



Market Segmentation and Targeting Based On Artificial Intelligence

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ABSTRACT: Human society is now at the point where everybody is surrounded by an abundance of information. Those information have even become a problem, in terms of correct selection, qualification and potential benefits. The aim of this paper is to show that there are human needs and related opportunities for each web user, in terms of accessing the web site that is tailored to his personal metaprogram needs. This results in shortening the time of finding the "right information" and gives the effect of "relaxed buyer". On the other hand, this marketing concept can transform a mass marketing on the web into a "face to face" selling, on a much more humane, ecologically friendly way, ultimately, reducing marketing costs.

KEYWORDS: Market segmentation, Market targeting, Meta programs, Neural network, Artificial intelligence.

I.INTRODUCTION

Marketing management is based on an understanding and efficient meeting consumer needs. If we accept the idea that the primary function of business is - to create customers, the company has two basic functions: marketing and research and development. According to some authors, only the marketing and research and development create value, while all other functions are sources of costs [1]. Kotler defines marketing management as "the science and the art of selecting the right markets and attracting , keeping and enlarging the customer base, on the basis of creating and delivering superior value" [2].

However, today, market approach must be changed. It is observed that in most of the developed markets, strategic marketing basics (segmentation, targeting/selection of the target groups and positioning), which has always been used as the primary mechanism for improving competitive advantage, began to show some limitations. In order to overcome these limitations, the companies keep trying to do market segmentation on the small parts, but in the end as the result, we have markets that are too small to be profitable. That is why a new way of thinking is required, about how to come up with an efficient market offer. A turning point when marketing needs a new framework for the development of ideas is finally reached.

Segmentation itself, as a strategic base of marketing, is the process of dividing various large groups of consumers in less homogeneous groups. These smaller groups are easier to strategically target and safely meet the needs. Targeting, which follows, is the selection of the target market in order to position the company. The target market consists of a set of buyers who share the common needs that the company decides to meet.

To select the target markets and handle them adequately, many companies accept a differentiated i.e. targeted marketing as "directing the efforts of enterprises to serve one or more groups of customers who share common needs or characteristics" [3]. Here, company makes a distinction between a number of market segments, selects one or more segments, and develop products and marketing mix for each segment. The company should enter only segments in which they can offer superior value and gain an advantage over the competition.

Individual marketing is the last level of segmentation. That is a "marketing adjusted to the customer" or "one-to-one marketing." Such marketing, through "mass adjustment to the individual" is enabled by new technologies: computers, web servers, databases, dynamic web applications, new models of business intelligence and direct communication media (e-mail). Mass customization to the individual is "ability to prepare individually designed products and communications on a mass basis in order to meet the requirements of each individual customer" [4]. "Individual



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marketing is a form of marketing in which individual consumer determines which products and brands to buy with more responsibility" [2]. It has been used for a decade, and now it culminates with the development of modern Internet technologies.

Customers today are more personally involved in the evaluation and selection of products, which allows interactivity (e.g., using a computer), so they often conduct their own search for the best deals product. This should be used to address them first, with the offer of products accommodating their psychological characteristics, habits and willingness to spend.

They should be offered the opportunity to fill out a short form, while using the Internet, in a very relaxed atmosphere, and as a result get a website created for their own needs. All consumers will be then classified into a number of groups, and each type of consumer will get his, distinct, web site content.

It is known that the segmentation divides the heterogeneous (varied) market into smaller segments, whose needs can be met more effectively. Classical types of segmentation are [2]:

1. Geographic segmentation (region, state, city, region)
2. Demographic segmentation (age, sex, stage of family life, income, occupation)
3. Psychographic segmentation (social class, lifestyle, personality)
4. Behavioural (purchase habits, the required benefits, user status, usage rate, the state of readiness)

Examples of behavioural segmentation by consumer behaviour can be represented as follows, i.e. by the following habits [5]:

- Rate of use: often / occasional / potential users ...
- Search for benefits: economic / medical / social acceptability ...
- Situation in which the product is used: leisure / work / rush / morning / night ... home / friends ...
- Decision-making, the method of selection of information: thinking globally/locally, leaders/followers ...

It has always been difficult to accurately determine the type of consumers by these individual criteria. Now, it can be much easier by using the latest methods of neuro-linguistic programming (NLP). Also, the main error of marketing positioning, and that is confusing positioning (multiple messages or wide positioning) can be bypassed by using NLP.

Not every segmentation is efficient. Requirements for effective segmentation are that segments must be:

1. Measurable - size, purchasing power and profile of the segment is sometimes hard to measure
2. Available - can you approach these segments easily?
3. Profitable - market size is not sufficient
4. Operational - ability to create effective programs.

This is another segment of the marketing segmentation and targeting that can be more accurately defined with the help of NLP.

The effectiveness of segmentation based on NLP can be further improved with the use of artificial intelligence. This approach provides a new tool of marketing management.

In this paper, one software solution for classification the users in market targeting will be presented. This solution is based on the use of NLP methodology and use of artificial intelligence in the form of Support Vector machine (SVM). The proposed solution is given in the form of a dynamic web site whose content is modified according to the types of users, determined on the basis of answers from web forms and methodologies of NLP.

The paper proceeds as follows: First, we outline prior research and introduce the phenomena of NLP- Neuro Linguistic Programming. In Section 4, we present the outline of SVM-Support Vector Machine. SVM is used as artificial intelligence for improved decision making. In Section 5 we present our proposed methodology and main results. We derive conclusions and expose design choices for web marketing implementation and future research opportunities.

II.RELATED WORK

A number of different ways of market segmentation and market targeting have been presented in the literature. Some were used many years ago, and had been implemented in Kotlers works [2], [3], [5]. Starting with the Druckers Management: Tasks, responsibilities and practices [1] marketing management is one of the most important companies goals. This is clear advantage of cited works. Disadvantage is, that in those works, we cannot find concrete ways of



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transforming this mass marketing concept into a "face to face" selling, on a much more humane, ecologically friendly way, ultimately reducing marketing costs. The way has been found in the algorithm proposed in this paper, using artificial intelligence [6], [7],[8], in combination with Meta programs [9], [10].

Segmentation itself [3] is commonly used. The next step after targeted marketing is introducing Neuro Linguistic Programming - *NLP* [11], used in combination with *SVM* -Support Vector Machine [12], [13].

Meta programs are widely used in coaching, marketing, human resources and general management [9], [14], but always facing problems connected with multiparameter classification and intelligent decision making. *SVM* as a form of Machine Learning, first appeared in 1992, and since then it has a growing number of different applications in many scientific disciplines [7], [15].

With the appearance of dynamic web applications, whose contents are generated on the web server immediately prior to the distribution, the possibilities for customization of different modes as well as the contents has drastically changed [16], [17], [18].

Based on that, we have proposed a new better, faster and easier access to the right pieces of information, ie. ecology relationships, at a time when the buyers have to read a large amount of information, to select them and sort them, using corporate site [19], based on PHP, MySQL [20], HTML [21] and CSS code organization [22]. The ultimate goal is to define the type of content that is predefined in advance and is found in the database, for the observed user. This is particularly important when we analyze social network and a mount of user's information [23], [24]. Having in mind personal characteristics and different need of every social network users, we try to make dynamic web content correlated with their expectation [25], [26], [27]. All individual *SVM* are trained with a large number of classified samples based on empirical results of users in accordance with the logic of *NLP* operation. In this context, this paper presents a solution that aims to create a dynamic web site content, customized to meet the needs and preferences of users.

III. NLP - NEURO-LINGUISTIC PROGRAMMING

Psychology has identified that people fall into certain patterns of behaviour, modelled from those around them. *NLP*, neuro-linguistic programming, includes three most important elements that affect creation of human experiences. The neurological system is important because we experience the world through the senses, so that the submitted information is firstly given a meaning and then we respond appropriately. In order to express the thoughts, form behaviour and to communicate with others, people use language or words, so we talk about linguistic system. Programming refers to models that are at our disposal in organizing ideas and practices in order to achieve results. Models include the patterns of behaviour that we adopt during our lifetime and they exist as our own programs. Thus, *NLP* reveals the fundamental dynamics between mind (neuro) and language (linguistic) and how their relationship affects ones behaviour (programming), [14]. This model explains how we process the information that comes into us from the outside. There is an external event and we run that event through our internal processing. The external event comes in throughout sensory input channels and it is filtered, since we process the event. As we process the event, we delete, distort, and generalize the information that comes in, according to any number of several elements that filter our perception.

As a new approach to communication, personal development and psychotherapy, *NLP*, was created by Richard Bendelera and John Grinder in 1970. in California, USA, [11]. *NLP* is one of the scientific disciplines of communication skills and it studies the methods and techniques for discovering human behaviour patterns, [14].

NLP contains a variety of models, skills and techniques for achieving high levels of success in the field of communication, business, education and therapeutic practice, [14]. One of the most important models of *NLP*, meta programs, are widely used and are in coaching, marketing, human resources, general management, [14]. We delete, distort and generalize the information that comes in from our senses based on one of five filters. The filters are, Meta Programs, belief systems, values, decisions, and memories.

The first of these filters is Meta Programs. Knowing someone's Meta Programs can actually help you clearly and closely predict people's states, and therefore predict their actions. One important point about Meta Programs is they are not good or bad, they are just the way someone handles information.



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2.1. Metaprograms- concept, the essence and importance for marketing

The term metaprograms dates back in 1967, [10]. Author of the book, makes a parallel between our brain and the computer. After this work, many other cognitive researchers investigated this area, and NLP inventors have recognized a real practical significance, retrieved the results and further developed the concept according to the principles of NLP. Meta programs are related to the structure of human thoughts. Meta programs are perceptual filters in the form of patterns that we use in deciding what information to pass through, and how to structure them. They are important in key areas of motivation and decision making.

The first selection of information people make unconsciously through their perceptual filters. Values, attitudes, experiences, common way of receiving information through the sensory systems are perceptual filters. Metaprograms are the patterns by which people automatically put into operation their perceptual filters and by doing so, they determine what information are of the importance and which are not. They are leverage for decision making, selection and processing of information. What is important for one person, for someone other is not, what one person sees, the other doesn't notice. The difference can be seen through metaprograms which are specific for every person. As people are living in a time a huge amount of information that must be efficiently selected, identifying metaprogram becomes a necessity and has great significance.

"Metaprograms are used systematically and habitually. Patterns may be different in different contexts. Things that keep our attention at work will be different from what we pay attention at home." [28].

Metaprograms are there for important in the key areas of information processing, motivation and decision making. That is, if the transmission of advertising messages is using language that is in compliance with metaprograms of target group, then the transformation of information is performed and it becomes easy to comprehend and goes through perceptual filters. For this reason, knowing the metaprogram of customer is very important, in order to more easily and effectively access the market in terms of sustaining attention - receiving and initiating action.

2.2. Important metaprograms in terms of Marketing

Knowledge of preferential behaviour patterns of the target market, through defining their metaprograms, allows more subtle approach to the target market with more efficient outcomes. Below, some of the most important forms of metaprograms are shown [28]:

a) Metaprogram-form: "*proactive*" - "*reactive*" refers to an action, activity, action, reaction.

Table 1

Characteristics of persons belonging to Metaprogram-form: "*proactive*" - "*reactive*"

"Proactive" person	"Reactive" person
Initiator, he progresses, and does not wait for others to start something. He acts spontaneously and without delay.	He expects that somebody else runs the store or is waiting for a suitable opportunity before deciding to do something. He is fundamentally thinking about the changes.
Uses complete sentences with a personal subject, active verbs and tangible objects.	Uses passive verbs and incomplete sentences.
He is quickly passing the buying process and makes decisions quickly.	Slowly goes through the buying process and decision-making.
Phrases: "Do it.", "It's time for action.", "Get to work (purchase)."	Uses phrases: "Think about it.", "Let's discuss it.", "See what others think."

b) Metaprogram – form: "*toward*" – "*from*" explains how people maintain their motivation to do something. It is easily recognized in the language, in terms of whether the person is talking about what he wants, or not.



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Table 2

Characteristics of persons belonging to Metaprogram–form: "toward" – "from"

Persons "towards"	Persons "from"
They stay focused on their goals. They achieve what they want.	They easily recognize problems and know what to avoid. They understand what they do not want.
Important are their goals and rewards according to their values.	They avoid problems and penalties. They are best motivated by pointing out the negative consequences.
Person talks about what he wants and gets.	The person is talking about situations that want to avoid and some problems.

c) Metaprogram – form: "options" - "procedures" is triggered in the decision-making

Table 3

Characteristics of persons belonging to Metaprogram–form: "options" - "procedures"

"Options" persons	"Procedures" persons
They want to have choices and to develop alternatives.	They like to follow already used procedures.
They resist following used procedures, no matter how good they are. It is why they need to know why to do something.	They are not able to develop procedures. It's important how to exactly do something.
Respond to promotional ideas that increase choice.	They response poorly to promotional ideas that increase choice. They react to ideas that lead them clear, well-known tracks.

d) Metaprogram – form: "general" – "specific" is activated in communicating with other people and information processing.

Table 4

Characteristics of persons belonging to Metaprogram–form: "general" – "specific"

"General" persons	"Specific" persons
More like a general overview, the whole picture. They like to handle large pieces of information.	First, they need information about the details, connecting piece by piece as a puzzle, until they get a picture of the whole.
They think globally. They generalize. They omit single steps in the sequence.	They have the ability to handle a next step in the sequence. They give accurate descriptions.
They are good in planning, developing strategies.	They are good at doing individual steps in a row, when special attention is needed.

e) Metaprogram – form: "similarity" - "difference" is activated in the process of understanding, information processing and decision making. To understand something, some people before anything else, look for similarities, while others look for differences and accordingly structure all the facts. Both show a preference to compare the outside world with our internal frame of reference standards.

Table 5

Characteristics of persons belonging to Metaprogram–form: "similarity" - "difference"

"Similarity" persons	"Difference" persons
They need similarity to understand something. Understanding means: what specific things or events have in common.	Focus their attention on the differences. They just see the difference. They immediately notice when something is new.
They only see the similarities. They delete a huge amount of information.	They are able to process new pieces of information very well and detect everything that is new. They like changes.



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They do not like changes. They easily switch.	They are attracted by products that are advertised as "new" or "different."
Firstly similarities, and then differences. They respond to promotional materials that use the words "better" "improved" "enriched".	Firstly differences, then the similarities. They are looking for a change and variety, but not as much as people who see only the differences.

f) Metaprogram – form: "visual" - "auditory" - "kinaesthetic" refers to the channel through which information comes first, and how to deal with information

Table 6

Characteristics of persons belonging to Metaprogram–form:"visual" - "auditory" - "kinaesthetic"

The visual type of person	Auditory type of person	Kinaesthetic person
These people see the information first. They like to have a picture.	They hear the information first. They have a sound of information.	These people feel the information first. To them, picture is not saying anything.
This person needs to see the product. Information should include predicates that indicate the image.	This person has to talk about the product. Needs to hear the opinions of others and recommendations.	The information should have the power to create the feeling for a person. Smell and taste are closely related to feelings.
Some of the terms the person uses are: clear, see, light, image, vision, colour, look, I realize, scene, prospect, etc. . One typical statement is: "I see what you mean."	Some of the terms used: response, voices, ask, rhythm, sound, reasonable, quiet, etc. One of the typical statements is: "That sounds familiar" "That sounds good."	Some of the key words they use: feel, fresh, accept, touch, strong, warm, smooth, and so on. One of the typical statements: "I feel what it means," or "I feel that it's good".

People have all three perceptual systems, but for the majority only one is primary. This one is crucial for receiving and further processing of information. When a person with a visual form receives information about the product, which is said to be the best, she can ignore that information, but if the information contains an image, there is a high probability that she will process it. It is also the same with other perceptual systems.

Metaprograms are determined on the basis of a questionnaire that was designed to define the metaprogram of particular person with great certainty. Once the metaprogram “from” (preferences-forms) by which a person receives and processes information is determined, and then it is possible that we approach each customer with greater precision, in a way that the marketing message is almost completely customized and comprehensive, so it can lead one to buy something.

IV.SUPPORT VECTOR MACHINE

The problems of multi-parameter classification and intelligent decision making belong to very complex tasks. A large number of authors in different papers are proposing different solutions which are based on different logics and technologies. One group of solutions is based on application of models and mechanisms that exist in highly intelligent entities, is called artificial intelligence, [8].

Machine Learning is a set of techniques and methods which are used for the study of computer systems in order to obtain a tool for drawing conclusions by intelligent machines. Thus, Machine Learning is a form of artificial intelligence, and shows very good results in the process of advanced data analysis.

Support Vector Machine (SVM), as a form of Machine Learning, first appeared in 1992., and since then it has a growing number of different applications in many scientific disciplines, [12]. SVMs are a set of related supervised learning methods used for classification and regression, [12]. Bearing in mind the complexity of classification process, particularly in situations where a large number of parameters influence decision-making, SVM represent a very efficient tool in a wide number of implementations, [15]. Support Vector Machines can be defined as systems which

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use a hypothesis space of linear functions in a high dimensional feature space, trained with a learning algorithm from optimization theory that implements a learning bias derived from statistical learning theory, [29]. The training of such system involves supervised learning, based on the known samples and their classification. For example, if we observe a set of images and if they are divided into images of live and dead nature, these images are represented to the system by their classification (belonging to a group living or dead nature). Based on this information, the system needs to find the logic of decision-making. This logic is tested in the next phase, on the second set of known samples. For each misclassification, it is necessary to correct the decision-making process. Finally, it is believed that the process of decision making is good enough, and that the system can be given an unknown sample in order to classify it into one of the predefined classification groups.

The problem in classification arises when there is a larger number of possible solutions and logics that can be applied to a training set of known samples [12], [15]. Suppose that the problem is observed graphically, and that there is a set of N elements, where a certain number of elements belong to one and the other to the second category, and that they are linearly separable, Fig 1. In the general case, there are a large number of possible lines by which the separation of these two sets can be carried out.

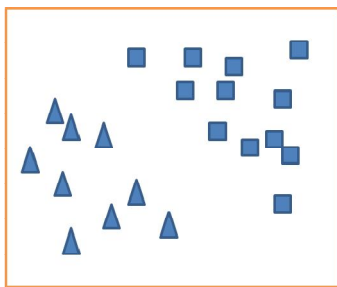


Fig 1: The initial set of classification based on two types of objects.

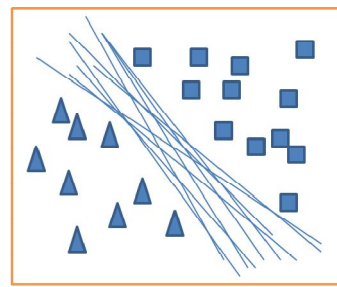


Fig 2. Possible ways of linear classification of set.

Mathematically speaking, this means that there is a large number of pairs of variables w i b which can be used to make a linear classification of type

$$f(x) = \mathbf{w}^T \mathbf{x} + b$$

The best classification can be defined by introducing the margin that should be the greatest possible. The margin is the distance between nearest element for each of the classified papers and the dividing line, Fig 3.

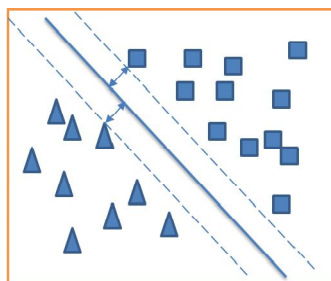


Fig 3: Defining the margin of line classification.

Expression for Maximum margin is given as [12], [15]:

$$\text{margin} \equiv \arg \min_{\mathbf{x} \in D} d(\mathbf{x}) = \arg \min_{\mathbf{x} \in D} \frac{|\mathbf{x} \cdot \mathbf{w} + b|}{\sqrt{\sum_{i=1}^d w_i^2}}$$

The reason for using the maximum margin is to provide the same outcome decision even in the case of minor errors, so given margin represents some kind of "security zone". In this way, the maximum margin can be defined as

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$$M = 2 / \|w\|$$

From the perspective of a mathematical model of separation, SVM needs to find the parameters of the vector w and variable b , so that it minimizes the function

$$\Phi(w) = \frac{1}{2} \|w\|^2$$

provided

$$\{(x_i, y_i)\}: y_i (w \cdot x_i + b) \geq 1$$

In real applications, it is not always possible to make a perfect classification, i.e. to find the line of separation in such a way that all the elements of one set are on one side of a line and the other elements on the other, left-hand part of Fig 4. In this case, the so-called "slack" variables are introduced, enforcing the influence of the set of elements that are not properly classified. In this case, the SVM should find the parameters of vector w and variable b , so the function is minimized

$$\frac{1}{2} \|w\|^2 + C \sum_{i=1}^l \xi_i$$

provided

$$y_i f(x_i) \geq 1 - \xi_i, \text{ for all } i, \xi_i \geq 0,$$

where C indicates the extent of "punishment" of wrongly classified element.

In the case that the data structure is such that there is a large number of wrong classified data and that it cannot be improved by changing the line of separation, the conclusion is that this linear model is not always possible. In these situations Kernel are applied, [30].

The role of the kernel is to perform the transformation of all elements of the system in a multivariate space, where the dividing line can be linear, Fig 4, [30] and [31]. This also implies the simultaneous transformation of feature vector and ways of classification i.e. variables (x_i, y_i) . By applying a transformation function Φ the new coordinates of the new space K are given as

$$K(x, y) = \Phi(x) \cdot \Phi(y)$$

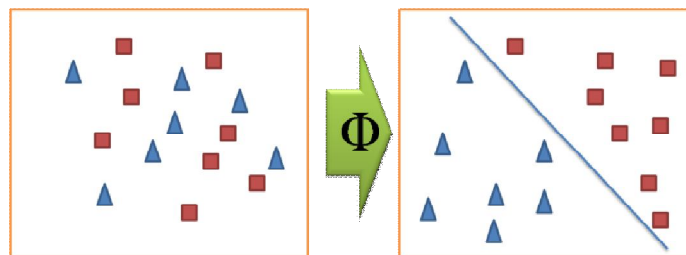


Fig 4. The initial set that cannot be classified by a linear function and linear classification obtained by applying the transformation functions.

In this way, theoretically, any group of data can be linearly separated by the application of an appropriate kernel. Bearing this in mind, the SVM will be used in this paper as a solution for the classification of initial data set.

V.METHODOLOGY AND RESULTS

With the appearance of dynamic web applications, whose contents are generated on the web server immediately prior to the distribution, the possibilities for customization of different modes as well as the contents has drastically changed, [18]. Bearing in mind that all server programming languages that are web-oriented, have support for working with databases, the amount of data that is stored on the server, as well as the relational model of its organization, became available and maximum exploited in the last decade [22]. This made a breakthrough of attractive web site contents, in various forms, which has become available to a large number of end users.



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Considering the possibility of dynamic content generation (based on the technologies of PHP and MySQL), defining different modes and organization of data (based on HTML, CSSU, Java Script and jQuery) and the possibility of browser and Web server to work the technology of cookies and session, the new age of interactive web sites and Internet marketing is increasingly present [20], [21] and [22].

The primary objective in this case, is the best possible classification of users and customization of content of the site, as well as representations of the same, to the targeted group. In this way, the user gets the information and its visualization in a way that it suits the best the site and achieves maximum impact of advertising products for a large number of satisfied visitors.

4.1. The used methodology

The aim of this paper is to provide better, faster and easier availability to the right pieces of information, ie. ecology relationships (who or what) at a time when the buyers have to read a large amount of information, to select them, sort or delete, to eventually get what we really wanted.

Provided that there is a realized structure of corporate site, based on HTML and CSS code organization, we assume that the block architecture of a website is created as shown in Fig 5.



Fig 5. Organization Menu Home site.

Since the user is given the opportunity to profile the content of the site, by clicking on the link in the right block of the website (banner, which defines the offered opportunity for automatic selection of the site's content), the separate web page will be opened with static content (*form.php*). The content of this page is a web form with questions that are defined by logic of NLP operation, described in the second chapter. By filling out this form, and its automatic processing by the web server for the monitored users, it is necessary to identify its meta programs.

The basic element in the process of defining the meta program is a question with multiple choice and the ability for the user that in addition to defining the correct answer, enrollers the percentage of effect of the same, according to the logic of NLP. Block diagram of the organization and the demonstration of such questions is shown in Fig 6.

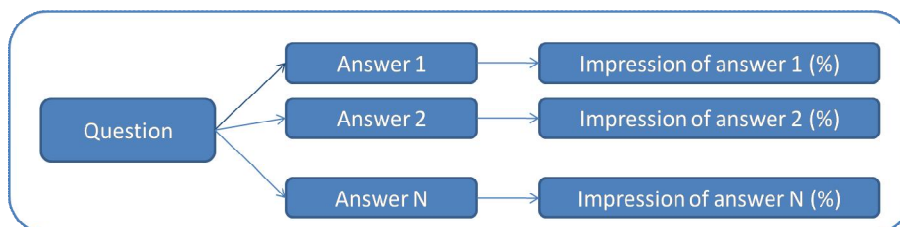


Fig 6. Block diagram of the questions used to determine the meta program.

When the user answers several questions, it is necessary to define its individual meta programs, their representation in percents and relationship, Fig 7.

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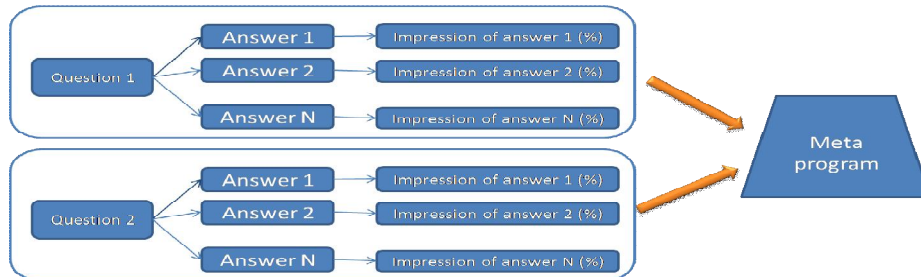


Fig 7. Structural diagram of questions in order to define the meta program on the basis of received responses

The ultimate goal is to define the type of content that is predefined in advance and is found in the database, for the observed user. In accordance with the characteristics of specific meta program and content types defined by programmers, it is necessary to define the unique correlation between users and content. Since the user does not have an exclusive affiliation to only one meta program, and that within a unique meta program different percentage of elements from category of observed meta program can be found, the selection of the type of content in relation to the type of user is a very complex problem.

This paper proposes the application of artificial intelligence to solve the problem of content selection. Since SVM show very good results in complex tasks of classification, one solution of SVM will be used in this paper. As envisaged the existence of a large number of content types, a multiple instances of the proposed logic are needed to be created. In this way, one SVM analyses and processes the contents of only one type. Each of them is independent, and is based on a large number of uncorrelated data describing the characteristics in terms of their meta program. The result of the work of each SVM is a classification of users in a specific content type, with the answer to whether the observed content is suitable for the users profile analysed by the SVM. The results of individual SVMs are mutually exclusive, thus a user can belong to only one type of content. Finding the content type for the observed user stops further activation of the remaining SVM, and PHP code addresses database with the aim of resolving and acquiring exactly defined content type for specific users of the site.

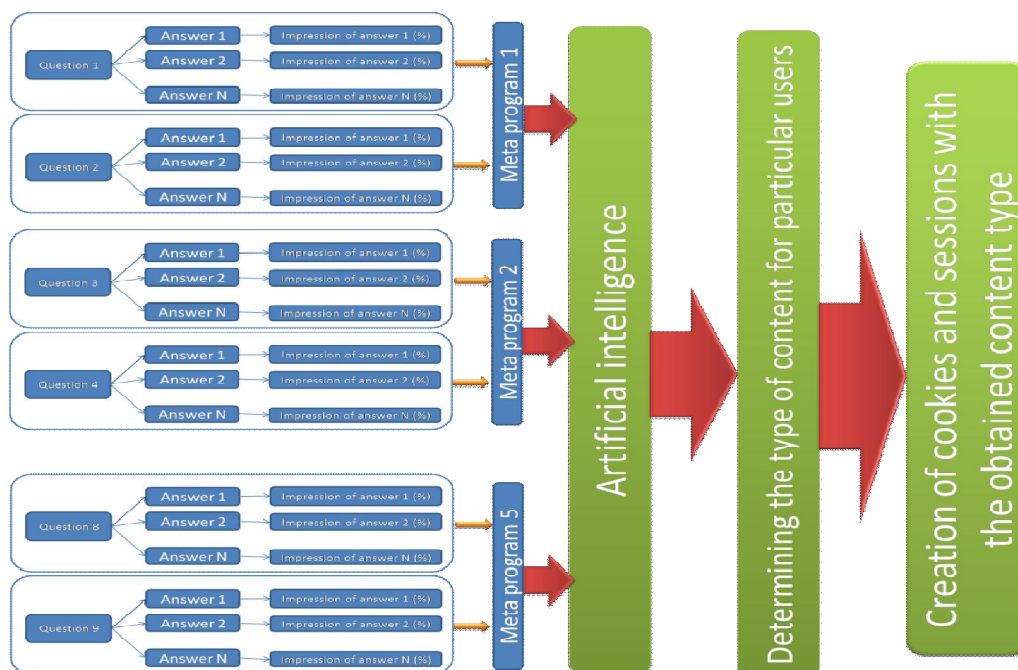


Fig 8. Block diagram of determining the type of content in relation to the users answers



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All individual SVM are trained with a large number of classified samples based on empirical results of users in accordance with the logic of NLP operation.

The whole procedure of applying artificial intelligence is divided into two blocks, Fig 8. In the block called *Artificial intelligence*, there is a software solution of single SVM, with trained and classified patterns, that should define the quality of classification. Based on the results of web forms, individual SVM are called that are responsible for individual content types.

Code that accepts answers of web forms, calls and analysed the results of individual SVM and is located in a separate block called *Determining the type of content to the user*. At the output of this block any user who filled the form, will be assigned to only one type of content.

The purpose of permanent storage of this information on the server side in the database in a separate table defines the relationship defined by a single random number, with the results of NLP analysis of web forms. This identification number is entered by the user to the computer using a standard cookie technology, with the aim that each time a user comes to the site, the process of filling web forms is not repeated, but the database recognizes the user and automatically delivers the desired content. In the event that the site supports authentication and user authentication, the process identifier of the relational model between the user and the results of processing web forms can be defined in a database without using cookies. Determining the type of user, and by applying server technology sessions, access to any other page of the web site allows the transfer of information on the type of user.

Information about what type of content is assigned to each user, in this way, is initially entered into the database, session and cookie. A part of the code responsible for this activity is located in the last block of Fig 8.

Suppose that there are at least ten operators to comply with the described logic of NLP that have different target applications. Since these users are classified in the database, and that their identification is in a cookie, by the arrival of each user on the site again, the initial *index.php* page on the web server will be activated. The logic of this site is to primarily grab data of cookies, and based on that, make a request to the database to obtain the correct type of content intended for this group of users. In case that information that monitored site generated is not in a cookie, it means that the user hasn't gone through filling forms in *form.php*, and he will be displayed a particular type of content designed for universal user. This is graphically shown in Fig 9.

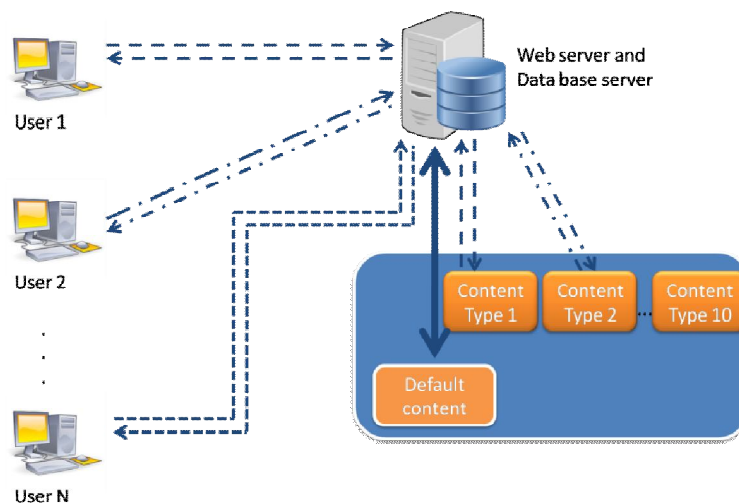


Fig 9. Display of different content, the same initial pages of the site, to different types of users.

In this way, the site has standard functionality for users that access the site's content for the first time, but it also offers advanced features. They are offered only to those customers who want it, free of charge.



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The reason for both, users and the site owner, to invest more time in the proposed activities are of mutual benefit. From the user side, he will get the content to respond his preferences and needs, and the owner of the site does not have unnecessary customer dissatisfaction and can expect higher economic effect of marketing his products. The classical approach to web marketing, definitely brings a vast pile of information and lots of "Road to deceive", so sometimes we lose and give up or get a completely unwanted Internet destination.

4.2. The outcome of the analysis of web forms

In accordance with the classifications of defined meta programs, and the proposed methodology, random sample was reviewed in order to demonstrate the proposed solution. The following questionnaire was used. The questionnaire contains a list of questions and choices, with specific answers of randomly chosen person X. These replies are in gray colour. The questionnaire refers to a target group of car buyer customers.

- You can round up and evaluate multiple responses, but the aggregate may not exceed 100%
- Carefully read the question and what you think immediately around as your answer.

Table 7

Questionnaire list


1	What is important for you, when you buy a car? (in %)	a) It's important to me that there are no defects, that I consider important (or I heard that are important). b) It is important to me that there are certain characteristics that are important to me.	<table border="1"> <tbody> <tr> <td>a)</td> <td>15</td> <td>30</td> <td>45</td> <td>75</td> <td>90</td> <td>100</td> </tr> <tr> <td>b)</td> <td>15</td> <td>30</td> <td>45</td> <td>75</td> <td>90</td> <td>100</td> </tr> </tbody> </table>	a)	15	30	45	75	90	100	b)	15	30	45	75	90	100	Meta program: b) toward – 90% a) from – 30%														
a)	15	30	45	75	90	100																										
b)	15	30	45	75	90	100																										
2	How do you know you had an important job well done? (in %)	a. I know. I just Know, by myself. b. Someone else, with the authority, has to tell me I've done something well. c. Someone has to tell me, so I will know. d. I just know, but sometimes I need someone to ensure me. This is not always necessary.	<table border="1"> <tbody> <tr> <td>a)</td> <td>15</td> <td>30</td> <td>45</td> <td>75</td> <td>90</td> <td>100</td> </tr> <tr> <td>b)</td> <td>15</td> <td>30</td> <td>45</td> <td>75</td> <td>90</td> <td>100</td> </tr> <tr> <td>c)</td> <td>15</td> <td>30</td> <td>45</td> <td>75</td> <td>90</td> <td>100</td> </tr> <tr> <td>d)</td> <td>15</td> <td>30</td> <td>45</td> <td>75</td> <td>90</td> <td>100</td> </tr> </tbody> </table>	a)	15	30	45	75	90	100	b)	15	30	45	75	90	100	c)	15	30	45	75	90	100	d)	15	30	45	75	90	100	Meta program: a)Internal - 90% d)Eksternal 15%
a)	15	30	45	75	90	100																										
b)	15	30	45	75	90	100																										
c)	15	30	45	75	90	100																										
d)	15	30	45	75	90	100																										
3	Do you know exactly what to do when you decide to buy a car, so you can be sure you will have successful purchase? (in %)	a. yes b. no	<table border="1"> <tbody> <tr> <td>a</td> <td>15</td> <td>30</td> <td>45</td> <td>75</td> <td>90</td> <td>100</td> </tr> <tr> <td>b</td> <td>15</td> <td>30</td> <td>45</td> <td>75</td> <td>90</td> <td>100</td> </tr> </tbody> </table>	a	15	30	45	75	90	100	b	15	30	45	75	90	100	Meta program: a)Internal - 90% d)Eksternal- 15%														
a	15	30	45	75	90	100																										
b	15	30	45	75	90	100																										
4	When you see or hear something new, you... (in %)	a. seek similarities with something already known b. seek differences from somethnig already known	<table border="1"> <tbody> <tr> <td>a)</td> <td>15</td> <td>30</td> <td>45</td> <td>75</td> <td>90</td> <td>100</td> </tr> <tr> <td>b)</td> <td>15</td> <td>30</td> <td>45</td> <td>75</td> <td>90</td> <td>100</td> </tr> </tbody> </table>	a)	15	30	45	75	90	100	b)	15	30	45	75	90	100	Meta program: a)similarity 75% b)differences 45%														
a)	15	30	45	75	90	100																										
b)	15	30	45	75	90	100																										
5.	When you decide to buy something very important and needed, you... (in %)	a. react very quickly b. need detailed analysis of all possibilities and demands and you need a lot of time. c. firstly analyse situation, make the plan, and then react	<table border="1"> <tbody> <tr> <td>a)</td> <td>15</td> <td>30</td> <td>45</td> <td>75</td> <td>90</td> <td>100</td> </tr> <tr> <td>b)</td> <td>15</td> <td>30</td> <td>45</td> <td>75</td> <td>90</td> <td>100</td> </tr> <tr> <td>c)</td> <td>15</td> <td>30</td> <td>45</td> <td>75</td> <td>90</td> <td>100</td> </tr> </tbody> </table>	a)	15	30	45	75	90	100	b)	15	30	45	75	90	100	c)	15	30	45	75	90	100	Meta program: a)proactive b)reactive- 30% c)active -75%							
a)	15	30	45	75	90	100																										
b)	15	30	45	75	90	100																										
c)	15	30	45	75	90	100																										



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		immediately.																														
6.	Imagine a work situation where you have a very good feeling. It has to be a unique event. Choose the statement that best describes your feelings in this situation. <i>(in %)</i>	a. I love to work with people. b. I'm mostly interested for objects and things, that I can see and with which I can work (ex. computers, machines etc). c. I liked the place, location, working space. d. The most important is activity that will be held, and everything else is less important.	<table border="1"> <tbody> <tr><td>a)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> <tr><td>b)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> <tr><td>c)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> <tr><td>d)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> </tbody> </table>	a)	15	30	45	75	90	100	b)	15	30	45	75	90	100	c)	15	30	45	75	90	100	d)	15	30	45	75	90	100	Meta program: a)people-90% b)things-30% c)place-75% d)activity-75%
a)	15	30	45	75	90	100																										
b)	15	30	45	75	90	100																										
c)	15	30	45	75	90	100																										
d)	15	30	45	75	90	100																										
7	Please, select a statement that suits you the best. <i>(in %)</i>	a.I like team work, and I'm very satisfied when team appreciates my work and respects me. b. I like team work, but I need my own area of responsibility. c. I like working alone.	<table border="1"> <tbody> <tr><td>a)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> <tr><td>b)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> <tr><td>c)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> </tbody> </table>	a)	15	30	45	75	90	100	b)	15	30	45	75	90	100	c)	15	30	45	75	90	100	Meta program: a)team player - 45% b)group player-90% c)individualist							
a)	15	30	45	75	90	100																										
b)	15	30	45	75	90	100																										
c)	15	30	45	75	90	100																										
8	When looking at the prospect of a car dealership, what would you be first interested to see. <i>(in %)</i>	a. DETAILS first, overview is not necessary b. OVERVIEW first, and if I like it, then I can move on to the details.	<table border="1"> <tbody> <tr><td>a)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> <tr><td>b)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> </tbody> </table>	a)	15	30	45	75	90	100	b)	15	30	45	75	90	100	Meta program: a)overview -90% b)details -15%														
a)	15	30	45	75	90	100																										
b)	15	30	45	75	90	100																										
9	What kind of interrelation is seen between the boxes? <i>(in %)</i> 	a. All the same. b. Mostly the same, with little differences. c. They are mostly different, with some similarities. d. They are all different.	<table border="1"> <tbody> <tr><td>a)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> <tr><td>b)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> <tr><td>c)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> <tr><td>d)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> </tbody> </table>	a)	15	30	45	75	90	100	b)	15	30	45	75	90	100	c)	15	30	45	75	90	100	d)	15	30	45	75	90	100	Meta program: a)similarities b)similarities with exception -90% c)differences with exception b)differences
a)	15	30	45	75	90	100																										
b)	15	30	45	75	90	100																										
c)	15	30	45	75	90	100																										
d)	15	30	45	75	90	100																										
10	Show the direction in which you see your future and show in what direction is your past. <i>(in %)</i>	a. Future is in front of me, past is behind me. b. Future is on my right, past is on my left. c. Future is on my left, past is on my right. d. Future is above me, past is under me.	<table border="1"> <tbody> <tr><td>a)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> <tr><td>b)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> <tr><td>c)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> <tr><td>d)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> </tbody> </table>	a)	15	30	45	75	90	100	b)	15	30	45	75	90	100	c)	15	30	45	75	90	100	d)	15	30	45	75	90	100	Meta program: a)hiper-future b)present -90% c)past d)disorientated present
a)	15	30	45	75	90	100																										
b)	15	30	45	75	90	100																										
c)	15	30	45	75	90	100																										
d)	15	30	45	75	90	100																										
11	When reaching some important decision, what is the most important? <i>(in %)</i>	a. Past is most important. b. Present is most important. c. Time doesn't mater. d. Future is most important.	<table border="1"> <tbody> <tr><td>a)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> <tr><td>b)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> <tr><td>c)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> <tr><td>d)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> </tbody> </table>	a)	15	30	45	75	90	100	b)	15	30	45	75	90	100	c)	15	30	45	75	90	100	d)	15	30	45	75	90	100	Meta program: a)past b)present -75% d)disorientation c)future -30%
a)	15	30	45	75	90	100																										
b)	15	30	45	75	90	100																										
c)	15	30	45	75	90	100																										
d)	15	30	45	75	90	100																										
12	When reaching some important decision, what is	a. Past is least important. b. Present is least important. c. Time doesn't mater.	<table border="1"> <tbody> <tr><td>a)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> <tr><td>b)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> <tr><td>c)</td><td>15</td><td>30</td><td>45</td><td>75</td><td>90</td><td>100</td></tr> </tbody> </table>	a)	15	30	45	75	90	100	b)	15	30	45	75	90	100	c)	15	30	45	75	90	100	Meta program: a)past-90% (10%) b)present							
a)	15	30	45	75	90	100																										
b)	15	30	45	75	90	100																										
c)	15	30	45	75	90	100																										



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	the least important? (in %)	d. Future is least important.	d) 15 30 45 75 90 100	c)future
13	When it comes to your personal goals and working on them ... (in %)	a. I like to have more options "How else could it be carried out?" b. Rules hinder me. c.I like to have checked procedures and set of rules. d. I wonder, "What exactly do I need to do?"	a) 15 30 45 75 90 100 b) 15 30 45 75 90 100 c) 15 30 45 75 90 100 d) 15 30 45 75 90 100	Meta program: a)option -75% b)option 1-45% c)procedure-45% d)procedure1-75%
14	When you should along with someone study a new field, what would make you more interested ... (in %)	a. Facts, details, in order to avoid dangers. b. Opportunities, to take advantage of the chances.	a) 15 30 45 75 90 100 b) 15 30 45 75 90 100	Meta program: a)details -15% b)overview – 75%
15	Which of the following sentences is clearest for you when it comes to something positive? (in %)	a) I can see that this is all very good. b) All of this sounds very good. c.) It feels that it is all very well. d) Something tells me that this is all very good.	a) 15 30 45 75 90 100 b) 15 30 45 75 90 100 c) 15 30 45 75 90 100 d) 15 30 45 75 90 100	Meta program: a)visual-45% b)auditory c)emotional -75% d)digital
16	In an interesting offer of the product, select sentence that suits you best. (in %)	a) It seems smoothly for shopping, I can feel it. b) It looks promising. This is a great offer. c.) Sounds good. d) This should be bought, it's an interesting offer.	a) 15 30 45 75 90 100 b) 15 30 45 75 90 100 c) 15 30 45 75 90 100 d) 15 30 45 75 90 100	Meta program: a) sensitive-75% b) visual -45% c) auditory -30% d) digital-45%

As a result of questioner, the metaprogram is got from randomly selected person X. In Table 8, the first two columns are defined by the perceptual filters and the adequate representation of the metaprogram of randomly selected user of the site. By the type of the metaprogram, in the third column of Table 8, preferential properties are defined as well as the expectations of that user. These properties are consequences of metaprogram analysis and back-end logic of the proposed application and the user is not faced with it directly.

Table 8

Metaprograms of user "X"

Name of percept. filter	Metaprogram of user X	Description of preferred properties
Information perceptual channel	"Visual" 80% "Kinaesthetic" 60% "Audio" 20%	She loves to see the picture first. She sees the information. Generally uses words see, the light, vision, look. After that, secondarily, kinaesthetic (feeling, smell, taste) perceived information. Keywords are: feel, touch, smooth and so on. She feels the information. In the end she only listens to the



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		information, that is, cannot hear other recommendations. Words that finally passed through the filter sounds familiar, understandable, quiet, announce or "That sounds good.". So she first saw the information, then she feels and finally just hears.
Motivation and focus attention	"According to" 100% "From" 50%	Target oriented. Motivation is in the attractiveness of the target. She loves awards in accordance with its values. She likes to talk about what she wants.
Understanding and structuring information	"Similarities" 80% "Differences" 40%	Seeking common elements with previous experience. They like familiar things and the safety of the known. Easily recognized form. Generally prefer to keep things as they are but in the end accepted the changes (40% difference).
Communication with the environment and information processing	"General," 90% "Detail" 40%	He likes to have a general overview. These are the general information. Can immediately perceive the basic structure of information. It goes from the general to the specific. Think globally. Generalization. Leaves out the individual steps in the sequence. Is not primarily motivated to process more information.
Decision-making to the activity.	Option 70% Procedure: 60%	She wants to have a choice, alternative. She likes to experiment. Her question was, "How something else could be accomplished." For her, the decision may mean the limit if you are primarily conditioned. After exploring the options, this one likes to have direction through the procedure and then there is no problem to make a decision. Then she asks, "What do I need to do."

In Table 8, the needs of individual user can be seen more clearly, analyzed in terms of the primary information which seems to be needed to attract her attention and keep it. In addition, it is necessary to provide easily understood information to be structured efficiently, and then process them and make a decision from the information obtained.

One of the important aspects of the proposed solution is the categorization and generating content for a specific type of user. In this sense, the analysis of the metaprogram is necessary to define the structure of information and visual way of displaying them. This process is based on NLP approach through metaprogram patterns, and contains a large number of combinations and rules for specific types of users, and will in this section detail the results based on observed characteristics of the user "X". In Table 9, the sequence, the type and the method of generating the content of the monitored person is shown.

Table 9

Designed information after processing of the questionnaires

The visual effect Pictures (lots of pictures), associated with initiating feelings	Attractiveness, positive rewards	The similarity with known experience	Give a general overview of attractiveness, similarity and benefits with the ability to understand details	Primarily to provide more options to choose from, and then give instructions for procedural move towards the implementation of the decision.
--	----------------------------------	--------------------------------------	---	--

To see the effects of this new approach, we can assume that this person "X" is provided information contrary to the manner and content as given in Table 9. Assume that the observed user is shown content defined in the first column in Table 10.

Table 10

Structure of the content that do not fit the needs of the monitored user

No primary image, only words, the information, ie. description	Person "X" will immediately ignore the words and look for the image and thus skip some of your important information. that is, he will read and will be demotivated very quickly and give up reading.
Do not talk about what is good, but what to avoid as wrong	This approach leads to suspicion and loss of focus for the user, because he wants to hear only positive elements, not what to avoid.



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The article talks about the differences rather than the similarities	This can also begin to "torment" user because he wants to see the resemblance, feel and hear. It can also reduce the level of attention, and even abandon further information retrieval.
Very little background information, a lot of details.	Person "X" starts to get bored, read the "leaps" I'm trying to create an overall picture, and shows that he is already tired.
Few options and lots of procedures	Person "X" feels no comfort in the decision-making process, and may have the feeling that he was forced to make a decision. This will have the effect that the procedure is allowed for a second time when he has more time to devote to them and the reason is that he should be offered during the options.

The expected effect is obtained by displaying the different contents of the desired, is given in the second column of Table 10.

Finally, we should mention that user who voluntarily decides to use this facility on site, can turn off the effect of the proposed solutions at any time, and to continue to receive the universal content of the site.

VI.CONCLUSION

Targeting customers, in the real market conditions nowadays, has become increasingly complex, with the diverse number of offers of various types of goods and services. This is particularly important in the field of web marketing. The goal of positive targeting is that visitor is not only attracted to visit the web site, but that a positive attitude is bringing him back. In this sense, today there are a large number of extreme malicious techniques of pop-up advertising, aimed to bring users to a particular web site. However, in most of the cases, the customer immediately after arriving at a particular site, leaves and never comes back. This is a result of the fact that the advertisement does not match the customer expectations. In this context, this paper presents a solution that aims to create a dynamic web site content, customized to meet the needs and preferences of users. In this way, the user needs to feel comfortable and completely satisfied when using site. To achieve this effect, the usage of advanced NLP techniques is proposed, in order to devise expectations. In order to make this process unobtrusive, the user needs to answer a short questionnaire, with the content that may be completely unrelated to the site content or specific user preferences. In this way, the user does not have to feel like a part of an experimental phase, and therefore should have a greater desire to give some answers. On the basis of NLP analysis and knowledge, a type of user is defined for observed user of the web site, and this will define the contents of the site which will from that moment on appear to him, every time he comes to the site. In this way, there can be a larger number of completely different combinations of site content needed to respond to the needs of different user profiles. The selection of appropriate content and a combination of the same is implemented by artificial intelligence, based on various parameters. These parameters are initially viewed individually, while in the second phase are part of multi-criteria analysis. The results are displayed to the user, and by the application of technologies of cookies remembered for the aforementioned user, even when he does not pass authorization and authentication process on the monitored site. In this way, it is expected that the user gets the content and structure of the web site in a way that suits him most, with data and the new details that are consistent with his preferences. In this way, it is expected that the user will be positively oriented towards the web site and we can consider that the site has got secure and permanent users and customers.

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