

# C<sup>2</sup> NIWA COMMUNITY – SEGMENTATION CRITERIA AND BUILDING BRAND ASSOCIATIONS ON THE EXAMPLE OF A SELECTED TARGET GROUP

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**Abstract:** Every organization which offers products or services wishes to communicate with their customers in the most effective way. This kind of communication is based on proper selection of target groups which are identified in the process of market segmentation. Therefore, it is very important to ask the question to whom the message is to be directed and what kind of a message we want to convey. This article describes the selection criteria for target groups in the Centre of Competence for Novel Infrastructure of Workable Applications (C<sup>2</sup>NIWA) which is organized in the structures of the Gdansk University of Technology. It is a place that provides advanced IT platforms for the production of various types of applications. C<sup>2</sup>NIWA users have access to the most current knowledge in this field, advisory services, and tools to collaborate on IT projects. They needed to be divided into target groups and the communication methods were adapted to their specifics. The result of this process is the establishment of appropriate associations with the brand. The article presents the results of a short research showing what kind of associations were successfully built in one of the target groups by using a system of visual identification – the logo of the C<sup>2</sup>NIWA.

**Keywords:** target groups, community, segmentation

## 1. Introduction

The NIWA Centre of Competence operates within the structures of the Gdansk University of Technology. It has been designed as a place for development and creation of high-quality digital projects, both finished and fragmentary, to enable the making of a more advanced product.

The centre comprises three fields:

- an advanced IT infrastructure with platforms for development of applications;
- an Open Science platform which gives access to publications, project results through the repository, open licenses and tools to support teamwork;

- consulting, guides, lessons and training that help exchange knowledge between scientific and business circles.

The main part of the C<sup>2</sup>NIWA is a supercomputer. It is a computing cluster which is able to conduct trillion mathematical operations within a second. It is also one of the fastest computers in Poland. Owing to such an advanced cluster, the C<sup>2</sup>NIWA provides its users with a modern IT infrastructure. The infrastructure is available through a specialized platform for development of applications and a consulting catalogue for easier use.

In the C<sup>2</sup>NIWA there are several platforms for designing applications. Cascade is a platform whereby it is possible to process different data streams, also in real time. Beesy Cluster is an access portal for clusters or a network of supercomputers which permits complex scientific calculations. Wiki-WS is used to create web services. It is both a development and production environment. This makes it possible for once implemented service to be used later in order to develop other applications. The platform called Business Process Management allows designing, executing, monitoring and optimizing business processes. It also gives the opportunity to create a good working environment not restricted to certain industries, and finally to reduce business costs.

In addition to that, the Centre is prepared to provide both consulting and training courses. Consulting may be provided in such fields as: team building, application quality assessment, software testing, creative project development and trust management. All of the above can be provided in the form of guidebooks or e-learning courses available through the Moodle platform.

It is very important for the project to understand the nature of the Centre's virtual teams and its specifics. In the initial phase, the teams will consist mostly of students from the Gdansk University of Technology. Later, there will be some other users (from outside the University) who have never had the chance to meet „face to face”. Therefore, it is crucial to examine the functioning of these groups, to diagnose the way they keep in touch and solve problems. That will help to find out the most effective way of communicating with the C<sup>2</sup>NIWA users and find means to support their creative problem solving abilities. It is also important to know the expectations of users and their visions of C<sup>2</sup>NIWA improvement.

## 2. Segmentation – criteria and tools

People search for diversity when it comes to products and services. They also react differently to marketing messages. In order to carry out communication with the market successfully, it is necessary to divide customers into groups. Customer segmentation has to be performed according to clearly defined criteria. This process enables better product matching to every single target group. It also improves the effectiveness of marketing communication and makes it easier to observe trends and customer decisions. The purpose of segmentation is to separate unified groups of buyers and to bear in mind that they might require different products or different marketing instruments. Dealing with that stage

correctly helps in a more accurate selection of media channels which eventually leads to potential clients. Effective media selection has influence on the marketing expenses, which are optimized [1].

Market segments should be measurable in a way that gives information about buyers; accessible so that it should be possible to reach the customer; and big enough to make sales activities profitable and varied – the segments simply should vary between each other, in order to respond differently to the marketing incentives designed especially for them [2].

The process of classifying consumers into groups is based on analyzing their certain needs and ways of behavior. It may proceed in different ways and be based on different criteria.

The most popular criteria are:

- geographic – *e.g.* the region, the size of the city or agglomeration, population density (urban area, suburban, rural), climate;
- demographic – age, number of family members, phases of family development cycle, gender, income, occupation, education, religion, race, nationality, social class;
- psychographic – personality, lifestyle;
- behavioral – susceptibility to bargains, the degree of loyalty to the product, interests, buying habits [3].

One of the most popular consumer classifications requires identifying three key characteristics:

- benefits sought by the consumer;
- personal characteristics of the consumer – based on the demographic and psychographic variables;
- consumer behavior [4].

Currently, the most crucial issue is to identify the needs which address the selected target group. Nowadays the market saturation with all kinds of products is very high, hence it is the key to reach out to the consumer and make him/her aware which organization will satisfy his/her needs and requirements [5]. Therefore, segmentation should be based primarily on defining the needs, problems of consumers (needs-based segmentation), and then on their personal characteristics and behavior (characteristics-based segmentation) [6].

The marketing strategy is created specifically for the needs of each target group. It has to be adapted to the customer's personal characteristics – demographic and psychographic – because those traits are relatively stable. In contrast, the influence of sought benefits and solutions can develop a strategy in two ways – either it is tailored exactly to the customer's needs, or it is shaped so that the customer realizes that he/she may have these needs. On the other hand, the organization tries to change the consumer's behavior. The customer's desires can remain the same, but the way of satisfying them may differ [4].

One of the first studies on psychographic characteristics of the brand was Evans' analysis [4]. He asked whether the customers buying Ford would be

different from Chevrolet clients, in terms of psychological characteristics. The analysis has shown that people buying Ford are independent, impulsive, self-confident, and on the contrary, Chevrolet users are more conservative, foresighted, and sensitive to prestige. The research has helped to create the advertising strategy by fitting it to a precise client personality profile. The image of Ford and Chevrolet has been matched to the personality of the client, and that builds a relation based on mutual similarity. The liking principle says we like people similar to ourselves and it is also true for product brands. It can be seen in television commercial scenarios or while sponsoring certain events – concerts, exhibitions, *etc.* The brand is presented in such a context that emphasizes the similarities between its and the target group's personality traits.

Lifestyle is also very important and decisive whether to buy a particular product or not. Plummer [7] defines a lifestyle as a combination of: ways of spending free time, having specific interests, having opinions about yourself and the world around you. Finally lifestyle is a result of some basic demographic characteristics, such as: the family life cycle, income, education, address.

An example of the lifestyle diagnosing method is an AIO (Activities, Interests, and Opinions) questionnaire, which includes statements regarding the activity (work, hobbies, entertainment, sports, *etc.*), interests (profession, fashion, food, media, achievements, family, *etc.*), opinion (politics, education, business, culture, *etc.*), and some demographic variables (age, income, number of family members, address *etc.*). Another questionnaire which measures what values clients go for is LOV – List of Values [8]. It includes scales connected with: social-oriented values (a sense of belonging, a sense of respect, *etc.*), entity oriented values (self-satisfaction, self-esteem, *etc.*), and the need for stimulation (fun, curiosity, *etc.*). Many studies have featured the LOV questionnaire and shown a connection between the above values and the purchasing behavior. For example, Swinyard studies [9] have shown that people with high social-oriented values and high need for stimulation like to visit big shopping malls, while those highly entity oriented avoid this type of places.

Fournier, Antes and Beaumier [10] have analyzed the buying behavior of over a thousand households and obtained 9 lifestyles of consumers, along with the matching demographic characteristics. This analysis has shown that the values and the consumer identity in each group may affect the development of a marketing strategy for a specific market segment. Their analysis is so valuable because it is based on broad product categories, not just on single brands.

Hengyuan *et al.* [11], on the other hand, conducted a study on a much smaller scale. It shows that the lifestyle can influence the product perception (which was in that case a mobile operator's offer), and it is seen as more or less suited to the customer's needs.

The results allowed dividing consumers into conservative, careful, economic and fashion oriented. People showed various preferences of the mobile offer, depending on categorization. For instance, customers who belong to a conservative

group do not want to pay too much attention to the price, but instead they need advice from somebody trusted. On the contrary, the “economic client” group is very sensitive to the price, but does not need any shopping advice from their close ones or relatives. The results of this study show how the lifestyle may determine paying attention to different aspects of the offer. Remembering about the importance of the customer’s lifestyle might help shape the product and adjust the marketing message.

The study carried out by Sandy, Gosling and Durant [12] is also worth mentioning because it proves how the market segmentation brings more understanding into the buying behavior. It has turned out that both ways of market segmentation (demographic as well as psychographic) give as much understanding of the problem, so they should not be separated from each other. The authors note that the psychographic and demographic segmentation may be more significant when it comes to choosing a specific brand, rather than choosing the product category. In other words, the choice based on the product category (minivan vs. SUV) will be less influenced by psychographic and demographic characteristics than the choice based on product brands (Ford vs. Toyota). Moreover, the authors emphasize that psychographic characteristics are the most significant in case of repetitive buying behavior; that is because personality traits and life values are quite stable. Therefore, it is easier to predict future behavior, for example, the need for environmental protection and attitude towards ecology. This shows how important it is to match the “personality” brand with the target groups’ characteristics.

### **3. Target groups in C<sup>2</sup>NIWA**

The NIWA Centre of Competence has a wide recipient group. In accordance with the above research results, many criteria have to be met for the classification of the Centre’s users.

Their needs will be fulfilled, if the offer of C<sup>2</sup>NIWA is well analyzed. Three groups of users may be listed:

- people who are looking for an advanced IT infrastructure that will enable them to implement complex IT solutions, or make complicated calculations (that is, for example, simulating a business process or doing calculations connected with neuroimaging);
- people who are looking for reliable knowledge, solutions and examples from the IT field;
- people who seek support of other users or someone who can help them develop better IT solutions.

This community is forming around the Centre, and it is focused on creating and implementing high-quality IT solutions. They are also focused on mutual exchange of knowledge and helping one another in designing innovative products using a modern IT infrastructure.

Using the geographical criterion, the C<sup>2</sup>NIWA target groups can be divided into:

- local users – the Tricity IT community;
- nationwide users;
- global users.

At the beginning, the promotion was focused on the local community in order to build the brand awareness among the closest environment of the Centre. There is a future plan for developing the e-learning “knowledge base”, as well as the repository with files, manuals and articles that may attract nationwide and even international users.

The combination of demographics criteria allows dividing C<sup>2</sup>NIWA users into the following groups:

- the Centre staff;
- students from the Gdansk University of Technology as well as other Tricity or nationwide universities. These students carry out the course projects, but beyond that, they need archiving applications or the fragments they have created during the classes;
- academic community – people who use the application in the C<sup>2</sup>NIWA in research programs or complex calculations that require a high computing ability; as well as the lecturers from the Gdansk University of Technology who may use the C<sup>2</sup>NIWA during classes with students;
- programmers – who use C<sup>2</sup>NIWA tools for developing applications and archiving their work on both a professional and hobby basis (that may be Gdansk University of Technology graduates as well as people from “the industry” in the broad sense of the word);
- application users – individuals and institutions that use software developed or placed on the platform. Companies can benefit from the C<sup>2</sup>NIWA’s solutions and counseling, they can also ask for help with an IT problem, if there are not any applications ready to solve it yet.

It is worth noting that the application initiator does not necessarily need to be an educated IT specialist, whereas the designer (producer) of the application should possess the skills that will enable him/her to use platforms such as Cascade, Beesy Cluster and Wiki-WS. Bearing in mind that the level of skills may vary, the Centre organizes many courses, thus it provides development opportunities.

In the project first phase it is important to focus on the target groups closest to the C<sup>2</sup>NIWA – workers and students of the Gdansk University of Technology. These are the people who can initiate and promote the use of the Centre’s knowledge. Another very important issues is to maintain close collaboration with the faculty. They will act as the brand ambassadors – through close contact with students they can easily encourage them to participate in the activities organized in the Centre – for example, IT competitions. The purpose of these competitions is to create modern IT products, so they can be further developed within the C<sup>2</sup>NIWA community.

Regarding the psychographic characteristics, a C<sup>2</sup>NIWA recipient will be an active person who is willing to exchange knowledge and seek for new and creative solutions. They are expected to be more social than hedonistic oriented, and ready to help other Centre users. Using the terminology of the LOV questionnaire it will be a person who has scored high in social-oriented values and entity orientation. On the one hand – they will want to share their knowledge and ability to solve problems, and on the other hand, – they will satisfy their need to show competence and skills. What is more, this person will be able to work in a group, even if it means working in a virtual team, where the lack of “face to face” communication may come across as a problem.

Taking into account the behavioral criterion, C<sup>2</sup>NIWA target groups are loyal, they are rather attached to a particular product or service. What is encouraging about the C<sup>2</sup>NIWA offer is the fact that scientists from the Gdansk University of Technology check repository files, so it has a great impact on their high quality. This may affect the loyalty and return of users, who come back to re-use their services.

Establishing a precise definition of the target groups was necessary for the sake of effective brand building. It is a long process and requires consistent research on marketing communications. A brand is a combination of emotional and rational elements. The former can significantly affect the way of thinking about the brand, as well as influence the purchase process. Rational elements are shown in the functional characteristics of the brand, while the emotional – its symbolic meaning [13].

The C<sup>2</sup>NIWA image should be based on positive associations with three main areas:

- cooperation with professionals who have the knowledge and tools to solve various IT problems;
- technologically advanced infrastructure which supports the creation of IT solutions for different target groups;
- educational offer that helps diagnose, create and implement innovative ideas in the field of IT – the image of the C<sup>2</sup>NIWA as an educational Centre for IT professionals, scientists and enthusiasts.

One of the ways of building a brand is a properly designed visual identification mark which is precisely designed to affect the recipient – a member of the target group. A new logo design was a first step on the way to refresh the visual identity. It was proposed to change the color from green to blue and modernize the logo by adding the 3D effect. The blue color was chosen due to its association with modernity and frequency of use in the IT industry. This effect was to be emphasized by the use of 3D forms. The new design was tested among representatives of the project target group.

## 4. Empirical research

The aim of this study was to select the best assessed logo design for the C<sup>2</sup>NIWA and to check the accuracy of associations and preferences of the target groups.

### *Method*

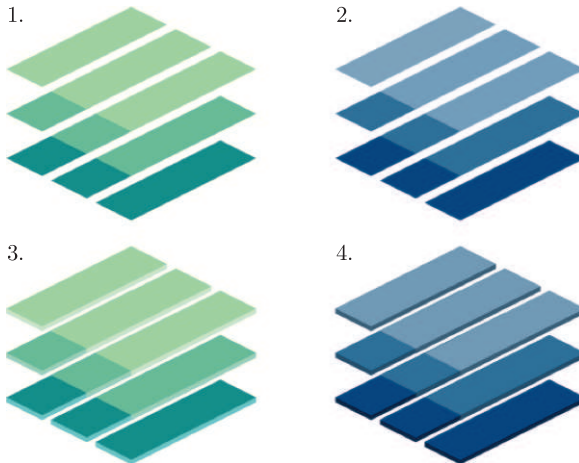
Participants – 121 students took part in the study, including:

- psychology specialization – 59 people;
- IT specialization – 55 people;
- applications and Internet services specialization – 7 people.

The gender distribution was: 53 male, 62 female, 6 missing data (age:  $M = 26.2$ ,  $SD = 5.96$ ; 20 to 53 y.o.).

Materials – four paper versions of the questionnaire were used and the participants filled them anonymously. Each included 5 questions. The aim of the first question was to select of the preferred logo, the second – to enter an association with the selected mark. In the third part, the participant was asked to look at the logo (designated with a specified number) and to type what products and services were provided by the company using that mark. In the fourth part the respondents chose what characteristics that company may have. Finally, the fifth part included some demographic information – gender, age, specialization. Figure 1 shows a sample version of that questionnaire. The following versions differed in the number of logos that was included in the third question.

Below are presented the different variants of the mark:



**Figure 1.** The logotypes used in the study: Logo 1 – green without the 3D effect, Logo 2 – blue without the 3D effect, Logo 3 – green with the 3D effect, Logo 4 – blue with the 3D effect

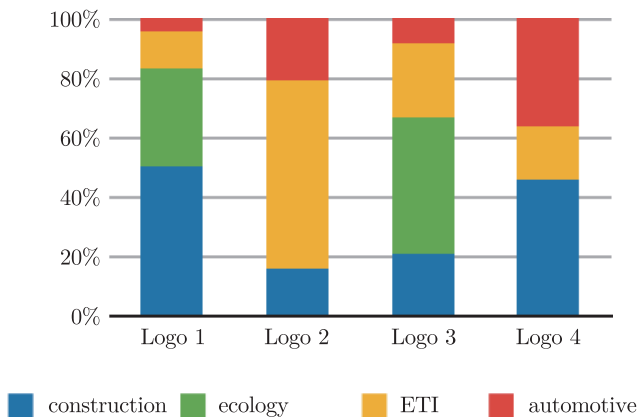


Procedure – the participants completed the questionnaire anonymously during their university classes. It was distributed randomly and in such a way as to provide the same amount of information on each logo.

## Results

In question one the respondents were asked which of the presented logos they liked the most. The results show that 43% of the participants liked the blue logo, with the 3D effect (Logo 4 in Figure 1); another 23% of the respondents were fond of Logo 3, 19% of the respondents indicated Logo 2 as their favorite, and finally 15% of the participants preferred Logo 1. No significant differences occurred after performing the preferences analysis within groups divided by specialization. In both groups – students from the Gdansk University of Technology and the University of Social Sciences and Humanities – liked the blue logo with the 3D effect (Logo 4) the most. A similar pattern of results was also received after dividing the group by gender.

The chart below shows which brand associations function within the four most popular industry sectors:



**Figure 2.** Brand associations within the four most popular industries

Logo 4 – blue with the 3D effect – most often generates associations connected with the construction and automotive industries. Logo 1 – is most commonly associated with construction and ecology, Logo 2 – with the ETI department of the Gdansk University of Technology. Logo 3 – was most frequently connected with ecology. The recommendation suggests that choosing a green logo results in ecology and environmental associations. Logotype 2 – blue, without the 3D effect – is usually associated with a department of the Gdansk University of Technology.

The analysis of the question concerning the association with a company that uses a certain logo shows that the least positively associated logo is the first one – green, without the 3D effect. Other logotypes do not differ in the number of positive associations.

## 5. Summary

The results of this study show that most participants liked the blue logo with a 3D effect. Since reaching a positive attitude towards the brand is the main marketing goal, this particular mark has been chosen as the project primary logotype. It has been used on all the marketing materials as well as on the C<sup>2</sup>NIWA website. The current steps are aimed at creating associations with the C<sup>2</sup>NIWA as a place for exchange of knowledge and an advanced IT infrastructure as well as a community which together can develop modern IT products. Complex visual identity which is based mostly on the logo design builds specific associations with the brand. Therefore, the mark should evoke positive emotions as well as relate to modernity and innovation. However, building the brand personality through its association with certain characteristics is a long and consistent process. The logo should be placed on all promotional materials in the same form; the color of the used materials should also refer to the color of the mark.

It is worth mentioning that success of the brand building process is strictly connected with cooperation of all the people and institutions involved in the project and only that will build the complexity of the place. Without this cooperation, marketing messages emphasizing the complexity of the C<sup>2</sup>NIWA offer will remain unfulfilled. Marketing activities which create web traffic (more people using the website and admitted to competitions; greater number of documents placed in the repository, *etc.*) should match with the brand value, because otherwise interested customers will be left disappointed. This happens when the sphere of marketing communications and the real value for the target group do not go together.

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