

# The Potential of Inoculation in Reducing Post-Purchase Dissonance: Reinforcement of Purchase Behavior

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## Abstract

*We apply a classic theory, inoculation, to a domain in need of more theory-based approaches: advertising. Specifically, we focus on consumer attitudes during the final stage of a purchase decision-making process. The greatest challenge in securing customer satisfaction and retention occurs **after** individuals chose among close alternatives. We highlight the strengths and weaknesses of traditional post-decision marketing strategies—supportive messages and extrinsic motivation—and then propose an alternative preemptive approach: inoculation. We argue that inoculation is better suited to combat post-purchase dissonance and is more likely to create post-purchase satisfaction and reinforce product repurchase through its effects on consumer attitudes.*

## Introduction

Advertising benefits from theory-based scholarship (see Berthon, Caruana, Berthon, & Pitt, 2005), and communication and social cognition theories offer valuable insight. Consider, for example, inoculation theory. After a robust period following its launch in the early 1960s (see McGuire, 1964), applications of inoculation into politics, health, and commerce began with full force in the late 1980s. But even then, the gauge of inoculation efficacy usually consisted of attitudes just after an attack, treating inoculation as a pre-decision strategy (e.g., for whom to vote or which products to purchase). But what of challenges that occur post-decision?

Consider post-purchase dissonance. Long ago commercial campaigners discovered that “all product- or service-purchasing decisions made by consumers are based on satisfying a want or

need” (Schultz & Tannenbaum, 1989, p. 39). Disposition toward a purchase determines consumers’ need for information (Pfau & Parrott, 1992). Outside of impulse purchases, consumers seldom make decisions (especially highly involving ones) instantaneously, but rather gradually work through clearly definable decision-making stages (Andreasen, 1995; Maibach & Cotton, 1995). Regardless of the model used, the final stage is critical to the campaign. Here’s why: Consumers experience distress after making certain purchases, and this distress can alter positive attitudes toward the product, raising challenges to advertising campaigns. Even if a consumer is led toward a particular product to meet a particular want or need—and, perhaps even inoculated against competitors’ claims *prior* to the decision-making process—the consumer may reconsider and change attitudes, or even alter behaviors (e.g., return the product, tell others about the dissatisfaction), *after* the purchase decision. Neglecting this phase is risky. Andreasen (1995) explains:

Waiting for customers to stop buying or patronizing a service before taking an action on a problem is extremely poor management...that can have a highly ripple effect...The marketing literature makes it very clear that, while consumers may tell two or three others about a pleasant consumption experience, they may tell from ten to fifteen people about an unpleasant one. (p. 281)

Hence, keeping customers’ positive attitudes toward purchased products is vital.

The 1990s highlighted that satisfaction ratings directly affect profits and retention rates (e.g., Jones & Sasser, 1995). In fact, a number of firms in this period invested a large amount of resources to examine the relationship between customer satisfaction and retention rates (e.g., Bolton, 1998). The results indicated that it costs much more to gain a new customer than to retain an old one or to maintain a newly acquired one (Mittal & Kamakura, 2001; Reichheld, 1996). Reichheld (1996) points out that retaining an existing customer is approximately four times less expensive than acquiring a new one. In fact, a 1% improvement in customer retention may better the company’s value by 5% (Gupta, Lehmann, & Stuart, 2004). In addition, a 5% increase in customer retention typically results in a 75% increase in lifetime profits from a single customer (Reichheld, 1996). Consequently, maintaining or retaining the customer base may be of paramount importance to companies, a conclusion that heightens the importance of the final stage of purchase decision models. So, what can be done in a consumer advertising campaign to effectively retain current customers, induce satisfaction, and encourage future purchases?

To explore these issues, we examine the efficacy of inoculation theory as a preventative and/or reduction strategy for post-purchase decision dissonance, turning to inoculations' effects on consumer attitudes. In the process, we examine purchase decision reinforcement approaches commonly used in consumer advertising campaigns to assess their strengths and point out their shortcomings. We propose that an inoculation approach addresses shortcomings of extant dissonance-reducing strategies to better secure consumer attitudes.

Notably, the approach of a theory paper differs from an empirical investigation. The strength of our analysis depends on a rigorous examination of inoculation theory's tenets, and tests for our claims will be based on theoretical consistency and theory parameters. Of course, in this theory analysis, we will not analyze data as we would in an empirical experiment. Instead, our data emerges from our explication of variables in the inoculation process as well as our analysis of scholarship connected to post-purchase decision dissonance. In follow-up projects, we will test our claims with experimental research, and we hope we are joined by other colleagues doing research that stems from the propositions we offer here. At this stage, we submit in this essay our theoretical case for extending inoculation to the post-purchase reinforcement domain by offering theory-supported propositions (see, for example, Compton & Pfau, 2009).

### **Current Purchase Reinforcement Approaches**

Two reinforcement approaches (rewards and supportive advertising) dominate commercial campaign efforts to secure customer satisfaction and encourage repeat purchases. These approaches are grounded in two theories: *behavioral modification* and *cognitive dissonance* (Andreasen, 1995). A rewards approach is based on *behavioral modification*. This theory states that most behavior change occurs as a result of factors before and after a purchase (Andreasen, 1995). Post-purchase factors place "...emphases on the role of post purchase contingencies in *reinforcing* desired behavior...[O]ther things equal, people tend to repeat behaviors they find rewarding" (Andreasen, 1995, p. 165, italics in the original). Numerous companies have implemented reinforcement strategies in the form of purchase rewards, such as short-term purchase discounts, reduced shipping charges, or loyalty programs (Lewis, 2004). Indeed, loyalty programs have been among the most popular retention tools in a number of diverse industries such as airline, retailing, gaming, and financial services (Deighton, 2000; Lewis, 2004).

Yet, the success of such programs in increasing customer retention has been equivocal (Dowling & Uncles, 1997; Lewis, 2004). Most do not provide information about why current customers are not likely to repeat their purchases (DiMarco, 2004). Mittal and Katrichis (2000) claim that "many firms ...attract customers based on economic rewards, but fail to retain them because the key drivers of their satisfaction might not be the economic rewards offered" (p. 28). Hence, external purchase motivation in the form of extrinsic rewards may not always be most effective. Internal motivation or intrinsic rewards may be just as important if not more important in securing customer loyalty, post purchase satisfaction, and ultimately repeat purchases.

The second purchase reinforcement approach most often used in consumer advertising campaigns is supportive advertising. This approach overcomes some of the shortcomings of extrinsic rewards in generating customer satisfaction and repurchase behavior by focusing on internal repurchase motivators elicited by cognitive dissonance. Cognitive dissonance theory states that when consumers make difficult and especially high involving purchase decisions between or among close alternatives, they experience discomfort (see Festinger, 1957). Andreasen (1995) explains it this way:

In this condition, consumers realize that they have declared a preference where only minutes before the choices were relatively close. At this point, two cognitions, that are in conflict (*the choices were close* and *I committed to one of them*) produce a state of anxiety or dissonance. This dissonance leads consumers—among other steps—to eagerly seek confirmation that they did the right thing. (p. 164, italics in the original)

Festinger (1957) hypothesized that cognitive dissonance will occur every time a difficult and highly involving decision is made between or among close alternatives. This is particularly relevant when choosing between or among similar brands or products.

Support for Festinger's hypothesis can be found in literature illustrating dissonance after difficult choices stemming from awareness of close alternatives (e.g., Donnelly & Ivancevich, 1970; Ehrlich, Guttman, Schonbach, & Mills, 1957; Mills, 1965). To reduce dissonance, the consumer is likely to seek out supportive advertising messages that would "help the consumer come to a conclusion that the choice was correct, that is, to help reduce the cognitive dissonance resulting from the choice" (Andreasen, 1995, p. 164). This expectation was confirmed by researchers who discovered new car owners sought out dissonance-reducing information (Ehrlich et al., 1957; Engel, 1963). Mills (1965) showed that consumers preferred to read advertisements that supported their chosen product to advertisements that supported alternative choices. Donnelly and Ivancevich (1970) found post-purchase dissonance caused buyers to back out of a car purchase more often when they did not receive dissonance-reducing information.

Accordingly, a supportive advertising message induces product repurchase and customer loyalty by reducing dissonance, thus providing another approach, in addition to extrinsic rewards, to reinforcing a purchase. It is important to mention that the success rate of supportive advertising message would highly depend on the customer's level of involvement, as well as the product's frequency of purchase and choice difficulty. In lower involving, less difficult, and more frequent product purchases, dissonance may not be aroused; hence, the effectiveness of supportive advertising messages may be small (Oshikawa, 1969). However, in highly involving, more difficult and less frequent purchases, cognitive dissonance is likely to be aroused and the effectiveness of supportive advertising messages is likely to be enhanced (Oshikawa, 1969). Thus, it can be deduced that during the post-decision stage, campaigners should rely on supportive advertising messages that will reinforce the soundness of the consumer purchase made by emphasizing the positive attributes of the product and the purchase choice.

Using supportive messages as reinforcement in the post-decision stage has advantages, but it also has significant disadvantages. As previously mentioned, cognitive dissonance may arise for a number of different reasons. The most intriguing and relevant one to advertising is cognitive dissonance created after an important and difficult purchase decision has been made between or among close and similar alternatives. When this type of dissonance is aroused, supportive advertising messages can be effective in reducing dissonance and inducing product repurchase, satisfaction, and loyalty. However, as mentioned, this is not the only type of dissonance that may occur in the mind of the customer. Furthermore, effectiveness of supportive advertising messages erodes with time, a challenge compounded by competitor advertising (Oshikawa, 1969).

Another possible reason for the reduced effectiveness of supportive messages may be *cognitive intrusion* (Straits, 1964). Cognitive intrusion occurs when a new piece of information about the purchase or its alternatives, which was not available to the consumer during or before the purchase, is encountered post-purchase (Straits, 1964). This new piece of information intrudes on the buyer's cognitive structure already in place (Oshikawa, 1969). This intruding piece of new information can be generated by competitors via comparative advertising. It generates a new form of dissonance (cognitive intrusion) in the consumer, and this type of dissonance is not often accounted for in supportive advertising messages. Hence, supportive advertising messages, albeit valuable in reducing post-purchase dissonance from a selection made over its alternatives, may be limited in reinforcing repeat purchase, customer satisfaction, and customer loyalty.

Consequently, both reinforcement approaches have shortcomings that limit their effectiveness. External economic rewards may not be strong motivators for some consumers and may be expensive. Supportive messages overcome the shortcomings of extrinsic rewards by intrinsically reinforcing a product purchase; however, the effectiveness of these messages is likely to erode over time when faced with competitors' attacks and/or cognitively intrusive information. Is there an alternative approach to retain the advantage of supportive messages in overcoming the shortcomings of extrinsic rewards, and at the same time resist the negative impact that time (via message erosion) and competition (via attack messages laden with cognitively-intrusive information) exert? We argue that inoculation theory offers a superior, alternative approach.

### **Inoculation Theory**

Inoculation theory emerged as an unexpected outcome from earlier studies that discovered two-sided messages could confer stronger resistance to persuasive messages when compared to one-sided supportive messages (e.g., Lumsdaine & Janis, 1953). William McGuire used this outcome as a springboard for what would become a robust research program (McGuire, 1964).

Inoculation theory proposes two mechanisms responsible for conferring resistance in two-sided messages: *threat* and *counterarguing* (Compton & Pfau, 2005). In order to increase a person's resistance to a challenge (e.g., competitor attack) against a current attitude (or belief, opinion, behavior; but henceforth referred to only as attitude), inoculation theory states that the attitude of interest has to first be in place in

order for it to be protected, since inoculation cannot protect attitudes that do not yet exist. After confirming that the attitude is already in place, the next step is to make the individual aware of the vulnerability of his or her attitude. To strengthen the threat component of the inoculation message, increase the perceived vulnerability of the attitude, and provide real evidence of likely attacks, the inoculation messages, via its *refutational preemption* component, provides counterarguments attacking the attitude in place, but then subsequently refutes and overwhelms the counterarguments with strong evidence. Additionally, inoculation messages can bolster *threat* by explicitly forewarning individuals of the vulnerability of, and the likelihood of facing challenges to, current attitudes. Together, *threat* and *refutational preemption* components of the message motivate strengthening the current attitude (through threat), and provide specific material and guided practice (through refutational preemption) to aid the active process of counterarguing, conferring resistance to future challenges (McGuire, 1964).

Applying two-sided message approaches to protect against competitors' attacks during campaigns is not new (e.g., Allen et al., 1970; Ivanov, Pfau, & Parker, 2009b). Some have even considered inoculation. Bither, Dolich, and Nell (1971) stated advertisers should be able to inoculate against competitors' attacks, and research on comparative advertising confirmed effectiveness of two-sided messages in advertising (e.g., Ivanov, Pfau, & Parker, 2009b; Kamins & Asseal, 1987; Pfau, 1992). Of note, most of these studies only assumed the presence of threat, so we are unable to assess whether the two-sided messages (or comparative advertising) functioned as inoculation (for exceptions, see Ivanov, Pfau, & Parker, 2009b; Pfau, 1992).

Szybillo and Heslin (1973) conducted a seminal study of resistance and marketing. In their research, an inoculation-based message was found to confer resistance to attack advertisements against a belief: support for airbags in vehicles. Consequently, Szybillo and Heslin conclude that "...inoculation [as a two-sided message strategy] may prove to be a useful conceptual framework to the advertiser or marketing specialist formulating advertising strategy" (1973, p. 403). Although Szybillo and Heslin's work advanced understanding of resistance and marketing, many unanswered questions remain. First, consistent with much of the early work with inoculation (McGuire, 1964), they tested effects on beliefs and not on attitudes. Second, like most inoculation scholarship prior to the late 1980s, the researchers did not directly measure elicited threat and/or counterarguing, and threat is a requisite for inoculation (Compton & Pfau, 2005). Finally, while Szybillo and Heslin failed to find differences in terms of timing (30 minutes vs. 3 days), most contemporary inoculation research extends timing to at least two weeks between treatment and attack. As Szybillo and Heslin (1973) note, they may not have assessed issues of timing with a long enough delay.

One other issue raised by the Szybillo and Heslin (1973) piece is whether an advertiser must know at least some of the attacks to be raised for optimum efficacy. Szybillo and Heslin's (1973) data could be interpreted to suggest such a conclusion. However, we are proposing an extension of inoculation that moves beyond refutations of explicit counterarguments and into more general challenges to attitudes. That is, decades

of study reveal post-purchase dissonance, and we argue that such dissonance is an attack on attitudes, in general, and that inoculation can confer resistance, in general, to subsequent attitude change—even against the “attack” of post-purchase dissonance, which may or may not overtly refute explicit attacks launched by competitors.

What is also unclear is whether inoculation has efficacy past the point of purchase. Would inoculation messages work as well or better than supportive messages to reinforce a purchase and protect consumers from cognitive intrusion generated by competitive attacks and other sources of dissonance, post-purchase? Could inoculation-informed messages help overcome erosion between message dissemination and actual repurchase? To answer these questions, we must isolate some of the features of inoculation approaches to compare messages strategies.

### **Supportive vs. Inoculation Reinforcement Messages and Cognitive Intrusion**

The ability for advertising messages to protect individuals from competitors’ attacks can be important in combating cognitive intrusion. The effectiveness of supportive and inoculation messages to confer resistance to persuasive counterattitudinal (or attack) messages has been tested in the past (e.g., Ivanov, Pfau, & Parker, 2009b; Pfau, 1992). It is important to note that, in each of these studies, the researchers were interested in protecting attitudes prior to a purchase or to protect global attitudes irrespective of a purchase decision. In general, findings indicated supportive messages generate bolstering attitude defenses by providing good reasons for why the attitudes are in place and why they are important. The success of supportive messages is greatly dependent on the motivation of receivers to generate more bolstering material for support. Yet, because vulnerability is not made salient, generating motivation to bolster defenses is difficult.

Supportive messages have some established efficacy in conferring resistance (e.g., Ivanov, Pfau, & Parker, 2009b; McGuire, 1961). To trigger the robust process of inoculation—to raise and refute additional counterarguments—individuals must experience threat. Because supportive messages work independent of threat, effects of supportive messages may be short-lived, rendering the individual less prepared to defend the attitude against cognitively intrusive information later encountered. A supportive message might result in a paper tiger effect—a position that seems strong, but falls when challenged (see Janis & Lumsdaine, 1953).

In contrast to supportive messages, inoculation messages are refutational and challenge attitudes in place. As such, inoculation messages act as motivators for recipients to generate more defenses in a direct response to the threat and counterarguing examples (or practice) embedded in the message. In contrast to supporting messages, inoculation provides recipients with motivation to defend attitudes against attacks. The inclusion of threat makes a profound difference. Indeed, the primary strength of the inoculation message resides in its capacity to protect an attitude against counterattitudinal challenges that feature message content not previously encountered in the defense of the attitude (McGuire, 1964),

and inoculation messages are equally effective in protecting attitudes against challenges raised in the inoculation message and against novel challenges (Banas & Rains, 2010). That inoculation protects against novel arguments makes inoculation a superior strategy to protect an attitude against cognitive intrusion.

Our expectation finds additional support in past findings that show inoculation messages, as opposed to supportive messages, have greater ability to protect an attitude against novel attacks (e.g., Crane, 1962; Ivanov, Pfau, & Parker, 2009b; McGuire, 1961). Based on theory and extant literature, we propose that during the post-purchase stage of a consumer advertising campaign:

*P1: Inoculation reinforcement messages are more effective than supportive reinforcement messages in combating cognitive intrusion presented in competitors’ attack message.*

### **Inoculation and Reinforcement Effect Erosion**

As with most messages (Stiff & Mangeau, 2003), reinforcement messages decay. In this respect, both supportive and inoculation messages decay over time (see Compton & Pfau, 2005). This decay is an increasing problem with longer delays between purchase and repurchase.

Actually, there are two types of decay that impact post-purchase decision attitudes. The content of the messages themselves decay, but so does the motivation to engage in counterarguing (see Compton & Pfau, 2005). Without this motivation—triggered initially by threat—the individual loses the key defense-bolstering catalyst. According to Insko, “induced motivation” to accumulate “belief-bolstering material” will decline over time following “the ordinary forgetting curve” (1967, p. 316). Inoculation treatments lose some of their potency over time (e.g., Ivanov, Pfau, & Parker, 2009a). Of course, losing potency does not mean complete ineffectiveness. In fact, inoculation messages have been found to provide attitude protection beyond a period of one year (see Pfau & Van Bockern, 1994)—a particularly important finding when considering potential effects of inoculation on post-purchase behaviors, such as repurchase.

Compared over the same period of time, inoculation messages have been found to create greater resistance to counterattitudinal pressures when compared to supportive messages (e.g., Ivanov, Pfau, & Parker, 2009b). Consequently, although some reinforcement erosion is likely to occur, both supportive and inoculation reinforcement message should prove effective in protecting the purchase decision. Based on extant literature, we propose:

*P2: Inoculation reinforcement messages are more effective than supportive reinforcement messages in combating reinforcement effect erosion during time delay between advertisement dissemination and actual repurchase.*

Accordingly, inoculation reinforcement messages may be best suited to combat dissonance generated by cognitive intrusion during the maintenance stage. Because of their ability to generate defenses against attacks, inoculation messages may offer the best reinforcement strategy with products for which

repurchase is not as frequent (such as cars) in order to combat reinforcement erosion. By motivating consumers to generate their own defenses, inoculation can extend reinforcement message effectiveness, rendering this message type most useful in reinforcing a repurchase behavior as well as satisfaction with the current purchase. In fact, because the inoculation messages may generate better defenses against attacks over time (Pfau, 1992), inoculation messages may provide greater satisfaction with a purchase when compared to supportive messages. Hence, we propose:

*P3: Over time, inoculation reinforcement messages maintain greater purchase satisfaction than supportive reinforcement messages.*

Furthermore, as previously stated, greater satisfaction leads to higher customer retention (Jones & Sasser, 1995; Mittal & Kamakura, 2001; Reichheld, 1996) and more repeat purchases. Accordingly, we propose:

*P4: Inoculation reinforcement messages generate greater customer repeat purchase intent than supportive reinforcement messages.*

## Discussion

In this essay, we focused on the importance of ensuring buyer satisfaction with a chosen purchase selected among close alternatives. The satisfaction with the purchase may have important implications for an organization. Individuals who become dissatisfied with their selection from a pool of close alternatives are more likely to switch to an alternative in the future. This switch negatively impacts the organization (Reichheld, 1996) and risks negative word-of-mouth communication with others (Andreasen, 1995). Consequently, improving customer retention rates and ensuring product repurchase by increasing purchase satisfaction can be of great importance to an organization (Reichheld, 1996).

To ensure purchase satisfaction and future product repurchase, the commercial campaigner must pay careful attention to the final stage (confirmation, maintenance or post decision) of the decision-making process. More specifically, the commercial campaigner must select the best approach to reinforce the soundness of the purchase made in order to generate purchase satisfaction and future product repurchase. In this essay we explored theoretical rationales of two reinforcement strategies in commercial campaigns: extrinsic (i.e., rewards) and intrinsic (supportive messages or advertising), then proposed a preemptive inoculation theory-based campaign strategy as a better option. Extrinsic strategies such as rewards are complicated by expense and neglect of internal motivation (e.g., Andreason, 1995); supportive strategies that emphasize intrinsic motivation are weakened by time (e.g., Stiff & Mangeau, 2003) and can fail to account for competitor attacks using novel challenges.

We propose an alternative intrinsically motivating preemptive approach to supportive message reinforcement in the form of inoculation message reinforcement. Inoculation messages are better positioned to combat cognitively intrusive information compared to supportive messages as inoculation messages are designed to motivate and train individuals to self-

arm with defense and defending practice that can serve them well when encountering novel cognitively intrusive information. In addition, inoculation messages have been shown to be more effective in protecting attitudes over extended period of time (e.g., Ivanov, Pfau, & Parker, 2009b). Furthermore, Ivanov and colleagues' (2009a) findings may have provided a window in the effectiveness of supportive and inoculation strategies over time and in the face of multiple competitor challenges built on novel cognitively intrusive arguments. They provided evidence of the superiority of inoculation over supportive messages with attitude protection when subjected to a two-week delayed initial attack as well as another two-week delayed follow-up attack. Although potency of both message types in attitude protection slightly (but significantly) suffered from the second attack (possibly a result of message and motivation decay), inoculation messages were more effective than supportive messages in protecting attitudes after each attack.

Drawing from the arguments and evidence presented here, we propose that inoculation can serve as useful preemptive tool for reinforcing product purchase by increasing purchase satisfaction. We argue inoculation messages provide a less expensive and a more potent, intrinsically motivating approach to contest post-purchase dissonance and dissatisfaction. Our propositions are offered in this theoretical essay to invite scrutiny and dialogue. Eventually, of course, each warrants empirical investigation. Future empirical investigations will employ rigorous methodology to assess the theoretical extensions we push forward in this work. Until then, we submit our analysis for discussion.

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