Zeszyty Naukowe Małopolskiej Wyższej Szkoły Ekonomicznej w Tarnowie
The Małopolska School of Economics in Tarnów Research Papers Collection
ISSN 1506-2635, e-ISSN 2658-1817
2020, 47(3), 39–56
DOI: 10.25944/znmwse.2020.03.3956
© 2020 MWSE

Improving the effectiveness of marketing activities of enterprises through the use of heuristics and irrational behaviour described in behavioural economics

Wojciech Świder

Poznań University of Economics and Business, Poland

E-mail:
wojciech.swider@ue.poznan.pl
ORCID: 0000-0002-0791-5460

Abstract: Behavioural economics is gaining importance in the theory of economics. This can be proved by the fact that the Bank of Sweden Award Alfred Nobel in economics in 2017 was awarded to Richard Thaler, who promotes a behavioural approach to economic problems. More and more representatives of science admit that man is not homo oeconomicus rationally maximizing usefulness, but as a human being he is sometimes irrational and commits repetitive, systemic errors in the reasoning and evaluation of phenomena. The results of experiments carried out by behavioural economists can be very useful in developing, promoting and selling products. This article presents selected effects and heuristics, which are treated by behavioural economics and their use in marketing activities of enterprises. The main purpose of the work was to answer the questions: how to improve the effectiveness of the company's marketing activities in conditions of strong competition through the use of heuristics and irrational behaviour. Some of the analyzed cases were taken from the market practice of companies, while others are new proposals that may be used in the future.

Keywords: behavioural economics, economic psychology, consumer psychology

Financed by:
Małopolska School of Economics in Tarnów with support of the Ministry of Science and Higher Education ("Support for scientific journals")

Correspondence to:
Wojciech Świder
Uniwersytet Ekonomiczny w Poznaniu
Instytut Finansów
Katedra Finansów Publicznych
al. Niepodległości 10
61-875 Poznań, Poland
Tel.: +48 61 85 43 848

1. Introduction

The modern economy is characterized by an unprecedented level of globalization. On the one hand, it is an opportunity for the most resilient companies, and on the other hand, it means very fierce competition if a given entity intends to compete in the global markets. Simultaneously with globalization in developed countries, the role of information in the economy is growing, and the concept of "knowledge economy" is cited (Żabiński, 2009, pp. 15–16). Another trend in the field of marketing is the decline in the effectiveness of advertizing and the increase in the costs of producing and broadcasting advertizing spots (Żbikowska, 2005, p. 29). Then again, the costs of creating and maintaining a website are much lower compared to a classic advertizing campaign. This lack of technical, organizational or financial barriers opens the door to virtually everyone to exist on a global scale (Wiktor, 2006, p. 39). Therefore, the role of knowledge in the process of competition is growing. For this reason, enterprises should look for their competitive advantage, constantly improving known tools and introducing new ones.

In these conditions, the quality of information and the efficiency of its processing is of increasing importance. It supports all processes in the enterprise by developing a product, producing it, searching for foreign partners, conducting negotiations or selling (Kamiński, 2006; Bartosik-Purgat and Schroeder, 2013). Successful enterprises are characterized, inter alia, by high innovation (Kłosiewicz-Górecka, 2011). As a result, there is also increasing pressure to use information in a creative and productive way. This can be done by combining different fields of knowledge. For example, measuring and evaluating the effects of advertizing can be done using physiological methods, which consist of observing the body's response during promotional tests. This can be done by tracking eye movement, observing the eye pupils, analyzing the tone of voice, performing a pupillometry test or examining how the heart responses (Woźniczka, 2012, p. 134).

In recent years, scientists' discoveries combining psychology and economics, i.e. behavioural economists, have increasingly influenced economics. The most famous are Dan Ariele, Amos Tverski, Daniel Kahneman (2002 Nobel Prize winner) and Richard Thaler (2017 Nobel Prize winner). This field broadens its area of knowledge mainly through experiments that reveal the irrationality and cognitive distortions characteristic of humans. The conclusions drawn from them are very useful in marketing which is based on the knowledge of the consumer.

According to Wyner (2016), behavioural economics and marketing have had a lot in common for decades. Marketing has developed an understanding of consumer behaviour and a departure from purely rational choice. Mruk (2012, p. 58) also believes that the assumption that buyers' choices are rational should be rejected. Rudnicki (2012, pp. 12–13) mentions various situations in which the consumer is sometimes rational and sometimes irrational. In recent years, there has been a growing interest in using behavioural economics in marketing to improve business performance as it describes the consumer as he is, not as he should be according to the model.

According to Philip Kotler, classical economists marginalized marketing, and the greatest irony today is the fact that neoclassical economists are now facing a new challenge of behavioural economics, which challenges the key assumption that consumers maximize their utility. Striving to maximize utility or profit is the key to building economic decision models. Otherwise, economists would have to work with a different assumption that consumers are essentially "satisfied" without wasting time maximizing, and this is their imperfect optimum (Kotler, 2016).

When analyzing another trend, one can consider identifying market segments, i.e. groups of recipients with similar needs and preferences (Domański, 1995, p. 23). Taking into account the use of elements of behavioural economics, it is reasonable to ask which of the presented heuristics are our target group. For example, young men may be prone to the effects of overconfidence and risk-aversion. Researchers have demonstrated a relationship between testosterone concentration and risk-aversion in many studies (Apicella et al., 2008; Wang et al., 2000; Goetz et al., 2014). Guided by the same need, men make consumer decisions differently than women (Kieżel and Smyczek, 2012). Appropriate segmentation is also not an ideal and constant solution over time, as consumers and market conditions are constantly changing. For example, the factor influencing consumption may be the economic crisis—the impact of the economic turmoil in 2008–2009 on consumer attitudes is analyzed by Rudawska (2010). The aim of this article is to indicate the applications in the marketing of discoveries and phenomena described within the framework of behavioural economics.

2. Purpose and methods

The main purpose of the article is to answer the question: How can a company improve the effectiveness of its marketing activities under the conditions of strong competition by using heuristics and irrational behaviours?

Heuristics are simplified inference rules. The human mind, using these heuristics, makes judgments about the probability or value (numerical or quantitative) of a given matter, things, people, etc. As a result, the process is fast, requires less mental resources, but is more susceptible to cognitive distortions (Tversky and Kahneman, 1974). An example of heuristics is anchoring, as described in the article. A given value (sometimes random) affects our perception of the phenomenon.

In addition to heuristics, behavioural economics analyzes irrational behaviours that are in some way repetitive and can be observed through experiments. An example of such irrationality as per classical economics may be choosing the default option, instead of analyzing all the options and choosing the most appropriate one, as the model "homo oeconomicus" should do. This behaviour is irrational from the point of view of the neoclassical paradigm (where the subject is perfectly rational), which does not mean that such behaviour should be criticized from a functional point of view. Analyzing all options is time-consuming and energy-intensive, so perhaps the consumer would not be able to function this way with his/ her biological limitations (finite energy and cognitive abilities, information asymmetry, etc.).

The goal will be implemented with the help of published research. The results of the experiments will be presented for use in marketing. Some of the uses are already implemented into practice and some may be not. The author is not able to clearly separate one from the other due to the confidentiality of some promotional strategies and the limited possibilities of processing distributed, decentralized and non-quantified information.

3. Factors determining consumer behaviour

The consumer makes purchasing decisions based on a myriad of factors. There is a wealth of literature on this subject. Only an outline is presented in Table 1 below.

Table 1. Selected factors determining consumer behaviour

Factors determining consumer behaviour	Synthetic description of factors determining consumer behaviour
Cultural	Relationship with values, norms and knowledge in the society. Values and norms are reflected at the level of objects and behaviours. For example, Western culture is characterized by: – freedom and democracy (source: Athenian political system and culture); – individual responsibility and individualism (source: Calvinism—everyone interprets the Scriptures individually); – equality of all people (source: French and American Revolutions); – consumerism: St. Thomas Aquinas, Martin Luther and John Calvin criticized the wickedness of entrepreneurs. They can be called the first consumers. Within consumerism, the goal is to provide consumers with better protection, rights, guarantees and information. Consumer rights are protected in Western culture.
Identity and image	Identity is a schema of oneself. Consumers, by purchasing goods, create their image, depending on the desired image, they will make purchasing decisions.
Emotional or, more broadly, psychological	Many purchasing decisions are influenced by emotions. Some products are purchased by the consumer when he is happy or wants to celebrate an event (buying champagne), while other products are purchased for “comfort”, e.g. sweets—of course not only in a sad state, but the key is that there are people who react to sadness or stress in this way.
Social	As early as 1890, a Franchman Gabriel Tarde emphasized the role of imitation in the context of consumer behaviour. Products promoted by authority figures and “celebrities” are often perceived as more attractive.
Situation	This topic has been raised for a long time, e.g. Lewin, 1936; Kakkar and Lutz, 1981. A situation is a point in time and space, unrelated to the characteristics of the consumer or the product. Different products may be preferred in different situations.
Demography	– Family life cycle—the needs of young adults without children are completely different from those of parents with small children. Within the family, the child socializes and acquires consumption patterns. How the child is shaped largely depends on the parenting style (Carlson and Grossbart, 1988). – Social status—determines awareness and consumption style. – Age—human needs change with it.
Economic factors	These factors are related to demographic, social status and, to a large extent, age. Disposable income clearly determines consumption. When the income is lower, the consumer is forced to choose cheaper products. In the case of high disposable income (or wealth), opportunities open up for the purchase of “premium” or luxury goods.
Attitude towards innovation	Different consumer groups have different approaches to innovation. There are groups of e.g. innovators who are particularly eager to buy a product only because it is new. On the other end of the spectrum there are extremely conservative people who are reluctant to change their habits and will only buy a new product if they are forced to. There is a whole range of indirect behaviours between the extremes.
Interests, views	Each person’s purchasing preferences differ due to their unique interests, such as specific hobbies. The views are an important factor, e.g. a person promoting the fight against plastic production due to ocean pollution will probably avoid products made of this material.

S o u r c e: Author’s own elaboration based on: Tarde, 1890; Lewin, 1936, p. 11; Kakkar and Lutz, 1981, p. 204; Carlson and Grossbart, 1988; Rogers, 1983; Gajewski, 1997, pp. 94–99; Antonides and van Raaij, 2003; Smyczek and Owl, 2005; Wiśniewska, 2005, pp. 16–20; Karczewska, 2010, pp. 478–481.

Presented above are some brief factors determining consumer behaviour. The list is very long and certainly not complete. The next part of the text will describe the heuristics and effects studied in the framework of behavioural economics, along with their possible use in marketing.

4. Selected heuristics and irrational behaviours and the possibility of using them in marketing.

Default option (*status quo* effect)

When a person has a wide array of choices, they often remain passive and do nothing or take the default option. In behavioural economics, this phenomenon has been called the *status quo* effect (Samuelson and Zeckhauser, 1988). This effect is especially strong when the range of options is rich and the selection is relatively complicated. We can observe this type of situation when saving money for retirement. This is an important problem in the societies of Western countries due to the demographic structure which results from low fertility and prolonged human life. Future retirees theoretically know that they should save for retirement, but the number of available options, including various funds and accounts entitling to tax credits (IKE and IKZE), is overwhelming even in our country, where financial markets do not offer such a range of products as in economically mature countries. In this situation, future pensioners do not save for post-working age, even though they are aware of low state pensions.

How have many countries dealt with this? The default option was used. In cooperation with employers, they created capital funds, where the enrollment was automatic with the possibility to unsubscribe. Participation in such programmes is very satisfactory. In Poland, in 2019, Employee Capital Plans (PPK), which are based on the *status quo* effect, came into force, if the future pensioner does nothing, they will be enrolled in the programme.

The question arises: how can the *status quo* effect be used in the context of private company marketing. In many cases, the default option can be used in place of cross-selling. For example, instead of offering additional insurance for a laptop, the company can prepare an offer where the equipment is sold by default with insurance with the option to opt-out. Based on the discoveries related to the *status quo* effect, this type of strategy may bring positive results and its research may prove profitable for many companies.

Late payment

The seller's goal is to make the act of paying appear as small of a discomfort as possible. Deferred payment means deferred discomfort of spending money, which, especially for people with high time preferences (preferring immediate gratification), will be very valuable. People with low time preference who are willing to save avoid loans and unnecessary expenses, which makes them somewhat resistant to these methods. But in societies where consumerism is more widespread, such methods can be very effective, especially when selling more expensive products.

The dynamic development of credit financial instruments allowed for the wide application of such solutions. On the market, we can often find offers with payment installments, which is a delay in payment, and precisely its distribution. What's more, solutions assuming a certain period without payment are also popular, then the consumer does not have to worry about the cost of the product for a long time. It is worth noting that this type of offer may be effective among people who prefer current consumption, but it is worth bearing in mind that this type of practice may cause financial problems. This risk should be considered in particular by consumers (individual approach) and relevant state entities (systemic approach) that are interested in stability, e.g. the Polish Financial Supervision Authority and the National Bank of Poland.

Ownership effect

The ownership effect can be illustrated by one of the experiments carried out at Duke University, where basketball games are very popular. In order to buy a ticket, interested parties had to wait in a line for several days (in tents), and the first people received not a match ticket, but a lottery ticket, with which they can enter to win an actual game ticket. Researchers called students who obtained a ticket and those who did not. The former were asked for what amount they would be willing to sell the ticket for. The second group was asked for what amount they are willing to buy the ticket. Students who did not have tickets were willing to pay 170 USD on average, while the average selling price was around 2400 USD. Not a single person wanted to sell the ticket at the price offered by the buyers (Ariely, 2018, pp. 123–127). The experiment of Kahneman, Knetsch and Thaler (1990) leads to similar conclusions, but in a less spectacular dimension, where participants with a given item valued it “only” twice as high as those without it.

The goods that we have in our possession we value higher. This may be due to emotional attachment. The ownership effect may also result from the knowledge of a given item or service. If a consumer uses the services of a given operator or Internet provider, he often does not decide to change it, despite breaches of the contract, because the change is associated with uncertainty. A new risk has to be taken: signing a new contract, installing new hardware, and there is no guarantee that the new service will be better.

Companies use the ownership effect in their offers. They make it possible for consumers to try a given product or service. It is difficult to assess whether the ownership effect is the most important element of this type of activity. Perhaps the very possibility of trying a good is the most important issue by design. For example, by having a product for a trial period, the buyer becomes attached to it and incorporates it into his life, so that the subjective value in the eyes of the buyer increases and the chance of keeping it also increase (giving it back seems less profitable). Such strategies also seem to be influenced by the *status quo* effect. If a given individual decides to return the product, it is necessary to take active measures—e.g. pack the goods, write to the seller, risking the costly and sometimes emotional investigation into their affairs. Therefore, these types of returns are not frequent, and from the perspective of companies, such strategies are effective.

Loss aversion

Kahneman and Tversky (1979) describe deviations from rationality within the framework of the theory of perspective, which are manifested, among others, in:

– value perception in relation to a benchmark (e.g. a person who keeps losing stocks in a portfolio for an extended period of time may come to terms with the price and the reduction of loss may perceive profit);
– decreasing sensitivity to losses and gains (e.g. the first thousand of profit generates more utility than each subsequent one; subsequent units of profit generate less and less satisfaction);
– perceiving the grief of loss as more intense than the satisfaction of profit.

Much greater sensitivity to losses has its neurological justification. The study showed that it was enough to show a negative image for two-hundredths of a second for the amygdala to react. This information is transmitted through an extremely fast neural channel directly to the emotional part of the brain—bypassing the visual cortex, which is responsible for "conscious" vision (LeDoux, 1998). This type of "privileged" treatment of negative information may result from evolutionary natural selection. The fastest responders to a threat are statistically more likely to pass on their genes because they are more effective in staying alive, e.g. they escape or eliminate the threat faster.

Sensitivity to losses is inherent in human nature, and companies seem to bear this in mind. One Italian telephone operator used loss aversion to retain customers. It was standard for subscribers calling the hotline intending to terminate the cooperation to receive 100 free calls if they decided to continue cooperation. This type of strategy did not bring satisfactory results. For this reason, the company has implemented an approach based on the discoveries of behavioural economics. When the subscriber initiated the termination procedure, they received a message from the operator that they had already received 100 free calls. The difference was small, and yet it strongly translated into consumer behaviour, significantly increasing the number of those who decided to stay online. In the minds of customers, the minutes they already have and may lose turned out to be a stronger impulse than the potential 100 minutes they could receive provided that they continued cooperation with the operator (Gorączka and Protasiuk, 2016).

Businesses can also assume the risk of losing a client. They make it possible to return a good or service without consequences, based on the principle that hardly anyone actually uses this right, and this possibility partially neutralizes the aversion to losses.

Freebies

Shampanier, Mazar and Ariely (2007) conducted an experiment in which they sold two types of chocolates: Lindt (very high-quality chocolates) and Kisses (average quality). Originally, Lindt chocolates cost 15 cents, while Kisses cost 1 cent. At these prices, 73% of people bought Lindt, and 27% bought the Kisses. A given participant could only buy one item. In the next step, the prices were reduced—Lindt chocolates were 14 cents and Kisses chocolates were free. With the second price configuration, Kisses chocolates were bought by 69% of customers, and Lindt only by 31%. In line with the assumptions of the classical economy, lowering prices by 1 cent should not cause such changes in preferences. This experiment shows the importance for consumers of having a given item for free. Often we can observe the purchase (in the case of a free product without payment) of unnecessary products because they are free or a paid product has been added to another for free.

Offering goods for free or at a very low price is irrationally attractive to consumers. This effect is widely used, for example, freebies are added to large purchases, for repeat customers, etc. As Milton Friedman says, “there are no free dinners”. Free products perform a certain function, such as persuading the customer to try the product and start buying it, or to make them visit a given place and make other purchases there. We should bear in mind that nowadays more and more services are offered for free, e.g. in the past, calls were paid, and now—thanks to the widespread access to the Internet in mobile phones—it is becoming more and more popular to make calls via the Messenger application, which is not burdened with costs. As such, consumer responsiveness to “for free” slogans may decline over time and entrepreneurs should find ways to get these reactions—perhaps through other behavioural economics discoveries.

Expectations and the placebo effect

In order to show the impact of expectations on our feelings, Ariely, Lee and Frederick (2006, p. 1054) conducted an experiment using beer. They offered the bar guests two beer samples and then asked them to choose one of them. One was without balsamic vinegar and the other with its addition (two drops of vinegar for one ounce of beer). In the first version, guests were offered two beer samples without revealing the names—back then, the beer with vinegar was more often chosen as tastier. In the second version, participants were informed which beer contained the vinegar. Then, after tasting it, they expressed negative feelings with facial expressions and asked for a “normal” beer. Consumers were probably guided by the idea that the vinegar does not fit with beer and when formulating their expectations accordingly, subjectively experienced a worse taste.

This type of phenomenon can be noticed not only in the context of taste, but for example, the effectiveness of a substance. Waber, Shiv, Carmon and Ariely (2008) conducted an experiment where volunteers were given electric shocks and tested the effectiveness of painkillers. Each participant was informed that they would be given the reputable pain reliever Veladone-Rx, which costs 2.50 USD a piece. After taking the substance, the pain was considerably less noticeable in all subjects, even though the administered “drug” was a vitamin C capsule. In the second phase of the experiment, participants saw that the price of the drug was reduced from 2.50 USD to 10 cents. As it turned out, only half of the participants felt relieved after this change. This experience shows how susceptive the feelings of the human nervous system are to change.

Companies use the power of suggestion to build a brand image. By anchoring the belief in the customer’s mind that a company’s product is prestigious, of good quality, etc., it can act as a self-fulfilling prophecy, actually increasing consumer satisfaction. Then again, we should keep in mind that the product or service of a given company raises certain expectations. If they are disappointed, e.g. with a defect in the equipment and rude service in the case of a complaint, it may be a very blatant contrast for the recipient. Then he may feel disadvantaged as a loyal customer and become a person unfavourable to the company.

Honesty

The "classic" experiment is the so-called Ultimatum Game (Binmore, Shaked and Sutton, 1985; Guth, Schmittberger and Schwartz, 2010). Over time, various versions of it appeared, but the main assumption is as follows. Two participants take part in the game and receive a certain amount to divide amongst themselves. One of the participants proposes to divide the funds between themselves and the other person. The other participant can accept the split—then the amounts are allocated—or reject it—then no one gets the money. From the point of view of an economy based on the assumptions of the rationality of entities, a person deciding whether to accept a bet should accept any offer according to which they may receive more than zero. The results turned out to be different—people who thought the split was unfair did not accept the split, so the participant proposing the unfair split was "punished" in this way. Thaler (2018, p. 188) indicates that the maximum profit in ultimatum play can be obtained by offering about 40% of the pot. Participants receiving bids below 20% of the pool usually rejected them. The experiment was carried out in different parts of the world, also with large amounts; the results were not significantly different (Hoffman, McCabe and Smith, 1996; Cameron, 1999; Henrich, 2000). It is worth adding that the "revolt" against this type of dishonesty was also observed in monkeys. The animal did not want to participate in the experiment after another animal received a more desirable reward for the same task (Brosnan and De Waal, 2003).

The negative reaction to dishonesty was also examined in relation to the pricing policy of entrepreneurs (Kahneman, Knetsch and Thaler, 1986; Thaler, 2018). Study participants outlined the following: An industrial store was selling snow shovels for 15 USD. The store raised the price to 20 USD the morning after a big snowstorm. They were then asked to express their opinion on the seller's behaviour using the form. Only 18% of respondents answered that such behaviour is acceptable, while as many as 82% assessed it as unfair. This example clearly shows that business behaviour is also assessed in terms of ethics and decency. It is worth noting that the behaviour of a seller who raises prices in response to increased demand is completely rational and economically viable. Increased demand should lead to a price increase while supply is constant, bringing the market to an equilibrium. This is an example where the conclusions of the behavioural economists' research are more relevant to reality than those of the neoclassical models. For entrepreneurs, it is a clear signal that in order to build the company's image, one should not make efforts to earn at any cost in a situation when there is an opportunity to do so related to the shortage of goods or the difficult situation in which people found themselves (e.g. during a flood). Charitable activities may be a better strategy in the event of exceptional factors.

Contrast effect and anchoring

Ariely (2018, p. 31) notes that people tend to compare things, but they also tend to focus on comparing things that are relatively easy to compare and they avoid comparing things that cannot be easily compared. Anchoring is a heuristic involving the subconscious reference to initial information during an evaluation (Scherif, Taub and Hovland, 1958).

Ariely, Prelec and Loewenstein (2003) conducted an experiment in which students were asked to write down the last two digits of their insurance and to bid on several items. The auction was preceded by the question of whether a given person would be willing to pay for particular items the amount indicated in their insurance number, but in dollars. An auction followed, after which the winner purchased the product. It turned out that students with the highest numbers at the end of the insurance number (80–99) decided to pay the most, while those with the lowest numbers (01–20) the least. For example, those in the top 20% by social security number offered an average of 56 USD for a wireless keyboard, while those in the top 20% by social security number offered an average of 16 USD. It turned out that students with social security numbers ending in the top 20% offered as much as 216%–346% more than those whose last two digits of that number were in the lowest 20%.

The last digits of the social security number are used as the "anchor". The participants subconsciously referred to this level and this random value significantly influenced their actual willingness to pay a certain amount.

Restaurateurs include several expensive dishes on the menu, which may not be very popular, but serve as an anchor value. On the basis of the law of contrast, a traditional dinner for 50 PLN may seem like a relatively advantageous offer when it is preceded by a salad for 40 PLN, followed by a caviar set priced at 200 PLN.

Excessive choice

In light of the research conducted by Iyengar and Lepper (2001), the assumption that offering more choices is more beneficial for the sales volume may be questioned. Experiments have shown that people are more likely to buy jam or chocolate when a limited set of 6 options is offered as opposed to a wide selection of 24 or 30 options. Moreover, participants actually reported greater satisfaction with their choice when their choice was limited.

People have limited cognitive resources, so they feel more comfortable when they can choose from fewer options. The choice itself is very often determined by benchmarks, such as the price or quality of similar goods. When a consumer has a choice of two or three products, their comparability is fairly transparent on the main points. What's more, with such a set it is easier to reject, for example, the most expensive or the weakest in terms of quality, and then choose from the remaining, very narrow options. In the case of a wide choice, it is difficult and then the consumer more often decides to make a purchase based on the first impressions, advertizing or recommendations. Then the choice of comparing all options becomes mentally much more expensive.

Bearing in mind anchoring, it is relatively easy to guide the consumer to the choice of the product that the seller cares about the most. In addition to the target offer, two "competitive" ones can be highlighted—one which is a bit cheaper, but of a very different quality, and the other—very expensive and only slightly better in quality. With this type of set, the target product will appear to be a "reasonable choice". It seems common for companies to adopt this type of "architecture of choice".[1]

Limits

Wansink, Kent and Hoch (1988) conducted an experiment in which they investigated the effect of introducing a maximum number of items that can be purchased. In the first group, there was no limit, in the second group it was 4, and 12 in the third. It turned out that buyers

[1] The phrase "architecture of choice" was taken from the works of Richard Thaler.

who bought the product without imposed limits bought on average 3.3 cans, while buyers limited with limits (up to 4 and 12 pieces) bought on average 3.5 and 7 cans. Particularly high sales were recorded with a limit of 12 units. Low limits can increase the number of buyers by showing the opportunity, while higher limits can increase the number of items a buyer buys through the anchoring effect.

The rule of non-availability promoted by Cialdini also applies to the sale of goods. Information about the sales limit makes consumers perceive it as a rare opportunity. The cap suggests that if you could buy as much as you want, the merchandise would be gone in a short time. Consequently, many people choose to purchase as many pieces as the limit allows. After citing this example, it can be concluded that a skillfully applied unavailability rule can also work in marketing—despite the common belief that theoretically the seller is interested in maximizing the sales volume.

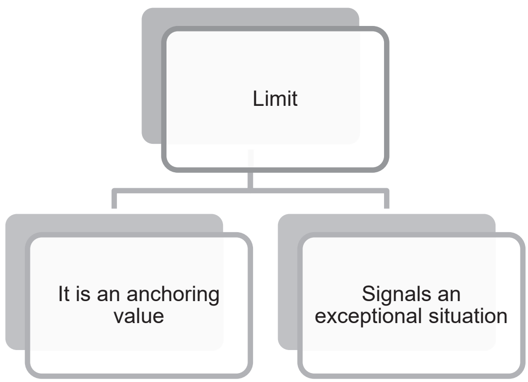

Figure 1. Sale limit functions

Source: Author's own elaboration.

Social context

Choices depend not only on individual preferences but also on the social context. In order to show this phenomenon, one can recall an experiment conducted in a bar. In the first variant, the researchers collected orders from the guests publicly, and in the second—they asked them to place orders on a piece of paper. In the next stage, it was examined how tasty the drinks were to individual people. Participants who ordered publicly tried not to order the same drinks as the other participants. Satisfaction was low with the exception of the person who placed the order first. With orders placed in writing, the satisfaction was higher. Ariely is of the opinion that by placing orders publicly, the participants wanted to express their individuality and did not want to order a drink that had already been "taken" (Ariely, 2018, pp. 202–204).

With the above experiment in mind, salespeople should adapt their sales strategies to the environment, context and people with whom a given person is making a purchase. Young people who make purchases in a group of peers may behave differently than when they are with their parents. For example, when a young driver comes to a car showroom, statistically, there is a good chance that they will be interested in the appearance or the maximum speed of the car. On the other hand, if their mother was with them, he/ she probably wouldn't be trying to show interest in the speedy ride; they will want to give the impression that they are interested in safe driving, and may react more positively to such information. These relationships should be reflected in the sales strategy.

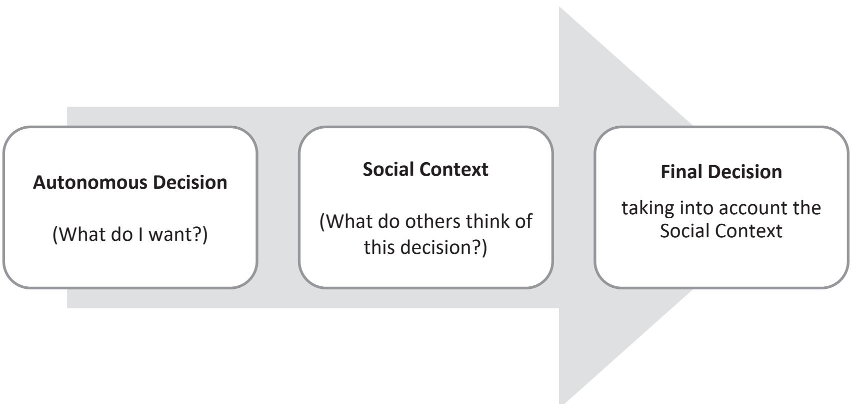

Figure 2. Influence of the social context on the final consumer decision

S o u r c e: Author's own elaboration.

Unconscious stimuli

Kahneman (2012, p. 31), inspired by Stanovich and West (2000), uses a schematic distinction between two human cognitive systems: fast and slow. In the work of Thaler and Sustein (2017, p. 34) they have been called automatic and reflective. The first (automatic) is uncontrolled, effortless—fast, associative, unconscious. The reflective system, on the other hand, is slow, deductive, self-aware—rules-abiding, controlled, and takes effort. We use the first (fast) system, for example, to recognize emotions on the face of another person. It happens automatically, effortlessly—we are not fully aware of the various stages of the process. On the other hand, when we solve a math problem, we use the second (slow) system. In this case, we must consciously go through the various stages of thinking that we are able to trace—actions are performed slowly and non-automatically. Due to the existence of these two systems, heuristics and various types of cognitive distortions described in behavioural economics, e.g. the illusion of control, arise (Langer, 1975; Cowley, Briley and Farrell, 2015; Davis, Sundahl and Lesbo, 2006).

We should bear in mind that a very large part of decisions (perhaps the vast majority) are made using the "fast" system, in a way "autopilot". When conducting marketing research, it is worth paying attention to which system the client uses to make a decision to buy a given product—whether he/ she writes down the parameters and discusses them with another person, or it is rather an intuitive choice, based on gut instinct or brand image, etc. An important signal for the consumer is the packaging itself, which suggests quality, price level and allows it to stand out from the competition (Taranko, 2014; Falkowski, Du Cane and Olszewska, 2011).

Priming

Barg, Chen and Burrows (1996) in one of their experiments asked participants to form sentences from words. In one group, students formed sentences from neutral words, while in the second—the words that were the basis of the task were related to old age. The researchers then measured how long it took for each group to move to a different location for the next experiment. It turned out that students who dealt with words related to old age walked on average a dozen or so percent slower than the control group. The participants later showed no influence of the task words on their behaviour, so the influence was unconscious.

Bateson, Nettle and Roberts (2006) conducted another experiment—showing the effect of extra-conscious impulses on our behaviour. In a school cafe, people could brew drinks and add milk to them; it was not obligatory to pay extra for the milk, although there was an honesty box next to the milk were people could drop some extra money. Researchers placed posters behind the box that were changed every week. The posters showed either flowers or a section of a human face where the eyes are visible, which could give the impression that you were being watched. It turned out that the type of poster had a very clear impact on the number of payments. During the weeks with the eyes on the poster, the payment for milk was 2.76 times higher than in the weeks with the flowers on the poster. Human eyesight has a very strong influence on our behaviour and we are evolutionarily adapted to interpret it (Emery, 2000). The experience cited above gives a direct indication of what types of images should be displayed in places where various types of contributions are made and at the same time people feel that they should put the coins in the box or that it will be well perceived. It is doubtful that the mere image of the eyes or the human face motivates people to share their resources when they do not feel such an obligation.

The practical usefulness of priming was demonstrated by North, Hargreaves and Mckendrick (1999) by examining the influence of music (French and German) on the sale of French and German wines. During two weeks in the shop, French and German music was played once and it was checked which wines were chosen more willingly. It turned out that while listening to French music, consumers bought 40 bottles of French wine and 8 bottles of German wine. During the playback of German music, only 12 bottles of French wine and 22 bottles of German wine were sold. Thus, the influence of music on consumer decisions was very significant. It is important to test on a small group of people how they react to a given advertizing message; the method should be made dependent on the type of advertizing (Mazurek-Łopacińska, 2005, pp. 436–442).

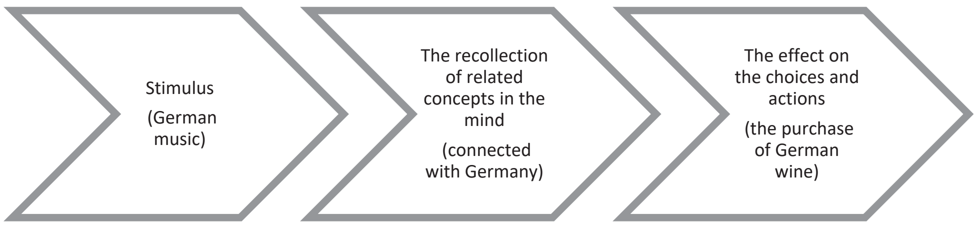

Figure 3. Priming scheme based on the experiment of North, Hargreaves and Mckendrick

Source: Author's own elaboration based on North, Hargreaves and Mckendrick, 1999.

5. Conclusion

The shaping of consumption is a product of needs, aspirations, goals, the possibility of their implementation (Witek, 2007, p. 207) and many other factors. Preferences are determined by changing factors, so they themselves are subject to constant changes. All components of the market offer should interact with each other and interpenetrate. For this reason, it is necessary to integrate the product, price, promotion and distribution (Karasiewicz, 1997, p. 27), which makes the process itself very complex—and which forces its interdisciplinarity.

In a dynamic environment, this type of synchronization is a big challenge for the marketing department. Moreover, consumer satisfaction results not only from the goods purchased, but also from the conditions and manner of offering them (Karwowski and Witek, 1995). Adequate coordination of all these components is undoubtedly, as already mentioned, an interdisciplinary process, so the knowledge about human preferences and the way of thinking provided by behavioural economics cannot be overestimated.

The aim of the study was to answer the question: How can a company improve the effectiveness of its marketing activities under the conditions of strong competition by using heuristics and irrational behaviours? This article provides space for reflection and analysis. Selected phenomena described in the framework of behavioural economics, such as heuristics and other cognitive biases, that can be adapted in the company's marketing activities, were developed there. Section 4 describes each of them along with possible applications in the business environment. Many of the heuristics and effects have already found their application in the real world, then the added value is their justification from the point of view of experiments carried out within the framework of behavioural economics. The author is not able to clearly define which of the strategies are not yet applied in business practice, due to the confidentiality of many promotional strategies and the limited possibilities of processing distributed, decentralized and non-quantified information.

The publication framework does not allow for an exhaustive description of the application of each of the heuristics and other irrational behaviours, therefore the author hopes that the work will provide research questions and hypotheses for further considerations.

References

Antonides, G., van Raaij, W. F. (2003). *Zachowanie konsumenta*. Transl. by M. Zagrodzki. Warszawa: Wydawnictwo Naukowe PWN. ISBN 8301139609.

Apicella, C. L., Dreber, A., Campbell, B., Gray, P. B., Hoffman, M., Little, A. C. (2008). Testosterone and financial risk preferences. *Evolution and Human Behavior*, *29*(6), 384–390. DOI: 10.1016/j.evolhumbehav.2008.07.001.

Ariely, D. (2018). *Potęga irracjonalności*. Transl. by T. Grzegorzewska, P. Grzegorzewski, A. Nowak-Młynikowska. Sopot: Smak Słowa. ISBN 9788365731470.

Ariely, D., Loewenstein, G., Prelec, D. (2003). "Coherent arbitrariness": Stable demand curves without stable preferences. *Quarterly Journal of Economics*, *118*(1), 73–105. DOI: 10.1162/00335530360535153.

Bargh, J. A., Chen, M., Burrows, L. (1996). Automaticity of social behavior: Direct effects of trait construct and stereotype activation on action. *Journal of Personality and Social Psychology*, *71*(2), 230–244. DOI: 10.1037/0022-3514.71.2.230.

Bartosik-Purgat, M., Schroeder, J. (2013). Metody i źródła poszukiwania informacji o partnerach zagranicznych a zasięg rynkowy działalności polskich przedsiębiorstw (pp. 69–81). In: J. Schroeder, R. Śliwiński (eds.). *Przedsiębiorstwa na rynku globalnym*. Poznań: Wydawnictwo Uniwersytetu Ekonomicznego w Poznaniu. ISBN 9788374177412.

Bateson, M., Nettle, D., Roberts, G. (2006). Cues of being watched enhance cooperation in a real-world setting. *Biology Letters*, *2*(3), 412–414. DOI: 10.1098/rsbl.2006.0509.

Binmore, K., Shaked, A., Sutton, J. (1985). Testing noncooperative bargaining theory: A preliminary study. *The American Economic Review*, *75*(5), 1178–1180.

Brosnan, S. F., De Waal, F. B. M. (2003). Monkeys reject unequal pay. *Nature*, *425*(6955), 297. DOI: 10.1038/nature01963.

Cameron, L. A. (1999). Raising the stakes in the ultimatum game: Experimental evidence from Indonesia. *Economic Inquiry*, *37*(1), 47–59. DOI: 10.1111/j.1465-7295.1999.tb01415.x.

Carlson, L., Grossbart, S. (1988). Parental style and consumer socialization of children. *Journal of Consumer Research*, *15*(1), 77–94. DOI: 10.2307/2489174.

Cowley, E., Briley, D. A., Farrell, C. (2015). How do gamblers maintain an illusion of control? *Journal of Business Research*, *68*(10), 2181–2188. DOI: 10.1016/j.jbusres.2015.03.018.

Davis, D., Sundahl, I., Lesbo, M. (2000). Illusory personal control as a determinant of bet size and type in casino craps games. *Journal of Applied Social Psychology*, *30*(6), 1224–1242. DOI: 10.1111/j.1559-1816.2000.tb02518.x.

Domański, T. (1995). *Praktyczny przewodnik dla menedżerów i przedsiębiorców*. Kłudzienko: Centrum Kreowania Liderów. ISBN 8390439395.

Emery, N. J. (2000). The eyes have it: The neuroethology, function and evolution of social gaze. *Neuroscience and Biobehavioral Reviews*, *24*(6), 581–604. DOI: 10.1016/S0149-7634(00)00025-7.

Falkowski, A., Du Cane, D., Olszewska, J. (2011). Kolor i kształt w identyfikacji marki. Part 1. *Marketing i Rynek*, *4*, 13–18.

Gajewski, S. (1997). *Zachowanie się konsumenta a współczesny marketing*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego. ISBN 8371710232.

Goetz, S. M., Tang, L., Thomason, M. E., Diamond, M. P., Hariri, A. R., Carré, J. M. (2014). Testosterone rapidly increases neural reactivity to threat in healthy men: A novel two-step pharmacological challenge paradigm. *Biological Psychiatry*, *76*(4), 324–331. DOI: 10.1016/j.biopsych.2014.01.016.

Gorączka, A., Protasiuk, M. (2016). *Konsument przewidywalnie nieracjonalny* [online, accessed: 2018-08-20]. Retrieved from: https://nowymarketing.pl/a/9439,konsument-przewidywalnie-nieracjonalny.

Güth, W., Schmittberger, R., Schwartz, B. (2010). *An experimental analysis of ultimatum bargaining*. IDEAS Working Paper Series from RePEc.

Henrich, J. (2000). Does culture matter in economic behavior? Ultimatum game bargaining among the Machiguenga of the Peruvian Amazon. *American Economic Review*, *90*(4), 973–979. DOI: 10.2307/117318.

Hoffman, E., McCabe, K., Smith, V. (1996). On expectations and the monetary stakes in ultimatum games. *International Journal of Game Theory*, *25*(3), 289–301. DOI: 10.1007/BF02425259.

Iyengar, S. S., Lepper, M. R. (2000). When choice is demotivating: Can one desire too much of a good thing? *Journal of Personality and Social Psychology*, *79*(6), 995–1006. DOI: 10.1037/0022-3514.79.6.995.
Kahneman, D. (2012). *Pułapki myślenia. O myśleniu szybkim i wolnym*. Transl. by P. Szymczak. Poznań: Media Rodzina. ISBN 9788372786777.
Kahneman, D., Knetsch, J. L., Thaler, R. (1990). Experimental tests of the endowment effect and the Coase theorem. *Journal of Political Economy*, *98*(6), 1325–1348. DOI: 10.2307/2937761.
Kahneman, D., Knetsch, J. L., Thaler, R. H. (1986). Fairness and the assumptions of economics. (Proceedings from a conference held October 13–15, 1985, at the University of Chicago). *The Journal of Business*, *59*(4), 285 (16).
Kahneman, D., Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, *47*(2), 263–291.
Kakkar, P., Lutz, R. J. (1981). Situational influence on consumer behavior: A review. In: H. H. Kossarjan, T. S. Roberts (eds.). *Perspectives in Consumer Behavior*. Glenview, IL: Scott Foresman.
Kamiński, J. (2006). *Negocjacje w działalności marketingowej przedsiębiorstw*. Białystok: Wydawnictwo Uniwersytetu w Białymstoku. ISBN 9788374310710.
Karasiewicz, G. (1997). *Marketingowe strategie cen*. Warszawa: Polskie Wydawnictwo Ekonomiczne. ISBN 8320810833.
Karczewska, M. (2010). Determinanty zachowań konsumenckich na rynku. In: *Materiały Krakowskiej Konferencji Młodych Uczonych 2010: Kraków, 23–25 września 2010*. Kraków: Grupa Naukowa Pro Futuro; Fundacja dla AGH. ISBN 9788362079049.
Karwowski, J., Witek, J. (1995). Sprzedawcy – ważny czynnik sukcesu rynkowego przedsiębiorstwa. *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Prace Katedry Marketingu oraz Katedry Organizacji i Zarządzania*, *1*, 61–67.
Kieżel, E., Smyczek, S. (2012). Zachowania kobiet na rynku usług finansowych – nowe zjawiska, tendencje. *Konsumpcja i Rozwój*, *1*, 36–47.
Kłosiewicz-Górecka, U. (2011). Strategie przedsiębiorstw handlowych w okresie chwiejnego ożywienia gospodarczego. *Ekonomiczne Problemy Usług*, *73*, 561–571.
Kotler, P. (2016). *Why behavioral economics is really marketing science* [online, accessed: 2018-08-13]. Retrieved from: http://evonomics.com/behavioraleconomics-neglect-marketing/.
Langer, E. J. (1975). The illusion of control. *Journal of Personality and Social Psychology*, *32*(2), 311–328.
LeDoux, J. (1998). *The emotional brain: The mysterious underpinnings of emotional life*. New York: Touchstone. ISBN 0684803828.
Lee, L., Frederick, S., Ariely, D. (2006). Try it, you'll like it: The influence of expectation, consumption, and revelation on preferences for beer. *Psychological Science*, *17*(12), 1054–1058. DOI: 10.1111/j.1467-9280.2006.01829.x.
Lewin, K. (1936). *Principles of topological psychology*. New York and London: McGraw-Hill Book Company.
Mazurek-Łopacińska, K. (2005). Badania skuteczności systemu komunikacji. In: K. Mazurek-Łopacińska (ed.). *Badania marketingowe. Teoria i praktyka*. Warszawa: Wydawnictwo Naukowe PWN. ISBN 8301142561.
Mruk, H. (2012). *Marketing. Satysfakcja klienta i rozwój przedsiębiorstwa*. Warszawa: Wydawnictwo Naukowe PWN. ISBN 9788301169671.
North, A. C., Hargreaves, D. J., Mckendric, J. (1999). The influence of in-store music on wine selections. *Journal of Applied Psychology*, *84*(2), 271–276. DOI: 10.1037/0021-9010.84.2.271.
Rogers, E. M. (1983). *Diffusion of innovation*. 3rd ed. New York: The Free Press.
Rudawska, E. (2010). Zmiany zachowań konsumenckich w kryzysie – mity czy fakty? *Marketing i Zarządzanie*, *15*, 283–292.
Rudnicki, L. (2012). *Zachowania konsumentów na rynku*. Warszawa: Polskie Wydawnictwo Ekonomiczne. ISBN 9788320819816.
Samuelson, W., Zeckhauser, R. (1988). Status quo bias in decision making. *Journal of Risk and Uncertainty*, *1*, 7–59. DOI: 10.1007/BF00055564.
Shampanier, K., Mazar, N., Ariely, D. (2007). Zero as a special price: The true value of free products. *Marketing Science*, *26*(6), 731–902. DOI: 10.1287/mksc.1060.0254.

Sherif, M., Taub, D., Hovland, C. (1958). Assimilation and contrast effects of anchoring stimuli on judgments. *Journal of Experimental Psychology*, *55*(2), 150–155. DOI: 10.1037/h0048784.

Smyczek, S., Sowa I. (2005). *Konsument na rynku. Zachowania, modele, aplikacje*. Warszawa: Difin. ISBN 8372514887.

Stanovich, K. E., West, R. F. (2000). Individual differences in reasoning: Implications for the rationality debate? *Behavioral and Brain Sciences*, *23*(5), 645–665. DOI: 10.1017/S0140525X00003435.

Taranko, T. (2014). Rola opakowania w komunikacji marki na rynku kosmetyków. *Marketing i Rynek*, *4*, 454–460.

Tarde, G. (1890). *Les Lois de l'imitation* [The laws of imitation]. Paris: Alcan.

Thaler, R. H. (2018). *Zachowania niepoprawne. Tworzenie ekonomii behawioralnej*. Transl. by J. Konieczny. Poznań: Media Rodzina. ISBN 9788380084834.

Thaler, R. H., Sustein, C. R. (2017). *Impuls. Jak podejmować właściwe decyzje dotyczące zdrowia, dobrobytu i szczęścia*. Transl. by J. Grzegoczyk. Poznań: Zysk i S-ka. ISBN 9788381162210.

Tversky, A., Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, *185*, 1124–1131. DOI:10.2307/2288362.

Waber, R., Shiv, B., Carmon, Z., Ariely, D. (2008). Commercial features of placebo and therapeutic efficacy. *JAMA*, *299*(9), 1016–1017. DOI: 10.1001/jama.299.9.1016.

Wang, C., Swerdloff, R. S., Iranmanesh, A., Dobs, A., Snyder, P. J., Cunningham, G., Matsumoto, A. M., Weber, T., Berman N., Testosterone Gel Study Group N. (2000). Transdermal testosterone gel improves sexual function, mood, muscle strength, and body composition parameters in hypogonadal men. *The Journal of Clinical Endocrinology & Metabolism*, *85*(8), 2839–2853. DOI: 10.1210/jcem.85.8.6747.

Wiktor, J. (2006). *Promocja. System komunikacji przedsiębiorstwa z rynkiem*. Warszawa: Wydawnictwo Naukowe PWN. ISBN 9788301144122.

Wiśniewska, A. (2005). Czynniki decydujące o wrażliwości konsumentów na markę. In: A. Grzegorczyk (ed.). *Instrumenty kształtowania wizerunku marki*. Warszawa: Wyższa Szkoła Promocji.

Witek, J. (2007). *Funkcjonowanie gospodarstw domowych osób pracujących na własny rachunek*. Szczecin: Wydawnictwo Uniwersytetu Szczecińskiego. ISBN 9788372415837.

Woźniczka, J. (2012). *Efekty reklamy i ich pomiar*. Wrocław: Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu. ISBN 9788376951942.

Wyner, G. (2016). *Why behavioral economics could mean more accurate insights for marketers* [online, accessed: 2018-08-13. Retrieved from: https://www.ama.org/marketing-news/why-behavioral-economics-could-mean-more-accurate-insights-for-marketers/.

Żabiński, L. (2009). Sfera i marketing produktów systemowych. Podstawy identyfikacji, węzłowe kierunki badań. In: L. Żabiński. *Marketing produktów systemowych / sieciowych. Podstawy teoretyczne, zarys metodyki badań*. Katowice: Wydawnictwo Akademii Ekonomicznej w Katowicach. ISBN 9788372465566.

Żbikowska, A. (2005). *Public relations. Strategie firm międzynarodowych w Polsce*. Warszawa: Polskie Wydawnictwo Ekonomiczne. ISBN 8320815592.

Poprawa skuteczności działań marketingowych przedsiębiorstw poprzez wykorzystanie opisanych w ramach ekonomii behawioralnej heurystyk i zachowań nieracjonalnych

Abstrakt: Ekonomia behawioralna zyskuje coraz większe znaczenie w teorii ekonomii. Świadczyć może o tym fakt, że Nagrodę Banku Szwecji im. Alfreda Nobla w dziedzinie ekonomii w 2017 roku przyznano Richardowi Thalerowi, który propaguje behawioralne podejście do problemów natury ekonomicznej. Coraz więcej przedstawicieli nauki przyznaje, że człowiek nie jest *homo oeconomicus* racjonalnie maksymalizującym użyteczność, ale jako istota ludzka czasem jest nieracjonalny i popełnia powtarzalne, systemowe błędy w rozumowaniu i ocenie zjawisk.

Wyniki eksperymentów przeprowadzanych przez ekonomistów behawioralnych mogą być bardzo przydatne przy opracowywaniu, promowaniu i sprzedaży produktów. W niniejszym artykule zaprezentowano wybrane efekty i heurystyki, o których traktuje ekonomia behawioralna, oraz wskazano ich zastosowanie w działaniach marketingowych przedsiębiorstw. Głównym celem pracy była odpowiedź na pytanie: jak poprawić skuteczność działań marketingowych przedsiębiorstwa w warunkach silnej konkurencji poprzez wykorzystanie heurystyk i zachowań nieracjonalnych. Niektóre z analizowanych przypadków zaczerpnięto z praktyki rynkowej firm, a inne są nowymi propozycjami, które być może zostaną wykorzystane w przyszłości.

Słowa kluczowe: ekonomia behawioralna, psychologia ekonomiczna, psychologia konsumentów