

The Impact of Verbal Stimuli in Motivating Consumer Response at the Point of Purchase Situation Online

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Abstract. This paper is a response to the lack of knowledge regarding actual online purchase behavior, and introduces behavior analysis as an alternative framework in studying consumers' purchase behavior. Motivation to confirm an order online can from the concept of motivating operation (MO) be analyzed as those antecedents in the environmental setting (included verbal stimuli) that; (1) have an effect on the consequences of responding, and (2) influence the responses (including purchase) related to those consequences. Using the functional analytic framework from behavior analysis, MO is identified as a likely predictor of consumer tendency to confirm their online orders.

Keywords: Online shopping, point of purchase, motivating operation, augmenting, functional analysis.

1 Introduction

When consumers go shopping on the Internet they usually have to go through a certain procedure; they will have to go to the web shop in the first place, search for a product, put the product in the shopping basket, and then finally confirm the order. It has been proved that many consumers leave the web shop in the check-out phase without confirming their order [e.g. 1]. Knowledge about the actual reason for this behavior, why this so often occurs and finally how to change this behavior, is of great interest to those who work with user interface design. By better explaining and predicting these unwanted sides of the purchase setting, companies could reduce this type of escape/avoidance behavior and consequently increase benefits and economic earnings from their web shop. Even small improvements in conversion rates can have a huge influence on sale. This paper seeks to identify those events that evoke (or abate) consumer response at the point of purchase situation online.

Monswé et.al. [2] define Internet shopping or online shopping as the use of online stores by consumers up to the transactional stage of purchasing and logistics. It is not unusual that research on online shopping end before the stage of actual purchase, like in the study of Monswé et.al. A meta-analysis shows that research on online shopping behavior can be placed in three categories [3]: (1) attitude toward online shopping, (2) intention to shop online and (3) actual online shopping behavior. Research on online shopping behavior has therefore explored the antecedents of intention to shop online, but not investigated the actual behavior online [3].

Most of the studies on online shopping come from the disciplines of attitude research [3]. The concept attitude, understood within a cognitive framework, is also one of the most widely used foundations for understanding behavior in consumer research [4]. However, there has been an increased skepticism toward structural models like e.g. Theory of Reasoned Action, Theory of Planned Behavior and Technology Acceptance Model. The strongest critique has been that they do not take into consideration the full range of situational variables likely to influence the strength of the attitude-behavior relationship [5, 6]. As an answer to this, behavior analysis is suggested as an alternative, functional framework, to understand actual online purchase behavior and is the focus of this paper. Behavior analysis sees behavior as determined by the consumer learning history and situation, and thus includes one important predicting variable that is lacking in attitude theories [7].

This paper is structured as follows: In the first part the behavior analysis framework of motivation is presented together with a discussion regarding the impact of verbal stimuli in motivating consumers at the point of purchase setting online. Second, there will be a short discussion on methodological implication to researchers when using a functional approach as a foundation for studying online purchase behavior. Finally, concluding comments are given on the use of behavior analysis as a framework when studying consumers purchase behavior online.

2 Explaining Consumer Motivation to Purchase Online

In order to apply the experimental methods of science to the analysis of behavior, behavior analysts have broken down the stream of behavior into units called behavior responses and the changes in an individual's environment into arbitrary units called environmental stimuli. Behavior analysis describes the basic procedure as a three-term contingency involving stimulus, response and consequence. Within the three-term relationship, S^D is a *discriminative stimulus*, R is a *response*, and $S^{R/A}$ is a *reinforcing or aversive stimulus* [8]. The reinforcing consequences (S^R) are likely to increase the probability of repeated responses whereas the punishing consequences (S^A) have the contrary effect. This sequential process is illustrated as a chain of events as follows:

$$S^D - R - S^{R/A}.$$

A discriminative stimulus signals increased probability of reinforcement given certain responses. Discriminative stimuli are described as stimuli that set the occasion on which responses have consequences and are said to occasion responses [8]. A discriminative stimulus on a web shop can be the "Add to Shopping Cart" button which signals probability of reinforcement. When a person buys a product online his behavior is reinforced by acquiring the attributes of the product class and the consequences of consumption. Simultaneously his behavior is punished by the surrender of money, which is depriving him of opportunities to acquire other reinforcers. Therefore, the "Confirm order" button is another discriminative stimulus in the confirming order setting, which signals the aversive consequences as a result of confirming the online order. Purchase behavior within an online shopping context is

accordingly the result of conflicting behaviors. These conflicting behaviors will be designated approach or avoidance. According to Alhadeff [9], the outcome of this conflict of behaviors – purchase or not purchase – is determined by the relative strength of reinforcers and aversive consequences in that specific setting.

2.1 Motivating Events at the Point of Purchase Situation

In recent years there has been a number of exciting new theoretical advances in the field of behavior analysis [e.g. see 10]. Among these is the concept of the *motivating operation* (MO)¹, a behavior analytic formulation of motivation developed by Michael [11-13]. The concept MO has made an important contribution to both basic and applied behavior analysis, inspiring new research and leading to innovative intervention strategies [see 14]. MO is defined as [12], an environmental event that first establishes (or abolishes) the reinforcing or punishing effect of another event and second, evokes (or abates) behaviors associated with that event. The first effect is related to the consequences of responding (*value-altering effect*) and the second is the effect of the responses related to those consequences (*behavior altering effect*).

Based on the different value-altering effects, Laraway et al. [15] distinguish between four MO subtypes: (1) Establishing operations related to reinforcement, (2) abolishing operations related to reinforcement, (3) establishing operations related to aversive consequences, and (4) abolishing operations related to aversive consequences. From this definition we have four subtypes of MOs in the online purchase setting (fig. 1).

Value-altering effect \ Behavior altering effect	Evocative effect on online purchase	
	Abative effect on online purchase	
Establishing operations	REINFORCER ESTABLISHING EFFECT	AVERSIVE ESTABLISHING EFFECT
Abolishing operations	AVERSIVE ABOLISHING EFFECT	REINFORCER ABOLISHING EFFECT

Fig. 1. Four subtypes of MOs in the online purchase setting

Fig. 1 shows that MOs have two effects on consumer’s purchase response online, the *evocative effect* and the *abative effect*. These two motive effects on online purchase behavior will now be explained, and examples related to the impact of verbal stimuli on motivating consumer response at the point of purchase situation are given.

¹ To avoid unnecessary complication, the term motivating operations (MO) is in the present paper sometimes used to refer to events that were originally described by Michael as establishing operations.

2.2 Verbal Motivating Stimuli at the Point of Purchase Situation

Consumers' contingency-shaped behavior is behavior that has been shaped by its consequences. An example: a consumer learns to browse on the Internet through trial and success. However, what consumers do sometimes depends on what they are told to do. Consumers often follow recommendations from friends (word of mouth), online advertisements, customer product reviews, online instructions etc. Behavior which is mainly determined by verbal antecedents is defined as rule-governed behavior [8, 16]. Zettle and Hayes [16] argue that an understanding of the listener should lead to an understanding of the speaker. They define three main functional units of listeners' behavior: (1) *Pliance* (taken from the word compliance) is that the listener follows a verbal rule based on a history of socially mediated consequences for the correspondence between the rule and the rule-follower's behavior. (2) *Tracking* is rule-governed behavior under the control of a history of correspondence between the rule and "natural" social or non-social contingencies. Natural contingencies are those produced entirely by the exact form of the behavior in a particular setting. (3) *Augmenting* is defined as rule-governed behavior that alters the extent to which some event will function as a consequence.

There are two types of augmentals: (1) *motivative augmentals* which are rules that increase the value of an event that is already a functional consequence. A motivative augmental is simply an antecedent verbal stimulus that has an evocative or abative effect on consumer purchase behavior. Motivative augmentals in an online shopping setting can be the following message – "What about a holiday in Paris?" (2) *Formative augmentals* establish some new events as an important consequence. An example of a formal augmental is a message that says "booking flight ticket on the internet now gives you more frequent flyer points". It is obvious that augmentals have an important motivative function relate to consumer's purchase behavior online, and its evocative and abative effect on online purchase will therefore be more thoroughly explained.

The evocative effect. The evocative effect represents an increase in online purchase and is caused by reinforcer establishing effects and/or aversive abolishing effects. One operation that has an evocative effect on online purchase is the reinforcer establishing effect, which increases the reinforcing value of purchase and consequences of consumption. An example related to the reinforcer establishing effect can be that a person goes to a web shop, finds a product, and puts the product in the basket and then goes to confirm the order. If the person sees that this particular product has been given a good rate by other customers it will probably have a reinforcing establishing effect on the consequence of confirming the order. Other events that may have reinforcer establishing effect on purchase behavior online could be scores in a product test (e.g., "this TV emerged as the test winner"), extended product use (e.g., "this mobile phone can also be used as an mp3 player"), sponsoring (e.g., "when purchasing the product online you support Red Cross and their humanitarian projects").

The other operation that has an evocative effect on online purchase behavior is the aversive abolishing effect, which decreases the aversive consequences of purchase and consumption. An example of aversive abolishing events on the web shop could be

that the company offers account payment (e.g., “buy online now, and pay later”). Account payment will probably have an abolishing effect on the aversive consequences of purchasing. Another event that may also have abolishing effect on the aversive consequence of purchasing could be shipment (e.g., “buy online and get free freight”).

The abative effect. The abative effect represents a reduction in online purchase and is caused by reinforcer abolishing effects and/or aversive establishing effects. The aversive establishing effect is the operation that has an abative effect on online purchase, and is defined as an operation that increases the aversive consequences of purchase and consumption. An example related to the aversive establishing effect can be that a person goes to a web shop, finds a product, and puts the product in the basket and then goes to confirm the order. If the person sees that the shipment costs for the product is high it will probably have an establishing effect on the aversive consequence of purchasing. Another example of events that may increase the aversive consequences of purchase and consumption could be sales tax (e.g., “when purchasing the product online 25 % tax must be added”).

The other operation that has an abative effect on online purchase is the reinforcing abolishing effect, which decreases the reinforcing consequences of purchase and consumption. An example of reinforcing abolishing events on the web shop could be that the product has been bad rated in a product test. The bad product rating will probably evoke avoidance behavior related to the confirming order setting. Other events that may have a reinforcing abolishing effect on online purchase and consumption could be bad product rating by other customers.

3 Methodological Implication

In the introduction to this paper I distinguish between structural studies and functional analysis of online consumer behavior. In a structural study the relations between stimuli and responses are constant while varying critical properties of one or the other [8]. A functional analysis holds the stimuli and responses of interest constant while changing their relations. In the discussion above about MOs in the point of purchase setting online we hold the verbal stimuli and responses constant, but change their relations by looking at events that have establishing or abolishing effects on the reinforcing or aversive consequences of purchase behavior. Structure and function are complementary, not mutually exclusive. There is no reason why structural concerns should not enter into functional experiments, or vice versa [8]. Cognitivists prefer to summarize the organization of the consumer's behavior in terms of structures. Behavior analysts prefer to anchor their account of consumers purchase to the detailed functional relations between observable events.

Empirical evidence has been provided for the importance of MO in other areas. One challenge related to consumption is to what extent it is possible to do research on motivational operations in the complex world of contingencies and motivational variables. A solution to this challenge could be to accomplish research on MOs in an online purchase setting. By creating a simulated online store it would be possible in a PC lab to arrange variables and record responses in a way that is difficult to

accomplish in a traditional shopping setting [see e.g. 17]. One experiment that could be accomplished in order to study the function of MO is to design different motivating events (e.g. product rating, special offers, payment, product delivery) in simulated online stores. Participants' retention at each stage of the shopping process could be recorded through clickstreaming as participants move through the site, and finally the conversion rate for a site could be recorded. The behavioral analytic framework gives a unique possibility to study actual online consumer behavior in a sophisticated way which is difficult by more popular structural frameworks like cognitive attitude theories.

4 Conclusion

In the experimental analysis of consumer behavior, the behavior analytic paradigm has proven to be an insightful approach[18], and this paper has tried to show that it can also be an insightful way to explore verbal stimuli that have a motivative impact on consumers at the point of purchase situation. The behavior analytic paradigm describes the basic operant procedure as a three-term contingency involving pre-behavioral stimulus, response and consequence.

Consumer motivation to confirm order online can be analyzed from the concept of motivating operation, which are those antecedents in the environmental setting that influence consequences of responding. MOs have two effects on consumer's purchase response online, the evocative effect and the abative effect. The evocative effect is a result of an establishing reinforcing effect and/or abolishing aversive effect on the consequence of purchase and consumption. The abative effect is a result of abolishing reinforcing effect and/or establishing aversive effect on the consequence of purchase and consumption.

Cognitivists prefer to summarize the organization of the consumer's behavior in terms of structures. Behavior analysts prefer to anchor their account of consumers purchase to the detailed functional relations between observable events. Structure and function are complementary, not mutually exclusive. There is no reason why structural concerns should not enter into functional experiments, or vice versa.

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