one of the most commonly used shopping techniques.

Neuroscience is one of the fields that examine the VAK classification from various angles and viewpoints.

2.   Neuromarketing

The term neuromarketing was first used in 2002 to refer to the intersection of traditional neuroscience and marketing (Šášiková, 2013). Neuromarketing is a discipline that combines knowledge from neurology, psychology, sociology and marketing using modern research methods and devices to examine why consumers behave irrationally (Rommelfanger, 2011). Through physiological research methods, its intention is to gain an overview of customer behavior, decision-making and preferences (Stanton, Armstrong & Huettel, 2016).

According to Vysekalová et al. (2011) neuromarketing consists of connecting cognitive psychology, neuropsychology and various other neurosciences with the sphere of marketing decision-making. Neuromarketing utilizes a medical technology called fMRI – Functional Magnetic Resonance Imaging and many other brain scanning technologies. The fMRI device is used to detect current changes in the brain. This device is used to determine consumer decisions.

Neuromarketing is specified as the use of neuroscience to research customer behavior and the decision-making process during shopping. It is a system of better understanding of the psychological and emotional aspects of decision-making during purchasing as well as to provide a clearer assessment of the success of marketing methods by analyzing underlying neurobiology (Javor et al., 2013). It is based on the assumption that the key to understanding consumer behavior is to know the accompanying neural and physiological processes that accompany consumer behavior (Kenning & Plassmann, 2005). Neuromarketing is used in

various phases such as innovation, product modification, valuation, creating a communication mix and much more. Neuromarketing is built on neuroscience techniques to better identify and understand the human brain, which is responsible for customer behavior and decision-making during shopping. The reason is often the fact that they do not realize and do not remember the stimulus that triggered their emotional response (Tahal, 2017).

Based on the above theoretical background, we conducted a research study aimed at the neurolinguistic programming techniques in the context of neuromarketing which is presented in the next section of the paper.

3. Research Methods

The aim of the research is to determine the existence of statistically significant correlations between neurolinguistic programming techniques and neuromarketing attributes. Another goal is to determine the existence of statistically significant differences in the assessment of the attributes of neuromarketing and NLP techniques between sellers and customers. Based on these research aims, we formulated two research hypotheses:

- H1: There are statistically significant correlations between neurolinguistic programming techniques and neuromarketing attributes.
- H2: There are statistically significant differences in the assessment of the attributes of neuromarketing and NLP techniques between sellers and customers.

The research sample consists of 309 respondents, of which 168 (54.4%) are women and 141 (45.6%) men, and at the same time there are 148 (47.9%) sellers and 161 (52.1%) customers. The age of the respondents ranges from 18 to 68 years with an average age of 35.30 years, the standard deviation is 13.1 years.

For the purposes of the research, we used the SSP neuromarketing attributes questionnaire (originally PPP by Birknerová, Miško & Tomková, 2022). The SSP (Store, Seller, Product) questionnaire contains 30 items that respondents rate on the Likert scale from 0 to 5 (0 – definitely no, 1 – no, 2 – rather no than yes, 3 – rather yes than no, 4 – yes, 5 – definitely yes). It focuses on the assessment of 3 attributes of neuromarketing:

- **Store information:** Information about the lighting, the smell, the cleanliness of the store, the location of the products, the layout of the space in the store, or the location of the store are important when shopping. E.g.: The pleasant smell in the store is important when shopping. Placing products in the store is important when shopping.
- **Seller information:** Gender, physical appearance, mood, willingness, addressing, expression of the seller, as well as their corporate clothing influences purchasing decisions. E.g.: Product recommendation from the seller is important when purchasing. Information from the seller is important when purchasing.

- **Product information:** Possibility to try or to taste the product, to display the product, a special offer of an unknown product, to participate in competitions encourages the purchase of the product. E.g.: Visual display of the product in a visible place is important when purchasing. Tracking the price of a product before a discount is important when purchasing.

Another methodology used was the questionnaire aimed at detection of NLP techniques called NLPt (Frankovský et al., 2018). The questionnaire NLPt contains 15 items, which the respondents assess on the Likert scale from 0 to 5 (0 – definitely no, 1 – no, 2 – rather no than yes, 3 – rather yes than no, 4 – yes, 5 – definitely yes). It focuses on three techniques of neurolinguistic programming.

Using a factor analysis in the concept of NLPt—neurolinguistic programming techniques, three factors which specify three basic areas of perceiving the effect of neurolinguistic programming were extracted. Regarding their content, these factors can be characterized as follows:

- **Representational systems** – finding out and using a preferred method of thinking of a partner. The managers scoring high in this factor use more often a partner's style of expressing when communicating. They perceive more carefully the way in which the partner thinks and uses words. They observe more the partner's non-verbal expressions. According to their need, they change and use several communication styles. (Cronbach's alpha 0.775).

- **Leading** – focused on the changes of partner's thinking and subsequent changes of their behavior. The managers scoring high in this factor try to use or change the values, attitudes and opinions of a partner in communication. They act using linguistic means which their partner understands and they proceed from their opinions. Subsequently, they offer their own solution (Cronbach's alpha 0.812).

- **Rapport** – an intimate relation between communication partners. The managers scoring high in this factor try harder to create mutual trust and understanding of partner's attitudes. By persuading the partner, they focus more on the relationship with this person (Cronbach's alpha 0.781).

We analyzed and processed the data obtained from individual respondents using the mathematical-statistical methods of Pearson's correlation coefficient and t-test for two independent samples in the statistical software IBM SPSS 26.

4.   Research Results

In order to verify H1 (There are statistically significant correlations between neurolinguistic programming techniques and neuromarketing attributes.), Pearson's correlation coefficient was used. Table 1 presents the findings of the correlation analysis between the attributes of neuromarketing, which we determined using the SSP methodology and NLP techniques, which we determined using the NLPt methodology. The results show high positive correlations (.787**; .771**; .747**).

Table 1: Links between neuromarketing attributes (SSP) and NLP techniques (NLPt)

	Store information	Seller information	Product information
Representational systems	**.256****	**.222****	**.153****
	.000	.000	.007
Rapport	**.692****	**.787****	**.657****
	.000	.000	.000
Leading	**.771****	**.747****	**.658****
	.000	.000	.000

Source: own processing

Representational systems correlate positively with Store information, Seller information, and also Product information, which suggests that the use of different perceptions in the store during sales and product selection is very important. In communication and conversation, Representational systems involve the need to actively listen, watch the eyes, use multiple styles of communication, the same style of expression and behavior in a way that best suits the other person. This is closely related to all the neuromarketing attributes examined.

We obtained the same findings in the Rapport factor, where we recorded high statistically significant correlations with all neuromarketing attributes. Rapport, like Representational systems, plays a very important role in sales. It represents the interplay in communication with the partner, the correct understanding of information, the importance of mutual trust and relationship with another person in persuasion, as well as the same values, attitudes and opinions in order to achieve better communication. According to our findings, these aspects are an essential part of sales and are closely related to information about the store, the seller, as well as the product.

We also noted positive correlations between Leading and the attributes of neuromarketing Store information, Seller information, and Product information. Through the attributes of neuromarketing assessed by the SSP questionnaire in persuasion, the NLP Leading technique represents an effort to change thinking and change behavior. It is also about facilitating

communication by using emotions in communication, calming or using the other's experience, thus achieving a new way of thinking about the problem, in this case shopping.

Based on the above, we can conclude that there are statistically significant correlations between the attributes of neuromarketing (SSP methodology) and NLP techniques (NLPt methodology). H1 (There are statistically significant correlations between neurolinguistic programming techniques and neuromarketing attributes.) was thus supported.

The existence of statistically significant differences in the assessment of individual neuromarketing factors (H2), which we examined using the SSP methodology, was determined by means of a t-test for two independent samples in the statistical software IBM SPSS 26. The results of the difference analysis are shown in Table 2.

Table 2: Differences in the assessment of neuromarketing attributes by SSP methodology between sellers and customers

Neuromarketing attributes	Position	M	t	p
Store information	seller	**4.2696**	4.970	**.000**
	customer	3.8360		
Seller information	seller	**4.1284**	4.013	**.000**
	customer	3.7745		
Product information	seller	**4.2845**	6.771	**.000**
	customer	3.6236		

Source: own processing

Based on the data presented in Table 2, it can be stated that within the analyzed group of respondents, statistically significant differences between sellers and customers were recorded in all three assessed attributes of neuromarketing, with sellers scoring higher in each of them. This means that, compared to the customers contacted, sellers assessed all three attributes of neuromarketing (Store information, Seller information, Product information) on the positive part of the Likert scale.

The following statistically significant differences between the addressed sellers and customers in the assessment of NLP techniques were obtained through a t-test for two independent selections in IBM SPSS 26. The obtained results are presented in Table 3.

Table 3: Differences in the assessment of NLP techniques by the NLPt methodology between sellers and customers

NLP techniques	Position	M	t	p
Representational systems	seller	4.2135	.245	.810
	customer	4.1988		
Rapport	seller	**4.3162**	7.170	**.000**
	customer	3.5429		
Leading	seller	**4.4000**	7.099	**.000**
	customer	3.7466		

Source: own processing

Based on the data obtained, we can state that there are significant differences between sellers and customers in the NLP techniques of Rapport and Leading, with sellers achieving higher scores than customers. Sellers assessed on the agreement part of the Likert scale the statements aimed at the interaction between the seller and the customer, the correct understanding of information, the importance of mutual trust and the relationship between them, as well as efforts to facilitate communication by using emotions in communication and sellers' experience to achieve the purchase of products. The NLP technique of Representational systems has been assessed similarly by sellers and customers alike. All the addressed respondents emphasize the need to actively listen, watch the eyes, and use multiple styles of communication, and the same style of expression and behavior in the way that best suits the other person.

Based on the above differential analyses, it can be stated that H2 (There are statistically significant differences in the assessment of the attributes of neuromarketing and NLP techniques between sellers and customers.) was supported.

5.   Discussion and Conclusion

In the research, we focused on detecting the existence of statistically significant links between the selected neurolinguistic programming techniques and neuromarketing attributes focused on the store, seller, and product information. Based on the results obtained from the respondents, we found that there are statistically significant correlations between the neurolinguistic programming techniques and the neuromarketing attributes. The NLP techniques we study, i.e. Representational systems, Rapport and Leading are highly positively correlated with all the assessed attributes of neuromarketing, i.e. Store, Seller and Product information. In the business environment, the use of various perceptions seems to be essential during sales. From the point of view of assessing the store, products or sellers, the purchasing actors use several styles of communication, active listening, eye tracking, strive for interaction in mutual communication, correct understanding of offered information, mutual trust and relationship between the seller and the customer, as well as for changing the thinking and shopping behavior.

The results of our research showed that in the assessed NLP techniques, as well as in the attributes of neuromarketing, sellers scored higher compared to customers. If the seller does not know how to communicate properly or does not master the right sales techniques, they will have a low sales success. A good seller is characterized by being able to ask targeted questions and listen carefully to the customer's answers.

Ruoh-Nan, Yurchisin, Watchravesringkan (2011) conducted a survey that focused on how the seller's corporate clothing in terms of the services and quality they provide, as well as the image of the store can influence the customer's expectations. The data obtained from the

respondents showed that the formal corporate clothing of staff in stores can influence the perception of customers about the level of professionalism of the seller in stores. This proves that customers have higher expectations of sellers who are dressed appropriately for the profession, i.e. wear formal clothing during sales, and thus have the presumption that these sellers will be overly competent in the field of services and will also be reliable, competent and informed. The professionalism of corporate clothing can also influence the image of a given company. It was further found that formal corporate clothing does not raise customer expectations of the seller's empathic manifestations. According to the acquired knowledge, it could be stated that customers are not significantly affected by formal corporate clothing and also do not expect the seller to be more flexible, sensitive or benevolent to them and their needs.

Hussain and Ali (2015) conducted a study where the main goal was to determine the impact of variables in the business environment on the shopping intentions of consumers in the international trading companies Hyperstar and Metro Habib. The survey focused on how different stimuli, such as temperature, smells, music, store cleanliness, placement and melting of various products and store lighting, affect customers' shopping behavior. According to the information and data obtained, it was found that the smell, lighting, purity of product placement and display of products in stores have a very significant and important influence on the shopping behavior and on the shopping intent of customers. The results also showed that the color and music in the store has minimal effect on customers' intentions, while the temperature during shopping has no effect on customers during the purchase.

Sales is a craft that can be learned through study and training by developing sales skills. Success in sales is possible by meeting clients regularly. The development of business skills in order to achieve business goals is an area that we plan to address in more detail in future research.

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