Improving of Quality of Trade Service Through Examination of Consumer's Emotional State

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Abstract

Consumer decisions depend on rational and emotional drives. Marketing methods searching for effective ways for managing consumer’s behavioral, increasing its loyalty and other. Managing of emotional level of customer fatigue at optimal level in current shop will raise consumer’s loyalty as a result. The study is designed to determine the effect of the environment on the quality of shopping service through consumer fatigue in the purchase process. Results of the study indicate of possibility to evaluate shopping floor service through the background emotional level of its customers. The result may be to improve the quality of trade services by creating conditions conducive to a more favorable environment for shops.

Keywords

Customer, Emotion, State, Purchase, GSR, BPM

1. Introduction

Scientists and marketers say that most decision to purchase the buyer takes on the basis of its usefulness and its cost [1], but there is always be human component in this process. Unconscious selection of goods and attempt for managing it is process is priority of science and practice in this sphere.

The behaviour of the buyer is a complex human reaction that results in making of the purchase or refuse from it [2]. So the question of consumer’s emotional reactions and assessment methods, which will help to increase sales on the one hand and reduce consumer’s background fatigue level. Under the quality of service often understand a subjective assessment of the quality of staff, bonus programs or else actions that motivate customers to make repeat purchases (economic loyalty). Increased emotional loyalty (to the extent the customer loyal to the brand or company) paid significantly less attention [3, 4]. Supermarkets, groceries, shops, retailers where staff participates less in communication with customers, have to provide other way to affect buyer behavioral. Therefore, customers communicate with trade floor environment: light, shelves, trade equipment, advertisements, music, quantity of products and their location in the store and other. All these factors influence on emotional level of customer fatigue and consumers loyalty as a result. More relaxed atmosphere, well arrange and informative goods’ shelves provides bigger credit for trade object comparing with others [5].

Study examines the interaction in the system "Buyer - Trade object". Results give information about the background emotional level of fatigue, which can be used for increasing quality of customer service and trade object. The research is designed to determine the effect of the environment on the quality of shopping service through buyer fatigue evolution in the shopping process. Galvanic skin responds (GSR) and beet per minute meter (BPM) are used for consumer assumption.

The main hypothesis of this research is: trading floor environment can be assessed by the consumer background emotional level.

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2. Methods of Studying of Consumer Behaviour

2.1. Common Methods

To manage the customer experience, it is necessary to measure and diagnose (identify relevant factors). For this purpose use [3, 4]: «Loyalty Button», button feedback, Monitor Emotions.

Loyalty button allows you to obtain an estimate of the quality of customer service through the eyes. Feedback button - is a handy book of complaints and suggestions aimed at determining factors of customer satisfaction. Emotions Monitor is designed to measure customer emotional background. A rational assessment, obtained with the help of loyalty and the button feedback, and emotional assessment, obtained by means of Monitor Emotions, complement each other. Therefore, the greatest effect is achieved when used together.

2.2. The Nature of Human Emotions

For awareness and understanding of emotional reactions of the consumer during shopping process, there should be considered modern theory of human emotions. The important role played research by Hebb [5, 6], where emotional state of the person is defined by the influence of the reticular formation of the lower brain stem. Emotions arise as a result of the breach and restore of the balance in the relevant structures of the central nervous system. Hebb was able to experimentally get curvilinear «bell» dependence between the level of emotional arousal of the person and his successful practical actions. Weak and strong emotional excitements are both undesirable for successful human activities. For every person (and in general for all people) exists the optimum emotional excitability, which can provide maximum efficiency at work. The optimal level of emotional arousal depends on many factors: the characteristics of performed activities, the conditions under which it occurs and so on. Weak emotional excitement does not provide needed motivation for different activities, and a strong emotional excitement can disrupt the activity and make it unmanageable.

Cognitive and psychological factors play very important role in the emotional processes. In this regard, there were suggested new concepts, which explain emotions as dynamic features of cognitive processes [7, 8]. Activation theory by Lindsay-Hebb [9] appeared under the influence of electrophysiological brain research based on the psychological theory of emotions by James-Lange [10] and Cannon-Bard [11]. Modern consumer-information theory of emotions by prof. P. V. Simonov says that any emotion can be measured. Emotion is presented as a kind of force that runs the appropriate program of action and records the quality of the program [12]. The ability to quantify emotions in any activity allows to try a new approach to the assessing of the quality of trade service.

2.3. Methods for Assessing the Emotional State of the Buyer

The state of the person is possible to evaluate on the basis of methods of assessing psychological and physiological components of the regulation of homeostasis. The first group includes packages of methods of psychological diagnosis [1, 13-15]. Second group includes packages of psychophysiological methods of functional and reflex diagnostics on biologically active areas [16-18].

Test methods allow to get quantitative descriptions of processes that do not correlate to the physiological characteristics of the tested person [13, 19-22]. They are defined as the ratio of the duration of the tests performed and the number of errors made. With the help of the usage of the test methods it is possible to determine energy consumption in different periods of making purchases. However, the usage of only test methods for the assessment of the human condition and the degree of fatigue is inadequate.

Diagnosis of the functional state of the human body is possible based on an assessment of current electrical characteristics of its biologically active zones of the skin [22-26]. The work of the electrical computer scanner, designed to study the dynamics of functional state of the person is based on the studying of electrical properties of the named zones.

Nowadays, in the study of human interaction with the technical means the following methods are used [27-29]: method of recording the electrical activity of the heart (ECG), method of the detecting of galvanic skin reaction, method of recording the activity of the musculoskeletal system of the person, method of detecting of the activity of human respiratory system, method of recording of the activity of the brain (EEG), method of psychophysical tests of attention of the person, method of detecting of changes of galvanic skin response (G.S.R.).

Unlike other methods of assessing of the functional state of the body, G.S.R. estimates the body's reaction to stimuli in real time and allows to measure the time of the reaction and its force in response to a particular stimulus [25, 30]. Another advantage of the G.S.R. usage is its invisibility during the experiment. G.S.R. is successfully used for monitoring of the performance of various human activities (diagnostics of the functional state) in studies of emotional, volitional and intellectual activity [29]. As a result of these studies the next facts were found out: a marked increase of G.S.R. in
response to «more funny jokes» [31]; G.S.R. increase during the perception of obscene words [32] and during solving of the mental (chess) problem [33]. As a result of these studies it was found that a sharp drop of skin resistance is a signal of emotional activation in the moment of taking the decision and, conversely, increase of skin resistance indicates an emotional rest. A similar approach can be used in the analysis of customers.

Bioelectric activity of the skin is caused by the activity of the sympathetic nervous system and the activity of the sweat glands [34]. Sweat glands are controlled by the sympathetic nervous system, which is releasing a small amount of sweat during the perception of different stimuli. The role of the secretion of sweat in the genesis of G.S.R. is the subject of many works [29, 34, 35]. It is stated that skin resistance at different places ranges from 10 ohms to 2 mOhms [27, 36, 37].

Different variants of methods, connected with the analysis of heart rate and pulse wave, are widely used in modern medicine [27, 38, 39]. The heart rhythm is measured with the help of different devices: heart rate monitor, pulse oximeter, electrocardiograph, etc. Analysis of the cardio rhythm variability during assessment of the level of stress got a wide use [27, 38]. Today the cognitive aspects of the cardio rhythm are used for explorer mental state and the peculiarities of the cardio rhythm are combined [40].

3. Results

Interaction of trade object and buyer could interact through a environment that is part of the trading service, figure 1. Back respond implemented throw the consumer. Changing the convenience and services in trade object, lead to buyer’s reaction which could be assumption and defined the efficiency of such actions. Other factors provide also influence on buyers loyalty but we concentrated on exploring of environment of trade floor.

We used method [29, 41] for GSR and pulse meter [38, 39] in real time experimental design for measuring background emotional level. The most informative parameters of the influence of information flow on the behavior of the buyer were selected for this study. They are identified with the help of measurement of G.S.R and cardiovascular rhythm. G.S.R. sensor was attached on the left hand on the index and ring fingers. NeuLog Pulse sensor was attached to the little finger of the left hand, (Figure 2).

Along with the registration of G.S.R. in the shopping center and on the way to it photo and video fixation of the buyer’s behaviour was conducted (Figure 3).
Overlaying of the video on the measurements of sensors made it possible to determine what the tested person felt at different moments of purchasing. This process was done by hand. For the convenience recording was started synchronously with the start of sensors work (Figure 4).

«NEULOG» results of measurements show that the consumer suffers less tension at the first shop then at second. This demonstrates average value of GSR: 2,7 mS and 3,45 mS (respectively), BPM: 50-90 for first and 50-130 beats per minute for second shop.

Travelling time between the shops decreased consumer’s indicators (interval between 15-17 min). This show about existence of some level of background tension in current trade object: GSR – is higher, and heart rate rhythms demonstrate stronger “jumps” especially at moment of choose of products.

At the moment of enter there significant reaction of BPM; the
GSR become rising later. Consumer’s indicators increasing from the start of experiment till it end. Delta of indicators for all experiments: 2 mS and 80-120 to 60-130. Increase of heart rate range adversely affects the emotional state of any persona [38].

4. Discussion

Along with the basic concepts of consumer behaviour, suggested one explorer buyer in shopping process including environment component and measuring the real time human reaction.

According to the figure 4 the purchase process and emotional perception of the buyer are directly related. The longer buyer is shopping, the more tired he becomes and his stressful condition is bigger also. Conducted measuring of consumer in different shops showed different level of background emotional level. The indications of G.S.R. and heart rate rhythm demonstrate it very good in the moments of stare experiment and its end. Half hour shopping tired person on 0,3 mSm in first shop and 0.7 mSm in second. The hart rate deviation increase on 40 beats/min, and 80 beats/min of hart beat from initial state from star of experiment. Prolong shopping process increases the frequency and amplitude of heart rate rhythm.

Existence of different background emotional levels in two shops and decreasing it between visiting them, suggesting about some certain emotional environment field in trade objects. Thus, changing the trading service parameters (shelving, carts, music, light, location of structures, other merchandise decoctions), we can determine how it will affect the consumer emotional level.

Poorly organized retail space, piling up of goods caused by negative feelings in the shopping process [42, 43]. In this state, buyer does not want to make any shops. Also, in “overfatigue” state he can make wrong decisions of buying (unusualness thighs, impulse buying) to become over the shopping as quick as possible. Low level of emotion does not provide reaction on any stimulus in the shopping object. In this case, advertisements, merchandising make not effort on consumer [23]. However, low and high emotional fatigue decrease quality of purchase decisions. Thus, we can conclude that in any human activity state of regulatory mechanisms of the body should not go to excessive levels of fatigue and strain according to [17, 38]. Thus, creating and managing the trade service is necessary to use buyers optimal emotional condition for trade environment improve trade service

Up-today Neuromarketing concept mostly comparing human reaction (using experimental method) with simultaneous answers to questions about his/her feelings (using questionnaires) during core processes [16, 38, 44] without environment component. Consumer’s loyalty methods (Loyalty Button, button feedback, Monitor Emotions), or a combination of them, provide opportunity to defined type of emotion (sadness, happiness, other), attitude to any action according to survey and test methods, but they don’t indicate the scale’s reaction on any action. Hence, we can’t say if expression was significant or not, also try or false. Using G.S.R. and heart rate indicators during the purchase process allow us to assume current value of emotional level and avoided predictions in stress measurements. These present of “pure” form results, when the environmental stimulus reduced to a minimum and examples of origin for the real environment research. It is important to understand how the customer will behave under the influence of shop specific environment at him. Although complexity of the application of such approach is in simultaneous identifying and analysis of human’s emotions and actions.

5. Conclusions

The conducted research of the estimation of the buyer's emotional state allows quantifying objective response of the buyer’s body in shopping process. Assessment of the impact of various factors was measured through the galvanic skin reaction and heart beats per minute. It is revealed that people's reaction in the shops can be measured through the galvanic skin reaction and heart beats per minute.

Proposed approach can assume shopping object affect emotional state on the customer. The results of the study can be used for sales analysis, advertising campaigns and analysis of the customer’s behaviour. Further research should be considered on interaction between buyer and shopping object.

References


