Happy grocery shopper: The creation of positive emotions through affective digital signage content

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ABSTRACT

Recent research has identified digital signage (DS) as a promising element for creating atmospheric value. However, extant studies have explored shoppers’ reactions to DS showing advertising content in hedonic shopping environments. Considering the potential of utilitarian shopping situations to evoke negative emotions, the current research investigates whether DS positively affects consumers’ responses in task-oriented shopping situations. In doing so, it incorporates assumptions from the limited capacity model and resource matching theory into a theoretical framework to explain how task-relevant DS content influences impulse purchases and store loyalty. This relationship is mediated by emotional and cognitive processes. By drawing on findings from prior studies, this research further differentiates the effects of cognitive, affective, and mixed DS content on consumer responses. A field experiment tests the theoretically derived responses. The findings suggest that affective DS content creates positive emotions and increases impulsive purchases and store loyalty.

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1. Introduction

Considering the tremendous influence of a store's physical appearance on shoppers' behavior, retailers spend huge amounts of money to create extraordinary shopping experiences. For example, in 2013 Macy's invested US$400 million in the makeover of its flagship store in Manhattan (Satow, 2013). Another example is the M&M's World mega-store in London Leicester Square, for which Mars invested approximately US$14 million (Couchman, 2011). Even more indicative of this type of spending is Nordstrom's estimated costs of US$1.1 billion for both its flagship store in Manhattan and expansion to Canada in its five-year capital plan running through 2016 (Tu, 2016).

Both practical examples and academic research underscore the importance of in-store elements on consumers' purchase decisions at the point of sale (PoS) (Inman et al., 2009). For example, the store environment can influence and increase impulse purchases (Mohan et al., 2013). Confirming the importance of impulsive buying behavior, trademark statistics indicate that 70% of Coca-Cola beverages are purchased on impulse (Karmali, 2007). At the retail level, a Canadian retail chain reports an increase in profitability if each shopper purchases another item on impulse (Babin and Attaway, 2000).

Store elements not only trigger impulse purchases but also positively affect long-term consequences, such as store loyalty (Walsh et al., 2011) and store image (Baker et al., 1992). Mazursky and Jacoby (1986) demonstrate that consumers rely on environmental cues, such as interior design, for store evaluations. In another study, Baker et al. (1992) describes additional empirical evidence for the importance of the store environment for image creation.

Data are mixed, however, as to whether in-store elements directly or indirectly affect outcome variables. Whereas the former position postulates a spontaneous reaction of customers to environmental stimuli, the latter position advocates a more elaborate consumer decision process. Numerous studies propose that emotions mediate the relationship between specific in-store elements and consumer responses (Donovan et al., 1994; Mohan et al., 2013; Walsh et al., 2011). For this reason, many retailers selling hedonic products rely on experiential retailing strategies to offer emotional value. In contrast to functional (utilitarian) products which offer cognitive benefits (Woods, 1960), hedonic products primarily serve affective or sensory gratification purposes.

For instance, children can choose and name their bears in Build-A-Bear stores, and they can touch and play with them and add individual sounds by the use of interactive displays. American Girl pursue a similar strategy; girls can have lifelike experiences with their dolls by joining a dolls’ hairdressing salon or going to the theater with their dolls. Bass Pro Shops offer varying experiences such as taking pictures in Santa’s Wonderland or aquariums with re-creations of wildlife scenes (Krafft and Mantrala, 2006). Based on these practical examples, it can be concluded that the most impressive experiential strategies are offered by retailers selling hedonic products. In supporting this line of thinking, Kim (2001) notes that experiential retailing is a promising strategy for merchandising business such as apparel or home furnishing stores. Previous reports have acknowledge that consumers seek entertainment

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and stimulation in hedonic shopping situations (Babin et al., 1994). However, too many stimuli likely overload and confuse shoppers in utilitarian shopping situations (Garaus et al., 2015; Kalachteva and Weitz, 2006). Grocery shopping in particular is characterized by efficient task completion (such as the purchase of a product or attainment of information) (Babin et al., 1994) and is mainly functional and associated with work. Thus, stimuli that are too arousing can negatively affect purchase intention and frequency of visits in grocery retailing (Milliman, 1982). Even worse, many negative emotions are evoked during grocery shopping (Machleit and Eroglu, 2000).

Against this background, the creation of pleasant, task-oriented store environments that offer emotional value without distracting shoppers from their shopping task is challenging for grocery retailers. Despite this knowledge, research that concentrates on the creation of positive task-oriented shopping experiences is scarce (Yim et al., 2014). Considering the tremendous influence of positive emotions on in-store behavior (Baker et al., 1992; Donovan et al., 1994), the identification of in-store elements that both evoke positive and avoid negative emotions in utilitarian shopping situations would provide valuable implications for retailers. The current research recognizes digital signage (DS) systems as an in-store tool offering emotional value while showing information relevant to the shopping task itself.

A DS system is a private screen network that displays any kind of content (such as advertisements or news; (Dennis et al., 2012)). Compared with traditional PoS media, DS seems to be more beneficial as it displays dynamic content that attracts more attention than static stimuli; this is especially important in environments in which motivation for cognitive processing is low (cf. (Li and Bukovac, 1999; Lothia et al., 2003)). Public places are increasingly using DS systems instead of static displays (Harrison and Andrusiewicz, 2004). This is especially true in urban areas in which DS has become increasingly popular because of the convenient availability of the necessary infrastructure (electricity and internet) (Grobelny and Michalski, 2011). Statistical figures confirm the rising importance of DS. A recent report (Marketandmarkets.com, 2015) forecasts a growth in the DS market from US$14.63 billion in 2014 to US$23.76 billion in 2020.

Nonetheless, both urban areas and also retailers recognize the attention potential of DS (Bauer et al., 2011). Common retailers, such as Walmart, Tesco, and Carrefour, increasingly install DS systems in their stores (Roggeveen et al., 2016). In a summary of trademark statistics based on retail data, Burke (2002) described the potential of DS to increase sales. Despite its increasing usage, studies exploring consumers’ responses to DS are scarce. One notable exception is the work of Dennis and colleagues (Dennis et al., 2014; Dennis et al., 2012; Dennis et al., 2010), who comprehensively tested the influence of DS on consumers’ responses in hedonic environments such as shopping malls and department stores (Dennis et al., 2013; Dennis et al., 2014; Dennis et al., 2012; Dennis et al., 2010). In these studies, advertisements served as content, and the results indicate that DS creates positive responses to the shopping mall, including increases in frequency of visits, revisit intentions, and spending, and positive attitudes toward the advertiser. At the retail level, a recent study highlights the potential of DS to promote sales. Among hypermarkets, DS increases long-term sales by 3% (Roggeveen et al., 2016). Considering the large sales volumes in the fast-moving consumer goods industry, this increase translates into a substantial rise in profit. Conversely, this positive effect is not observed in smaller retail formats such as supermarkets and convenience stores. A possible explanation may involve the DS content displayed in these stores. DS is mounted at three different locations (such as the entrance, checkout, and middle of the store), showing a mix of promotional content, broadcast news, quizzes, and other information. Considering that shoppers usually search for specific products when grocery shopping (Machleit and Eroglu, 2000), they might prefer information related to the shopping task itself. Otherwise, shoppers might be easily distracted and over-stimulated by non-task-related information (Wirtz et al., 2007).

Existing literature, however, lacks studies that explore how consumers respond to DS showing shopping task-related content near the promoted product. Going beyond the idea of DS as an advertisement tool, the central premise of this research is that DS showing task-related content not only increases expenditures of the promoted product but also influences long-term behavioral responses that are important for retailers to understand. Specifically, we promote the idea that DS, and in particular affective DS content, creates positive emotions and favorable cognition (such as store image and merchandise quality perceptions) in task-oriented shopping environments; in turn, these emotions and cognitions positively promote store loyalty and impulsive buying.

In line with these theoretical arguments, the overall objective of this research is to conduct a field experiment to determine two outcomes: (1) whether the presence of DS affects consumer responses in task-oriented shopping environments and (2) which task-related DS content (affective, cognitive, or mixed) evokes the most favorable responses. To gain a deeper understanding of shoppers’ emotional and behavioral reactions to DS, we differentiate among emotional processes (positive and negative emotions), cognitive processes (store image and merchandise quality perceptions), and behavioral intentions (impulsive purchases and store loyalty).

In several respects, this research extends existing studies. First, it incorporates resource matching theory into the limited capacity model of motivated mediated message processing to argue why shoppers respond positively to purchase-related DS content in task-oriented shopping situations. Second, the study expands research on DS by exploring the influence of task-related DS content on retailer-relevant outcome variables. In particular, this study agrees with previous studies by demonstrating that the presence of DS positively affects approach behavior toward the retailer. Furthermore, affective DS content exhibits a strong influence on both emotional and cognitive processes and, thus, on impulse purchases and store loyalty. Third, considering the great potential of utilitarian store environments to evoke negative emotions, the study emphasizes the importance of concentrating on in-store elements that counter negative emotions at the PoS.

The remainder of the paper proceeds in sections as follows: Section 2 offers a theoretically derived definition of DS. Section 3 outlines the underlying theories for the conceptual research framework. Section 4 differentiates between the influence of affective and cognitive DS content on emotional and cognitive processes, as well as behavioral intentions. In addition, conceptual reasoning derives the research hypotheses. Section 5 reports results of the field experiment and discusses the findings; and Section 6 describes theoretical and managerial implications as well as limitations.

2. Digital signage

Existing literature offers various DS definitions. For example, Newman et al. (Newman et al., 2010) define DS as “screens in public places that may carry a mixture of advertising (that can be similar to national television advertising or, alternatively, more specific to local retail stores and offers) and program content such as news and entertainment.” Burke (Burke, 2009) describes DS as “flat panel monitors that show a continuous loop of advertising and editorial material.” The latter definition pronounces the advertising value of DS. Finally, Dennis et al. (Dennis et al., 2010) describe DS as “screens in public places showing video.”

All of these definitions define DS on a general level but not as an in-store element that would help clarify how DS affects shoppers’ behavior. In order to overcome this drawback, this study draws on Baker’s (Baker, 1987) differentiation among ambient, design, and social factors, which reflects one of the most commonly used classification schemes of the store environment in consumer behavior research (Baker et al., 2002; Brady and Cronin, 2001). Ambient factors represent non-visible store elements such as temperature, music, and scents. Consumers

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