

DEVELOPMENT OF AN INNOVATIVE ONE TIME USE PRODUCT

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Abstract: In this paper is developed innovation and improvement of a product that already exists on the market and as such is intensively used by a certain group of consumers. At the same time, the possibility of introducing another advantage was seen. This advantage is on one hand improvement, and on the other hand it is an innovation. Its main feature is disposable. In addition to that feature, the innovative product as a set of creative ideas and resources gets a new form, new design and new way of use, and is also included in the group of environmentally friendly products that are easily degradable and do not pollute the environment. The purpose of this paper is the idea of developing a one time use product, to be realized in an innovative product that will find its practical uses on the market. The expected results show that the introduction of such a new innovative product is necessary, economically justified and that it will find daily application by the target group of customers.

Key words: innovation; competition; consumers; marketing strategy; one time use product

РАЗВОЈ НА ИНОВАТИВЕН ПРОИЗВОД ЗА ЕДНОКРАТНА УПОТРЕБА

Апстракт: Во овој труд разработено е иновирање и подобрување на производ кој веќе постои на пазарот и како таков интензивно се користи кај одредена група на потрошувачи. При тоа е согледана можноста да се воведат уште една негова предност. Оваа предност претставува од една страна усовршување т.е подобрување на производот, а од друга страна претставува иновација. Неговата главна одлика е еднократната употреба. Покрај таа одлика иновативниот производ како збир на креативни идеи и ресурси добива нова форма, нов дизајн и нов начин на користење, а воедно се вброи и во групата на еколошки производи кои лесно се разградливи и не ја загадуваат околината. Целта на овој труд е идејата за развој на еден производ за еднократна употреба, да се реализира во иновативен производ кој ќе најде своја практична примена на пазарот. Очекуваните резултати покажуваат дека воведувањето на ваков, нов иновативен производ е потребно, економски оправдано и дека тој ќе најде секојдневна примена од целната група на купувачи.

Клучни зборови: иновација, конкуренција, потрошувачи, маркетинг стратегија, еднократна употреба

1. INTRODUCTION

The need for a fast and profitable process for new product development has never been greater. The life cycle of the product is getting shorter, the competition is getting stronger, and consumers are getting bigger requirements. Today the market has no limit, and the product without innovation and quality is doomed in advance. The problem is that winning with a new product is not an easy task.

Following the trend of rapid changes in the product market and the need to constantly introduce

new once, all in order to survive in the market and overcome the competition, man tirelessly thinks in the direction of finding new products. Like the products that already exist on the market, but we are working on their innovation and improvement.

In the paper is present a model for example that has a practical application and shows how the pressure of competition imposes the need to think in a direction what can be improved in a product.

The selected product that already exists on the market and as such is intensively used by a certain

group of consumers, will be innovated and improved. At the same time, the possibility of introducing another advantage was seen. This advantage represents on the one hand improvement of the product, and on the other hand it represents innovation. Its main feature is one time use. With the fast pace of living and less and less free time, people's attention is focused on finding practicality in every product, on something that is easy to use and something that does not require additional maintenance.

The model of the practical example that is the subject of research has been developed and considered from all aspects. From idea to realization. Starting from its components [1, 2, 3] and characteristics, marketing strategies and activities that will introduce it to the market, to the final analysis of the profitability of the product and comparison of the innovative product with similar products on the market that satisfy the same or similar need.

One of the biggest challenges is how to define the new product development process in the best possible way so that projects can move quickly and efficiently from phase to phase. Therefore, in the research of the literary work [4], but also in the practice, eight success factors can be recognized that distinguish the successful from the unsuccessful projects. All recognizable factors in some way should be incorporated into the model of new product development and the goal of achieving success. Several models for new product development have been developed, and some are still being developed today in order to improve the process itself. Among them is the Stage-Gate model [5, 6, 7].

2. BASICS FOR NEW PRODUCT DEVELOPMENT

It is difficult to determine what is meant by a new product. For some a new product is only one that results from a big new discovery, and for others

a small modification of an existing product can be characterized as an innovation or a new product. In the marketing, a product is considered new once it is understood and accepted as such by consumers. This means that the concept: innovation and new product do not match completely. Products that are new to the company do not have to be new to the consumer at all costs [8].

New product development has the greatest importance in product politics, but also in the overall strategy of the company. This is understandable given that the company can not stay longer on the same production program without introducing any changes in the overall operation, and also in terms of market position.

For a successful new product development, the company must achieve three goals [9]:

1. maximum compliance of the product characteristics with the needs of the consumers,
2. minimum time required for development, and
3. cost control.

New product development is one of the most risky, but at the same time the most important venture of modern companies. This process implies a significant activity of the company given the high costs in developing a new product that may fail. On the other hand, the company can generate huge income in a short time if the new product is successful in the market.

2.1. Stages in the process of new product development

The stages of new product development are standardized through the British standard BS 7000.

A product has to go through several successive steps before it can be launched on the market. The steps that will introduce the new product to the market are shown in Figure 1 [10, 11].

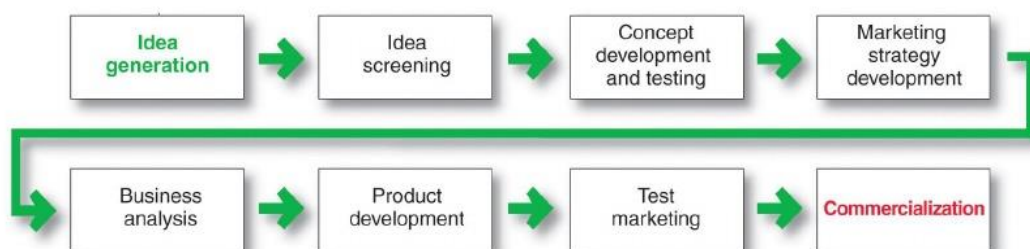


Fig. 1. Process of new product development [10]

2.2. Stage-Gate model for new product development

Winning with a new product is not an easy task. It is assumed that half of the resources that devote to the idea, development and launch of the new product go to projects that fail or they experience market failure or never appear on the market. Leading companies improve their new product development processes by incorporating success factors and using the Stage-Gate model for new product development [5, 6, 7].

The Stage-Gate model shown in Figure 2 divides the processes into predefined stages, so that

each stage consists of predetermined, multifunctional and parallel activities [5]. The model describes the movement of the new product development process. The entrance gate to each subsequent stage is the decision point where made Go/Kill decision or whether the process continues or is destroyed [5, 6, 7].

With the Stage-Gate model performed translates into a skeleton of a carefully crafted new product development model or game rules that provide a disciplined focus on performance quality, preparatory work, strict market orientation, and custom resource support.

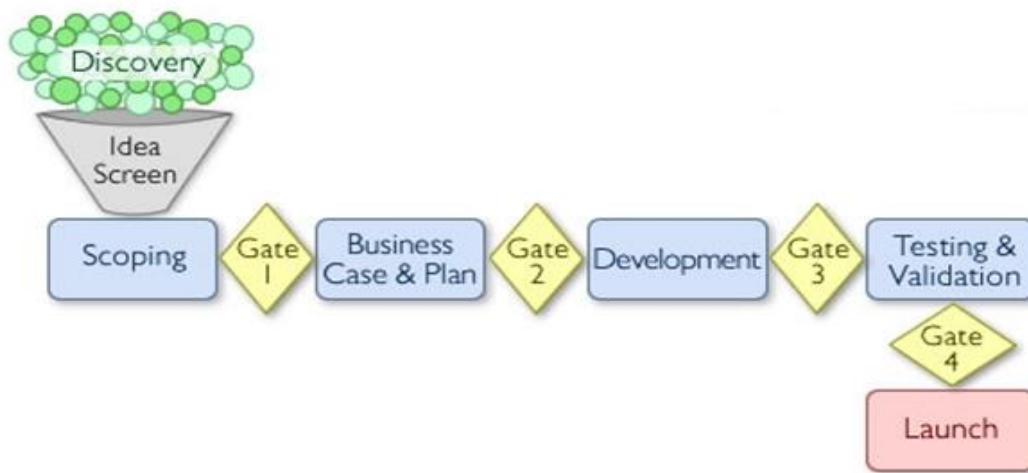


Fig. 2. Stage-Gate model for new product development [12]

3. INNOVATED PRODUCT FOR ONE TIME USE

There are many examples of production the market, when the same type of product can be found in several different modifications or made in different materials. Many of these products have their own suitable replacement and can also be developed for one time use.

For a product to be competitive in the market and to have required quality, it is necessary to timely recognize new needs of consumers or permanent ones that are not recognized by the competition in the right way and to take into account the conditions and desires that a product should meets them.

The innovative product from its inception, ie from idea to realization, has been thoroughly developed and reviewed from all aspects until its appearance on the market. When creating the product the accent is on material from which t is made, the way

it is placed (for example by gluing) and shape it has. It has also been considered to allow it to be easy to use, comfortable, easy and pleasant to carry, without injuring the child, not containing bio-irritating elements and it not irritating the baby's skin. It should adapt to the movement of the child in every possible position and with the new way of gluing seems that it is part of the clothes.

Analyzing similar products in that category that satisfy the same or similar need, and are made of textiles, rubber etc the new innovative product is made of paper, 100% cellulose. This material allows him to achieve his primary goal, to be a product for one time use. The product for one time use made of degradable materials, which at the same time is anti-allergic and with a certain level of absorbing power. Along with these properties, it is categorized in the category of completely recyclable products, thus satisfying the new cause of circular economy. The innovated product is shown in Figure 3.

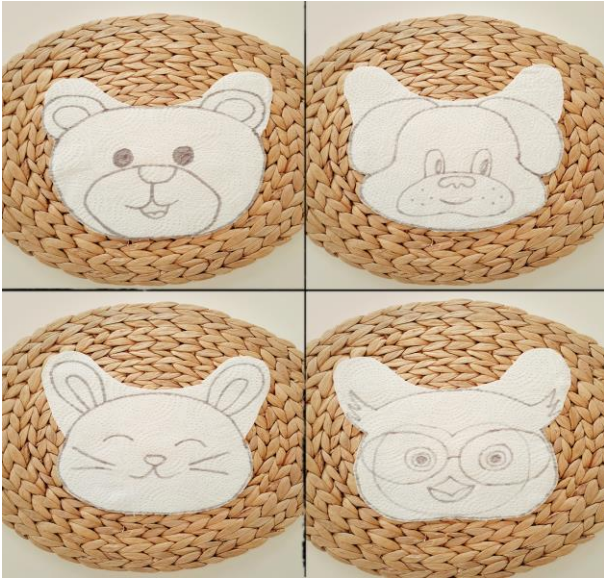


Fig. 3. Innovative product – baby bibs for one time use

3.1. Swot analysis of the innovated product

To see the advantages and disadvantages of the innovative product, was used the Swot analysis shown in Figure 4, which was used in the analysis of the innovative product, highlighting the strengths and weaknesses of the new product, the cost-effectiveness of the product, its practicality, the risks of market introduction, competition and its dominance, etc.

The Swot analysis of the new product shows that it has an advantage over the competition primarily because of the low price which is an important factor for each individual and of course the benefit that is obtained for the price. Buyers will save time as this type of product dose not require additional maintenance and belongs to the group of environmentally friendly degradable products

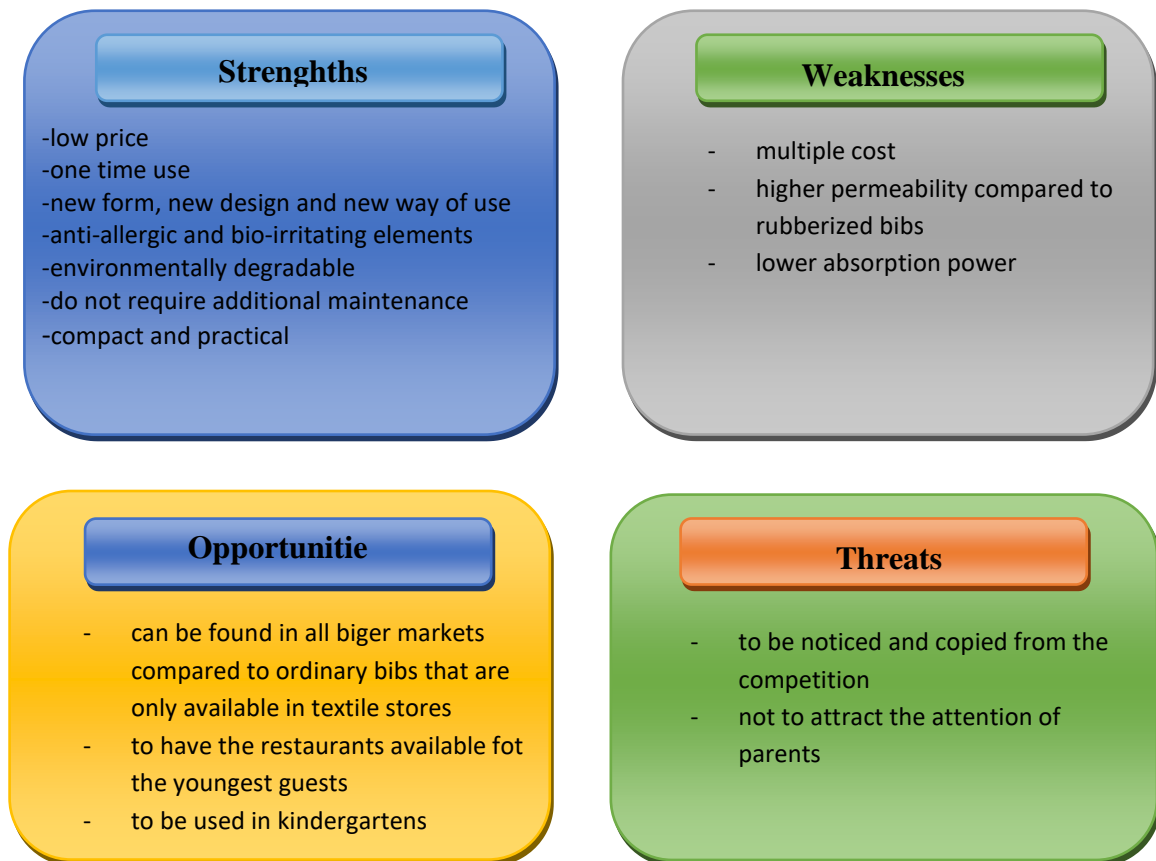


Fig. 4. Swot analyzis of the new product

3.2. Stage-Gate model applied to the innovated product

To define the path from idea to finished product and to successfully introduce the innovated product on the market, we use the previously

developed Stage-Gate model, as one of the most widely used models in the process of new product development. The methodology of the Stage-Gate model developed after all stages is practically the application of the innovated product and is shown in Figure 5.

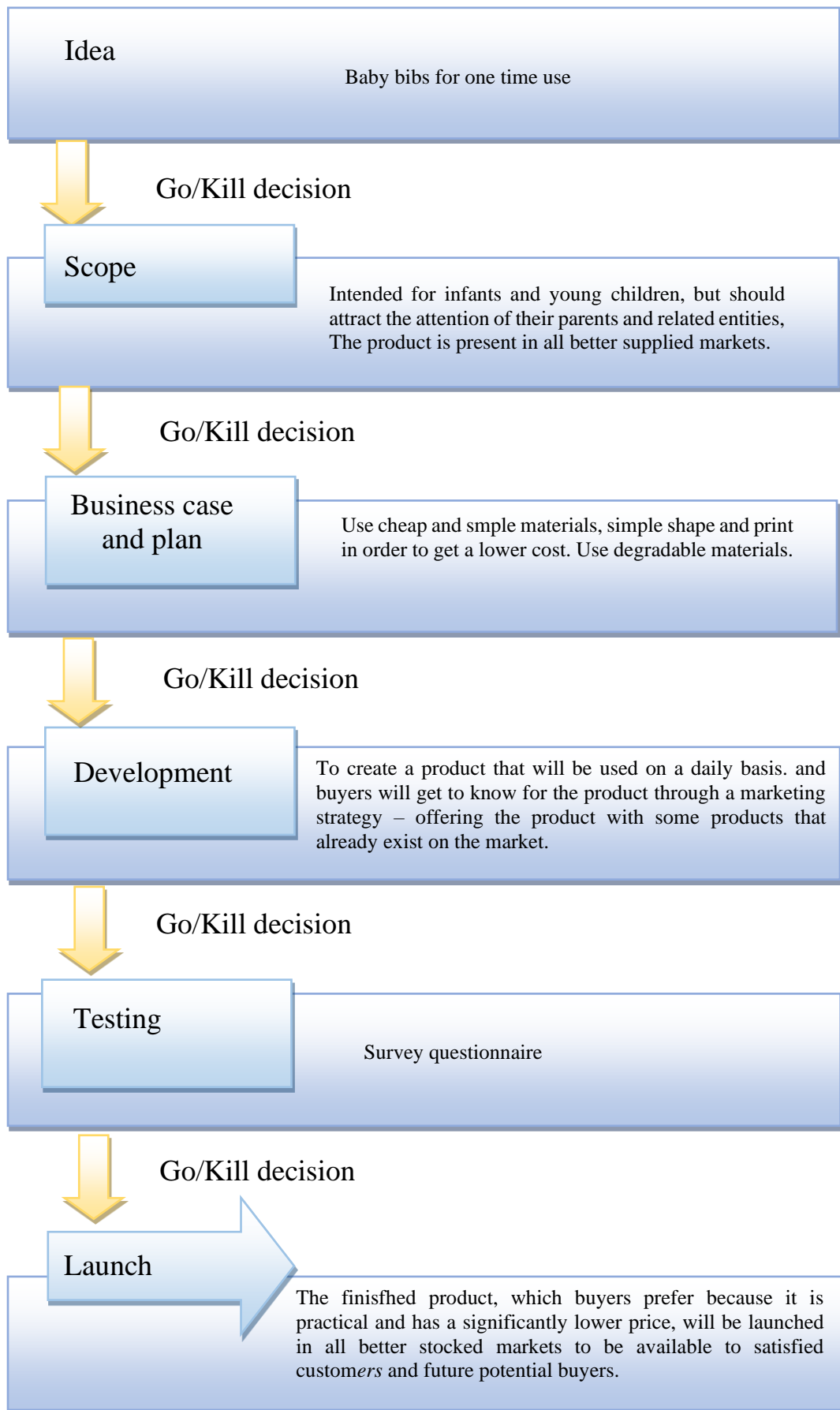


Fig. 5. Practical application of the Stage-Gate model of the innovated product

4. SURVEY QUESTIONNAIRE METHODOLOGY

One of most commonly used forms of market research for introduction and satisfaction with the use of newly developed product is the survey questionnaire. The methodology is the creation of a list of given questions, on which it is possible to choose from the attached set of several offered answers, which have a logical or empirical structure between them. Such methodologies use the differences in intensity between the indicators of the variable. The created given questions are of closed type in combination with fixed categories of answers. To evaluate the answers to the questions is used Likert method.

For the innovative product for one time use was prepared survey questionnaire, which consist of 10 questions. The offered answers to the given question are by expressing the opinion through 5 categories.

The purpose of this survey questionnaire is to perform a kind of market share testing and based on the obtained results and summarized conclusions to decide whether the introduction of the innovative product for one time use is justified and how customers find out about it.

The survey included 50 respondents aged 18 to 60 years. The target group of the survey questionnaire were primarily parents of children up to 2 years of age, as well as other persons who interact with children up to that age.

The developed survey questionnaire is digitized Web questionnaire, which is delivered electronically to the respondents.

5. ANALYZIS OF THE RESULTS OF THE CONDUCTED SURVEY

The conducted Web survey and the processed results on each of the survey questionnaire are individually analyzed and comments and conclusions are made accordingly. The conclusions show what are the most important factors in making a decision to buy products for one time use and how and whether companies should be focused on the requirements and needs of consumers and building loyal relationships with them.

The analyzed results from the conducted survey in relation to the first question given in Figure 6 indicate that product for one time use can completely replace ordinary products with the same purpose. Out of the total number of respondents, 68%

stated that they want to replace the existing products with new products with the same purpose. Only 8% oppose or do not want to change their existing established habits at all. This confirms the fact that there are more and more examples of products for one time use that already exist on the market and which in a given situation buyers prefer to buy in relation to other products.

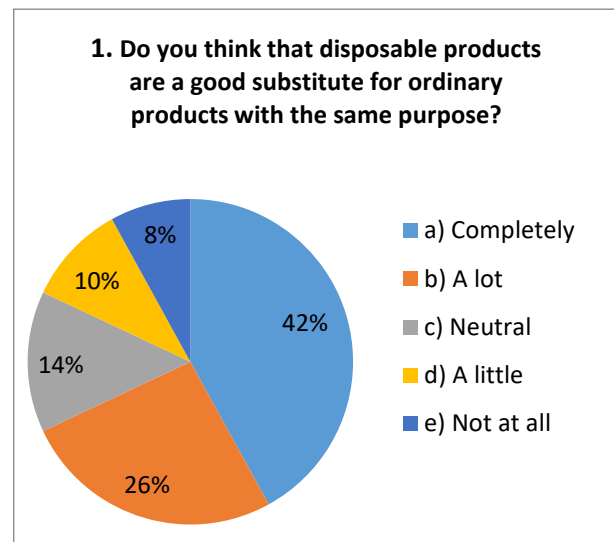


Fig. 6. Graphic presentation of the results of the answers to the first question of the conducted survey

The analyzed results regarding the second question indicate that the majority, 32% of the respondents, think that the prices of the products completely, ie a lot (22%) correspond to their quality. While 14% think that the prices of products for one time use correspond little or not at all to their quality.

Presented by the graphic analysis of the answers of the respondents to the second question given in Figure 7, it can be concluded that the reasons for such attitudes lie in the fact that consumers, as rational beings, are constantly looking for products with high quality and lower price, so they will always be dissatisfied with their relationship. In this regard, companies need to better adjust and classify the prices of their products in relation to their quality (worse quality – lower price, better quality - higher price), because consumers are mainly guided by price.

To the third question, which factor has the greatest impact on the decision to buy products for one time use, the answers of the respondents are very consistent. Similar to the previous question, most of the respondents (60%) claim that the price

has the greatest impact on the decision to buy, than comes quality (20%), then income (14%). The impact of the promotion and the image is the least. This proves again that the price as an independent factor most influences the decision to buy.

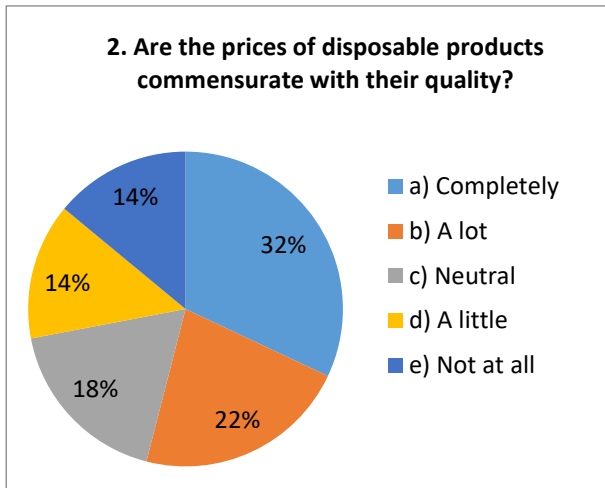


Fig. 7. Graphic presentation of the results of the answers to the second question of the conducted survey

The graphic representation of the results given in Figure 8 clearly shows the fact that consumers prefer products for one time use because they are always cheaper than ordinary products with the same or similar purpose. Such products can be concluded that they are not bought because of image. There are also buyers who do not care about quality, it is important to get the product for a lower price.

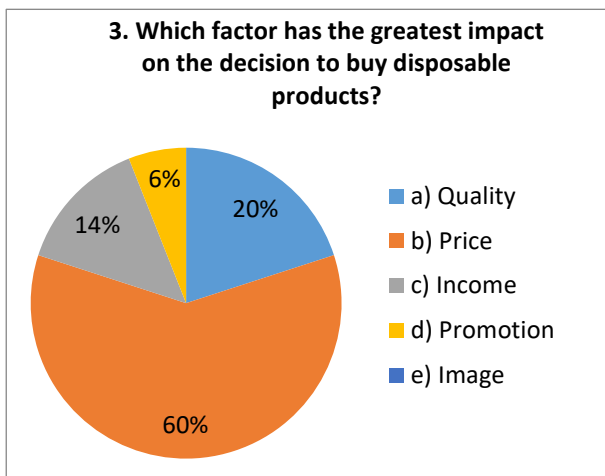


Fig. 8. Graphic presentation of the results of the answers to the third question of the conducted survey

Regarding the fourth question, which is a priority in the selection, the results show that 36% of respondents say that the deciding factor in decision

making to buy products for one time use is the low price, 28% of respondents believe that it is practicality, and 20% from the respondents pay attention to the material from which the product is made.

Figure 9 gives a graphic presentation of the results of the fourth question and according to the expressed views of the respondents it can be concluded that these are products that should have a low price to survive in the market and in the fight against competition, and at the same time should offer a suitable quality. The survey shows that there are buyers who do not pay attention to the ratio price – quality, for them it is important that the product is functional, practical and easy to use.

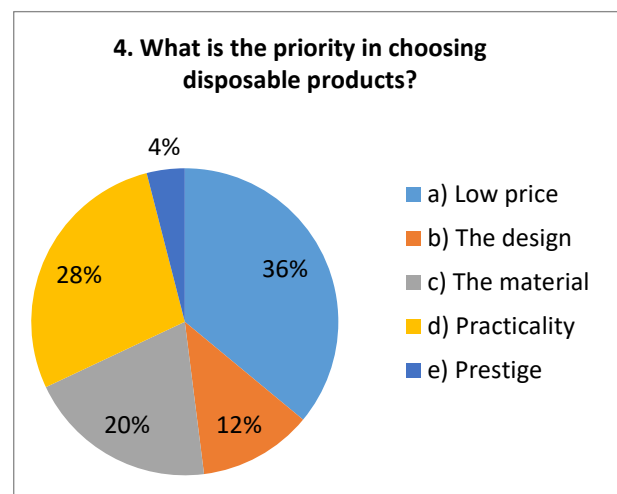


Fig. 9. Graphic presentation of the results of the answers to the fourth question of the conducted survey

Answers to the role of previous experience, recommendations from other people, sales staff, advertisements and promotion when making a decision to buy show that most of the respondents think that they influence on the decision to buy a lot, which is quite logical. And only 10% think that it does not matter at all when making a decision to buy.

Analyzing the graphic representation in Figure 10 can easily and simply give an explanation for such results. Namely, the positive experience of using a certain product, the kindness of the sales staff and the attractive advertisements and promotions lead to buy a product again. Product promotion is important and sometimes necessary the customers to find out about the product. Especially when it comes to a new innovative product.

The opposite effect is if the consumer has a bad experience using the product, the relationship if the sales staff is inappropriate or the advertisements and

promotions are unattractive. Of course, the intensity of the impact of these variables is different for different consumers. Customers sometimes do not buy the product not because they do not like it but because they have never heard of such a product.

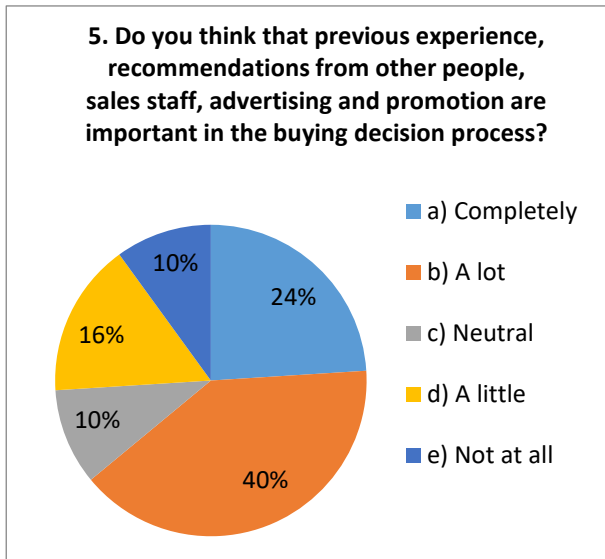


Fig. 10. Graphic presentation of the results of the answers to the fifth question of the conducted survey

And the sixth question shows that most of the respondents (42%) think that television as an advertising medium has the greatest influence on the decision to buy the advertised product than follow social networks (38%), then corporate websites (10%). Print media is less important (6%), and e-mail is smallest important (4%).

According to the graphic representation of Figure 11, it is clear that these indicators indicate that television as a traditional medium continues to have the greatest impact, but the influence of social networks (especially among the younger generations) is increasing in parallel with the development and use of the internet as a medium for advertising.

The analyzed results in relation to the seventh question indicate that 26% of the respondents choose products for one time use because they are practical and easy to use. Considering that it is very important how the products affect the environment and that we as their consumers should try to protect it, the results show that it is important to only 8% of the respondents.

To the seventh question why they choose products for one time use, the answers are graphically shown in Figure 12. Consumers answer that such products are superior to ordinary products because

they are practical, easy to use, do not require additional maintenance, save people time and are readily available in all better stocked markets.

Analyzed the results in relation to the eighth question for the focus of companies in creating products for one time use whether they should take into account the needs, desires and requirements of consumers, 44% of respondents think that their requirements are fully met. On the other hand, 10% of consumers claim that companies do not take their requests into account at all.

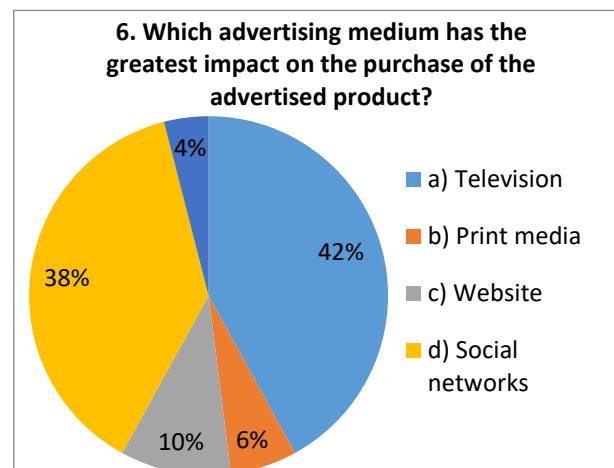


Fig. 11. Graphic presentation of the results of the answers to the sixth question of the conducted survey

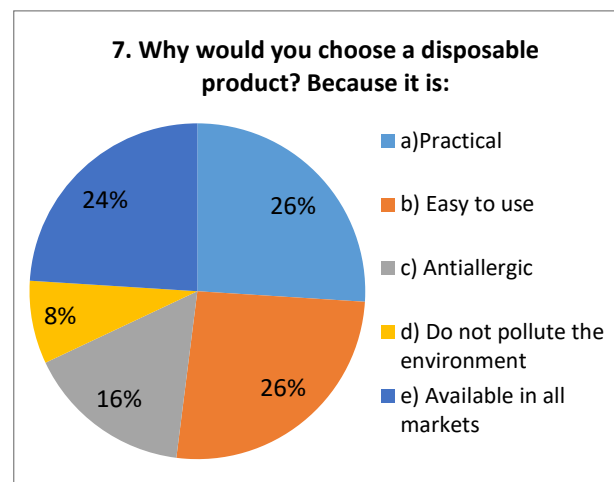


Fig. 12. Graphic presentation of the results of the answers to the seventh question of the conducted survey

These perceived differences in the analysis of the answers shown in Figure 13 lead to the conclusion that every company that is focused on building loyal relationships with consumers ensures its own survival, competitiveness, growth and development. Namely, if at the beginning the company can not

meet the needs and requirements of consumers, then it can not even build a loyal relationship with them. Such results indicate the need for companies to find more competitive and superior ways to satisfy consumers, as a prerequisite for gaining their loyalty.

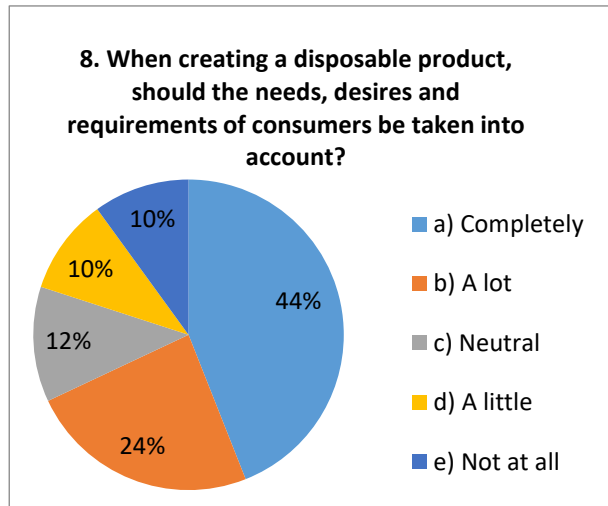


Fig. 13. Graphic presentation of the results of the answers to the eighth question of the conducted survey

The analysis of the answers to the ninth question indicates that most of the respondents answered with a full 34% and a very 30%, which shows the direction that leads to the simple conclusion that companies, in addition to sales, are increasingly oriented towards building loyal relationships with consumers.

In fact, from the graphic representation in Figure 14, it is noticeable that an increasing number of companies are recognizing the contribution of loyalty to greater sales and profits and are increasingly striving to retain their customers. The open communication refers to the attitude of the sales staff, asking for opinions from consumers, their survey, etc., while loyalty refers to various promotions, gifts, discounts that are provided with a consumer card, prize games, pockets, etc. which companies, primarily large markets, organize in cooperation with manufacturers. Due to the fundamental importance of consumer loyalty for business success, companies need to constantly look for innovative ways to retain consumers (for example: delivery of certain products to a home address on the occasion of birthday, New Year, Christmas, etc.).

The respondents show the same views on the last question. Apart from the fact that price is the main factor that maintains the loyalty shown in the previous questions, it is also one of the main reasons

why consumers leave the company and switch to competitors. This is what 52% of the respondents think. In addition to price, respondents rank quality as another reason of great importance (26%). Less important are product design, company image and service.

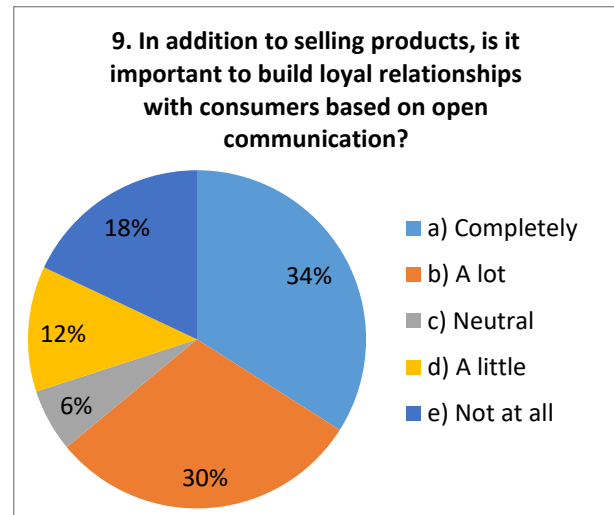


Fig. 14. Graphic presentation of the results of the answers to the ninth question of the conducted survey

According to the analyzed results shown in Figure 15, the position is confirmed that the price is the most important factor for attracting customers to the company, as well as for their abandonment and transfer to competitors.

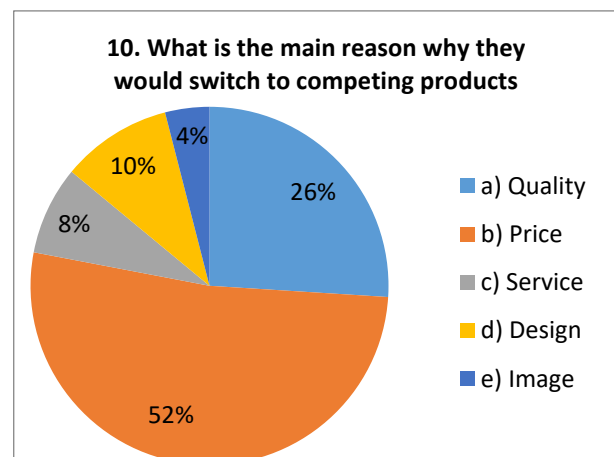


Fig. 15. Graphic presentation of the results of the answers to the tenth question of the conducted survey

The summarized answers from the conducted survey show that the respondents have relatively the same views regarding the factors that have the great-

est influence on the decision to buy a certain product, approaching or leaving the company, as well as factors that affect consumer loyalty. In the first place, the price stands out, which is a logical consequence given the low standard of living in our country and the negative effects of the global economic and financial crisis. In addition to the price, the quality of the products has a significant impact, which means that consumers are willing to pay a higher price for a product of higher quality. In this regard, it is necessary for companies to harmonize the prices of their products with their quality according to the logical principle: lower quality - lower price or higher quality - higher price. The decision to buy is greatly influenced by the media, primarily television as a traditional medium, but the influence of electronic marketing (social networks, websites) as a modern way of advertising products that provides faster, more direct and more effective communication with target consumers. Companies are interested in building closer, more direct and long-term relationships with consumers, ie building loyal relationships with them. While companies have for some time been focused on increasing sales and profits, now that they are focused on survival, competitiveness, growth and development, they are paying more attention to consumers.

6. CONCLUSION

From the conducted analyses and researches on the product market, consumers and competition, it is concluded that by combining creative ideas and resources a new innovative product can be achieved. The introduction of a new innovative product is necessary, economically justified and it will find daily application by the target group of customers. With new ideas you can act defensively against the competition, which tirelessly thinks about introducing new products.

The paper lists several aspects of the advantages and disadvantages of products for one time use. Also the justification for their existence on the market and marketing strategies through which consumers will find out about such products are analyzed.

Based on all those summarized results, it is concluded that the innovative product for one time use has a low price, which should be the deciding factor when buyers give priority when choosing products in that category. The material used for its production is suitable for the price, but at the same time it is suitable for the environment, with its biodegradability. The biggest threat to this product is the competition, because until now a lot of work has been done on such products that appear in different shapes, models and materials.

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