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## SKINNER'S BOX AND AIDA MARKETING COMMUNICATION MODEL AS REFLEXIVE CONTROL TOOLS

**Abstract.** *The article examines the experiment with Skinner's box from the point of view of marketing and reflexive control in the context of digitalization. The relevance of this method is determined and a model of the Skinner box marketing strategy is formed. The main components of the last one are: emotional manipulation, information technology and big data. The principles of integrating the AIDA marketing communications model into the SBM strategy, that are oriented on the manipulation object and the information platform used, are formulated.*

**Keywords:** *Skinner box marketing, reflexive control, influencer marketing, sensory branding, digital marketing, big data, AIDA*

**Introduction.** An informational war among brands can exactly characterize the beginning of the twentieth century. The market is so saturated that conditions of perfect competition have never been as unattainable as today. Moreover, the absence of informational incentives in society is comparable to death for an organization, and the consumer, as a decisive element of an enterprise's market competitiveness, has gained a voice and an opportunity to be heard. In this regard, the tools and strategies of influencer marketing have gained due popularity and demand, and their variety and combinations are comparable to the number of news feeds that appear every day, endlessly. The reflexive control approach to marketing is becoming more justified.

The concept of supply chain management in theory and practice was examined by many scientists – Sadchenko O.V. and Robul Yu.V. [Sadchenko, Robul 2020], [Robul, 2020], Denisov A. and Denisova E. [Denisov, Denisova 2014], Lepsky V. [Lepsky 2016], Nurgaleeva L. [Nurgaleeva 2013], Raskin A. and Tarasov I. [Raskin, Tarasov 2014], Jainter M. and Kantola H. [Jainter, Kantola 2016], Chepinitzkaya P. [Chepinitzkaya 2011], Kasapoglu C. [Kasapoglu 2015], Thomas T. [Thomas 2015] ect. Scientists have focused their

attention on various aspects of reflexive control in terms of manipulation, but this concept has not been fully integrated into the marketing system. From the point of view of marketing, reflexive control is poorly theorized, however, the studies of the above authors served as the foundation for writing this article.

Skinner's experiment [Skinner 1938] and the AIDA marketing communications model, which was first described by Arthur Sheldon [Sheldon 1911], are considered as the main tools of reflexive management.

According to the above, the **aim of the article** is to develop and methodologically substantiate the model of marketing strategy into which the concepts of influencer marketing and reflexive control will be integrated.

**Research results.** Reflexive control is a manipulation term that originally appeared in the military, but it became applicable in marketing after a short time. Reflexive control is customary to call the influence of one side to the decisions made by the other side by providing it with such initial premises, based on which the actions will be desirable for the manipulator [Smolyan 2013, p.54]. A quote belongs to Burrhus Frederic Skinner: "Give me a child and I'll shape him into anything" <sup>[24]</sup>. Even if this statement is exaggerated, there is a grain of truth in it. The veracity of Skinner's words lies in his experiment, the essence of which was the development of animals operant reflexes inside a closed chamber – Skinner's box.

Operant conditioning is the influence of the experience of behavior and its consequences on the behavior itself [Cooper and etc. 2019 p.767]. Consequences are understood as changes in the environment (change in stimulus) that occur immediately after the behavior and affect the frequency of occurrence of this behavior in the future (Figure 1).

There are two principles of influencing the behavior of an object: stimulating nominally correct behavior and weakening nominally incorrect behavior.

According to the Oxford Explanatory Dictionary of Psychology, reinforcement in a broad sense is any event, stimulus, action, response, or information followed by a response that serves to increase the relative frequency or likelihood of that response <sup>[17]</sup>. The concept of "reinforcement" is used in different ways in different approaches to studying behavior. In classical conditioning, an association is formed by repeatedly combining a conditioned stimulus with an unconditioned stimulus. In operant conditioning, an association is formed when an operant response is followed by a reinforcing stimulus [Hjelle, Ziegler 1997, p.385].

Unconditional reinforcing associations are the benefits that the consumer receives from the use of the brand's products. At the same time, the association of operant conditioning is a secondary benefit, due to which the possibility of performing manipulative actions is created.

The actions of the recipients of marketing communications, their reactions and consequences in interaction with the brand will result from the operant conditioning process – the operant.

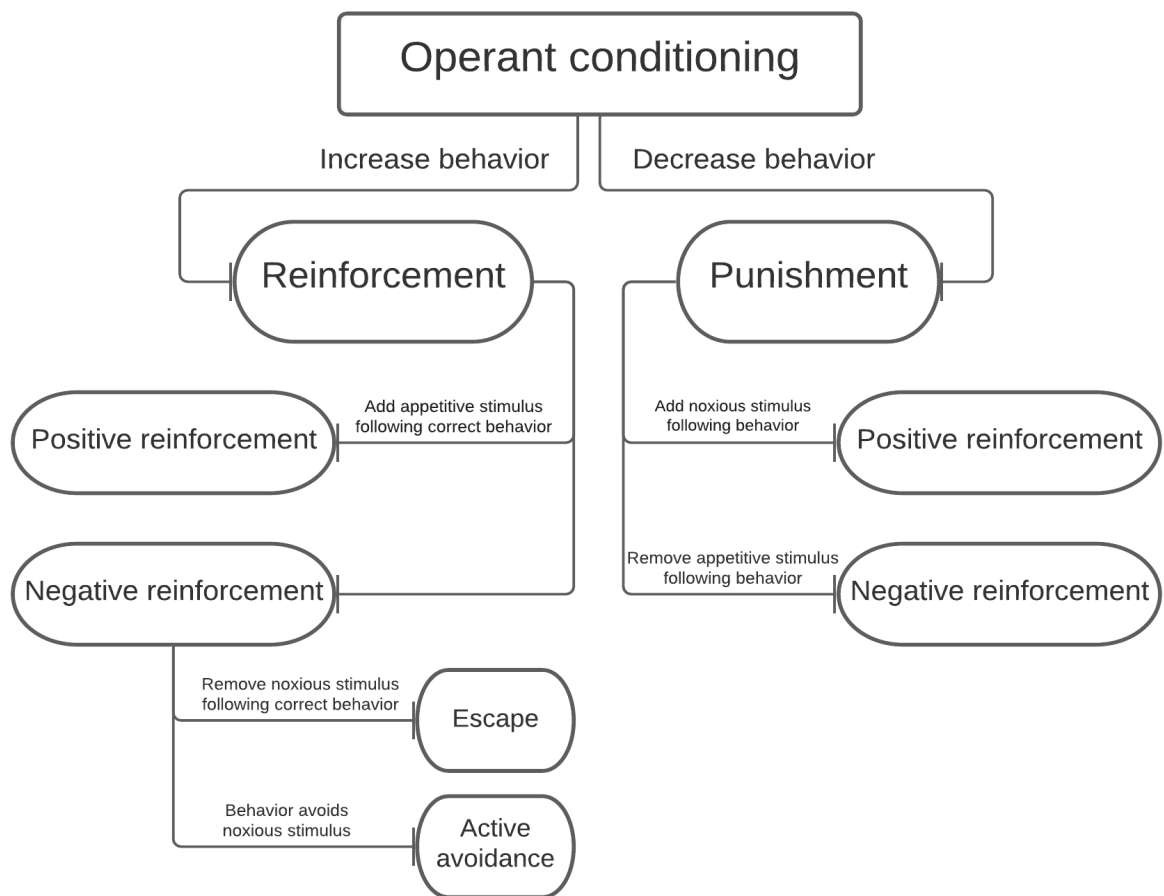


Figure 1. Operant conditioning method [Cooper and etc. 2019, p.864]

Thus, using the principle of reinforcement, the brand, as a subject of reflexive control, creates operant behavior within society due to the postcidental impact of influence marketing tools. The effect can be positive reinforcement (the brand generates a secondary benefit from using the product it creates) and negative reinforcement (the brand eliminates a secondary problem or evades the consumer from negative consequences).

Operant behavior should be not only accepted, but also understandable. To achieve this, the focus of marketing communications must be concentrated on the tripartite contingent.

The principle of decreasing nominally incorrect operant behavior is carried out at the expense of positive and negative punishment.

Just as a parent corrects a child's behavior to the conventional socially acceptable model, a brand can correct nominally incorrect operant behavior by adding unpleasant stimuli or removing pleasant ones.

It is worth noting that the ethics of Skinner's box tool is a debated issue. Still, at the same time, the social effect of such manipulations is noticeable (in society, the principle of punishment is applied selling alcohol to minors or using weapons without a license, etc.). IT companies are striking examples of the decrease principle among brands. An unlicensed information product is both devoid of excellent incentives (updates, support, etc.) and is filled with unpleasant ones, the main of which is a threat to data security.

Joseph Bentzel took Skinner's idea of manipulation from impacting an animal in a box to impacting a consumer market. According to Bentzel, the Skinner box marketing strategy includes three components [Sergeeva 2017, p.201]:

1. Emotional manipulation
2. Information technology
3. Big Data

Let's consider these ideas from the point of view of intuitive control (Figure 2).

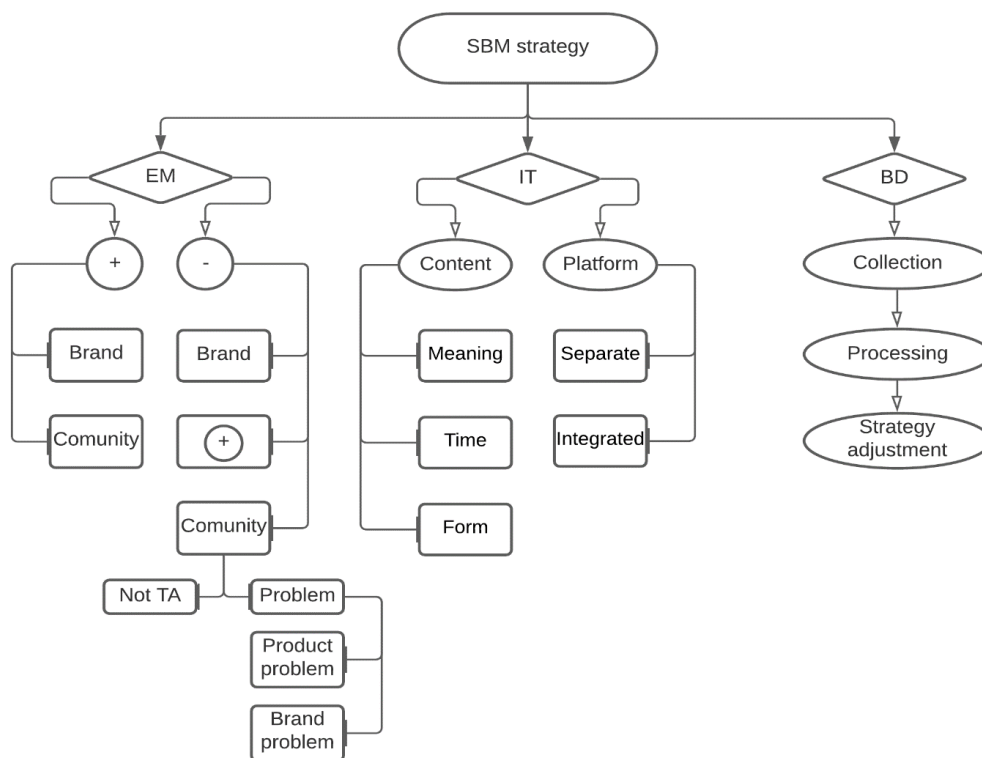


Figure 2. Skinner box marketing strategy (compiled by the author)

We classify objects of emotional manipulation (sensory branding) according to the criterion of using the brand's product (service). Thus, we have consumers (+) and market share that does not belong to the brand (-). The emotional impact on consumers can also be divided according to the subject of manipulation.

The obvious subject that has an emotional impact on the consumer will be the brand. The main emotional manipulation tool for a brand is the product being creating. Philip Kotler considers the product from the perspective of three ideas [Kotler 2007, p. 233]:

- core product (main benefit or service);
- actual product (design, quality, label, etc.);
- augmented product (warranty, delivery and installation, and after-sales service).

Each of the proposed interpretations can be used as a stimulant of emotion. It is an instrument of emotional impact. In addition to the product, the brand can influence the consumer through a system of integrated marketing communications, event marketing, opinion leaders, and any tool that an organization can afford based on available resources.

It is essential to realize that the trigger for the emotion is always information. No matter how powerful the influencer marketing tools are, if the object of impact does not have information, it cannot be influenced. Having developed an emotional marketing strategy around an object, phenomenon, or idea, a brand must form a communication message.

Let's consider Simonov's formula, which explains the influence of the awareness factor on the formation of emotion <sup>[22]</sup>:

$$E = f(N(i_a - i_n))$$

$E$  – qualitative characteristic of emotion (positive or negative);

$N$  – indicator of the existing need;

$i_n$  – information about the facilities necessary to meet the need;

$i_a$  – information about the existing facilities that the subject actually has.

The components of the formula can be presented in quantitative terms, but their values will be conditional (within the selected numerical scale). The quantitative result can be used in a comparative analysis of the emotional states of different objects or at different time intervals. Suppose the object has information about the available facilities to satisfy the need in an equal or greater amount than information about the predicted necessary facilities ( $i_a \geq i_n$ ). In that case, a positive emotion will be generated.

It is important to note that the satisfaction of needs seems possible with equal quantitative indicators of information, which means that emotion cannot be equal to zero. The same thesis is confirmed by human nature. According to research, only one in ten people show a high level of alexithymia (a state of being disconnected from an emotional state) [Taylor and etc., p.216].

Another important clarification will be the fact that in this case the emotional background of the object is influenced not by the satisfaction of the need, but by the information about possibility to achieve this. By providing or hiding information, the manipulator is able to influence the manipulated object. Thus, the information component must be present in the marketing communications of the brand and at every stage of the marketing strategy.

The consumer community is the second, less obvious, subject of emotional manipulation. People united by involvement in a particular brand have the opportunity to influence each other and scale this effect across the entire social group. A naturally created filter is formed, a prerequisite for developing a filter bubble. The last one is a positive manifestation of the influence of user experience [Shkeda 2021, p.169]. In this case, the brand only needs to create conditions for forming a community and force interaction inside it.

The main characteristic of these conditions is the emotional background. A brand should contribute to the evolution of new user experience and take into account the existing one. Informational barriers that can be transformed into opportunities are the alpha and omega of marketing communications.

And user experience is the foundation on which to build marketing communications becomes possible.

Abraham Maslow includes in his model of human needs the need for belonging [Maslow 1954, p.43]. Thus, by creating a community around the brand, the company is not so much faced with a new task as it is covering another existing need of its customers. Belongingness need is a basic requirement that motivates a person to have intimate relationships with others. The satisfaction of this need is found in friends, family life, and membership in groups and organizations. The community formed around the brand can become such a social group.

Several subjects can also be distinguished based on the strategy of emotional manipulation of non-consumers of brand products. As with consumers, the brand is the main influencer. However, if in the first case, the brand's actions are aimed at maintaining consumer interest, keeping the desire to use the brand's products (or forming new desires

related to the brand's products) and provoking actions, then in this case the main task of the brand is to attract the attention of society.

First, it once again confirms the relevance of the use of reflexive control tools in the informational marketing war of brands.

Second, it allows the AIDA marketing communications model to be integrated into the SBM strategy model (Figure 3).

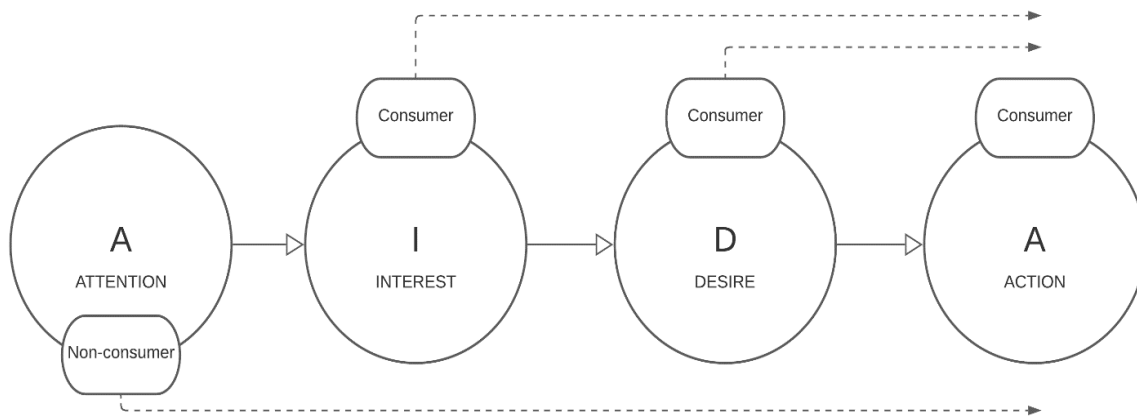


Figure 3. The AIDA model in the concept of the emotional impact of the SBM strategy on consumers and non-consumers of the brand (compiled by the author)

The next subject of manipulation will be the brand's consumers. For a long time, it was believed that the success and positive user experience of other people negatively affects the emotional state of people, but a scandalous experiment organized by Facebook refuted this thesis [8]. As in the case of the community around the brand, the company facilitate the transmission of positive user experience to the audience that is not the brand's consumers.

Since the brand is just an observer in this case, and not a direct participant in communications, it turns out to be more challenging to influence the environmental friendliness of interaction. Posing, toxicity, and arrogance on the part of brand consumers can alienate potential consumers. The brand's mission is to create the conditions for generating empathic envy, not jealousy.

Like the case with consumers, the third subject is the community of people who deny the brand's products. The main difficulty is the barrier of information perception in the form of a filter bubble. Brand actions should be aimed on the search of the root cause of the resistance community. The first possible reason is that people are not the target audience for the product (sweets for diabetics or the Bible for Muslims). It is worse if the reason lies in the existence of a problem related to distrust for the product (in which there is a need) or

the brand. Lack of user experience and the presence of informational barriers do not allow a person to decide to buy a brand product or service. The solution to the problem is to provide an opportunity to gain user experience and remove informational barriers.

Emotional manipulation is at the core of the SBM strategy.

The second part of the SBM strategy is using information technology to influence the market. There are two questions raised about the technology used in an emotional manipulation strategy:

1. What information will the brand share with the public?
2. Where will communications take place?

The commercial content within the framework of influencer marketing should have a fundamental characteristic that is virality [Chaikovska, Shkeda 2021, p.161]. To go viral, a brand needs to answer the following questions:

1. What is the meaning and what emotion should be put into the consciousness and subconsciousness of the recipient of communications thanks to this content?
2. What time should this content be published? Does it correspond to modern realities, ahead of time, or is it already outdated?
3. In what form can this content be perceived by the society? Can it be argued that society is congruent enough to use a single form?

After generating the content plan, it is needed to choose the digital platforms (one or several) for its placement. Now the definition of digitalization is transformed towards holistic and customer centricity [Chaikovska 2021, p.190]. Platforms can be either separated (website, smartphone app, game, etc.) or integrated into social media. In the second case, the brand will have to fight for the attention of the user of the information platform with other information subjects. In the first case, the task of attracting attention should be achieved by the information platform itself, and not by the content (Figure 4).

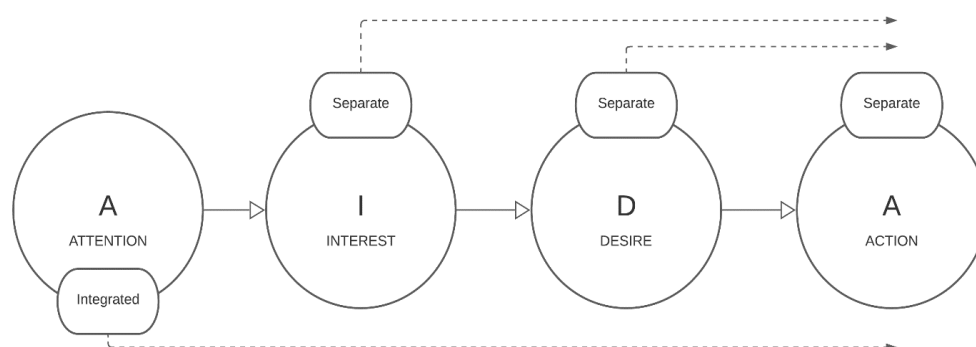


Figure 4. AIDA model in the concept of separate and integrated information platforms SBM-strategy (compiled by the author)



One of the most important characteristics of an information platform that affects user engagement is usability. Usability can be described as the capacity of a system to provide a condition for its users to perform the tasks safely, effectively, and efficiently while enjoying the experience [Lee and etc. 2019, p.194]. In software engineering, usability is the degree to which specified consumers can use a software to achieve quantified objectives with effectiveness, efficiency, and satisfaction in a quantified context of use <sup>[7]</sup>.

The third component of an SBM strategy is big data. Due to the content aimed at manipulating the emotional background of society and basic KPI indicators of information platforms, information is collected and analyzed. After that, the brand decides to adjust the strategy. Depending on the tasks set (to increase brand awareness, present a new product, form a positive image, etc.), one should focus on indicators at different stages of the AIDA model. However, in most cases, the ultimate goal of a brand will be to provoke an action (purchase of a product or service).

The information platform is inextricably linked with the system for collecting and processing of big data. Since informatization is an ongoing process, the development of the platforms and information systems that are used should not be finite either. The feature of scalability tend to be primary.

Scalability is the ability of a system, network or process to manage with an increase in workload (increase its performance) while adding resources (usually hardware) [Bondi 2000, p. 195].

A system is called scalable if it can increase performance in proportion to the additional resources. Scalability can be assessed through the ratio of the increase in system productivity to the increase in resources that are used. The closer this ratio is to one, the better. Also, scalability means the ability to increase additional resources without structural changes in the central node of the system. In a system with poor scalability, adding resources leads to only a slight increase in performance, and from a certain "threshold" moment, adding resources does not give any useful effect.

Let's take a look at the basic types of scalability. Scaling up or vertical scalability increases the performance of each component of the system to improve overall performance. Scalability in this context means the ability to replace components in an existing computing system with more powerful and faster components as requirements increase and technology advances. This is the easiest way to scale, because it does not require any changes in the application programs running inside such types of system.

Scaling out or horizontal scalability is splitting the system into smaller structural components, spreading them across individual physical machines (or groups of them), and (or) increasing the number of servers performing the same function in parallel. Scalability in this context means the ability to add new nodes and servers to the system to increase overall performance. This way of scaling may require creating changes inside the program so the program can take full advantage of the increased amount of resources.

**Conclusions.** To summarize, SBM strategy is a relevant reflexive control tool in the concept of influencer marketing. This fact is justified by the correspondence between the current situation in the economic environment and the features of the approach under study described above. The strategy consists in manipulating the emotions of society in a digital environment and analyzing feedback as big data. In both cases, the key definition is information. The role of information carriers can be integrated marketing communications and a product (not necessarily informational), a community or any other marketing tool used.

The objects of manipulation will be consumers and non-consumers. It will be carried out due to Skinner's operant conditioning, namely, increased behavior by reinforcement system and decreased behavior by punishment system. The actions of the strategy actions must be concentrated on the tripartite contingent. It is the connections between the antecedent event or the setting in which the behavior occurred, the behavior itself, and the consequences.

AIDA marketing communication model serves as an auxiliary tool that demonstrates the difference in approaches to different objects under impact and describes the functional significance of the tools of influencer marketing.

Content and information platform is how a brand can collect and analyze data. The importance of the usability indicator in this matter cannot be overstated. The tripartite contingent and AIDA model are relevant here also.

Due to the dynamism of modern technologies, the informational tools and platforms used in the SBM strategy must have the feature of scalability. It will increase the productivity of the informational system that is used and its effect. The quality of the information provided and the quality of the feedback analysis depend on scalability.

The result of analyzing will be an adjustment to the marketing strategy.

Further research will be conducted on a detailed study of the management of reflective tools in modern impact marketing strategies.

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