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The density–satisfaction relationship revisited: The role of scarcity and consumers affective reactions in a crowded retail situation

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ABSTRACT

This article examines how individuals react in crowded utilitarian settings and investigates the specific role of scarcity in the density–dissatisfaction relationship. This paper also highlights the mediating role of affective states (i.e. positive and negative) in determining consumers' satisfaction or dissatisfaction in these contexts. The results suggest that the scarcity of the situation can reduce the extent to which consumers perceive negative experiences in a dense retail situation. In addition, it supports the critical role played by affective states in mediating the relationship between density perceptions and negative reactions. The article provides potential explanations and managerial insights on how managers can deal with crowding in diverse retail and services situations.

1. Introduction

Crowding is often described as an important environmental factor in consumers' evaluations of service experiences (Eroglu and Harrell, 1986; Eroglu and Machleit, 1990; Harrell et al., 1980; Machleit et al., 2000; Rollo et al., 2009). Most of these studies underline negative consequences for consumers triggered by crowded situations (Eroglu and Machleit, 1990; Grewal et al., 2003; Machleit et al., 1994). Additionally, from a managerial standpoint, crowd management has become a growing concern. Solutions are increasingly needed to solve problems of over-capacity during service encounters such as attractions or national parks (Eastman and Land, 1997; Manning and Valliere, 2001).

Several studies (Eroglu et al., 2005; Machleit et al., 2000; Rosenbaum and Massiah, 2007; Tombs and McColl-Kennedy, 2003) suggest that the negative relationship between crowding and satisfaction, traditionally occurring in crowded encounters, may not be as simple as commonly accepted. For instance, these studies underline the importance of considering crowd origins (human: too many people vs. spatial: too little space) when interpreting results on crowd impact. They also insist on the potential moderating role of the service encounter and the shopping values at stake (leisure vs. utilitarian) as well as the mediating role played by affective states in these situations (Cottet et al., 2006; Eroglu et al., 2005; Hui and Bateson, 1991). These findings reinforce the need to consider situational variables when studying the relationship between density and satisfaction.

One potential variable that has received a relatively limited attention from researchers (Byun and Sternquist, 2012; Lynn, 1992; McGrath and Otnes, 1995; Parker and Lehmann, 2011; Tombs and McColl-Kennedy, 2003) is the extent to which the service or retail situation itself represents a scarce event for the consumer (e.g. Boxing Day, Clearance sale, grand opening, etc.). For instance, scarce shopping situations often seem to have a greater value for consumers and trigger more extreme behaviors (Holt, 1995; Madrigal, 2000; Wann et al., 2004; Wu et al., 2012). Other studies also suggest that individuals may have more preference for scarce products (Snyder, 1992; Tian et al., 2001) and are more likely to choose scarcer products (van Herpen et al., 2009). This scarcity effect has been largely described by social scientists (Walster et al., 1973; Williams et al., 1993) and economists (Leiss, 1976; Raiklin and Uyar, 1996) but more recently mentioned by marketers (Cialdini, 1995; Parker and Lehmann, 2011; Tombs and McColl-Kennedy, 2003; van Herpen et al. 2009; Wann et al., 2004).

In this context, the objectives of this study are twofold. First, the study aims at exploring the potential role that scarcity may play in crowded utilitarian retail situations. Second, it aims at clarifying the role played by affective reactions in the process leading to satisfaction/dissatisfaction in dense situations.

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2. Literature review

2.1. Crowd, density and affective reactions

As early as 1981, Booms and Bitner (1981) included people as important actors of a service delivery in their seven Ps conceptualization. In addition to traditional customer-provider interactions (Shostack, 1985), several researchers (Grove and Fisk, 1997; Iacobucci, 1998; Zeithaml et al., 2006) suggest that customer to customer interactions are in some circumstances key determinants of customer satisfaction (Bitner, 1992; Wakefield and Blodgett, 1994; Wu, 2007). In this line of research, interactions between customers are depicted as noises or disturbances occurring during the service or retail delivery (Hui et al., 1998, 1997; Schmidt et al., 1992; Whiting, 2009). This negative impact of other customers during the service/retail experience occurs when rude or unexpected behaviors from co-consumers spoil the nature of the experience; or, at a more aggregate level, when a high density of people (crowd) induces negative cues that alter this experience.

The previous retailing research made the distinction between density and crowding (Eroglu and Harrell, 1986; Eroglu and Machleit, 1990). "Density is the perception and estimate of the number of people present in a given area, the space available, and its organization, whereas crowding (which we could call affective density) is the evaluation or the judgment of that perceived density against certain standards, norms, and desired levels of interaction and information" (Rapoport, 1976, p. 136). Therefore, density plays an essential role in the evaluation of crowding and is a necessary antecedent for the experience of crowding (Pons and Laroche, 2007; Stokols, 1972; Whiting, 2009). Studies dealing with the impact of crowds in service settings support the negative impact of crowded situations on consumers' experiences (Machleit et al., 2000, 1994). Previous research demonstrated consequences on shopping satisfaction (Eroglu and Machleit, 1990; Li et al., 2009), time spent in the store (Byun and Mann, 2011; Harrell et al., 1980) and purchase intentions (Machleit et al., 2000; Wakefield and Blodgett, 1994). Indeed, in crowded situations, consumers can modify their initial plans and this can result in spending less money, leaving the store without making any purchase (Harrell et al., 1980) and avoidance behaviors (Eroglu and Machleit, 1990; Pons et al., 2006).

This consumer response to density is influenced by several factors such as personal factors, expectations, tolerance for crowding, and shopping motivation (Baker and Wakefield, 2012; Eroglu et al., 2005). For example, individuals' expectations regarding the level of density in the store can influence their perceptions of crowding (Machleit et al., 2000; Pons and Laroche, 2007). Also, they can develop different expectations depending on the store format and retail concept (Byun and Mann, 2011).

Previous research also demonstrated that the retail context can influence how individuals perceive density. Indeed, density triggers more negative consequences in task-shopping context (Eroglu and Machleit, 1990) and more utilitarian setting (Eroglu et al., 2005; Hui and Bateson, 1991; Noone and Mattila, 2009). In goods setting, the preferences of consumers follow a curvilinear pattern. There seems to be an inverted-U relationship between the level of density and the satisfaction (Eroglu et al., 2005). Indeed, consumers prefer a medium level of density in a store compared to a low or a high degree of crowding (Pan and Siemens, 2011).

Crowding models and theories present different mechanisms that explain the negative effects of density on individuals. First, high density will result in diverse behavioral constraints that will interfere with goal obtainment, restrict possible movements and reduce freedom (Stokols, 1972). Second, individuals will experience stress from the lack of control over the situation (Dion, 2004; Evans and Lepore, 1992; Schmidt and Keating, 1979). Indeed, dense environments are less predictable and consumers feel reduced control over its own experience. Their behaviors and decisions in the shopping situation are highly influenced by others (van Rompay et al., 2008). This phenomenon seems to be related to the information overload that people experience when the process the different information (Eroglu and Machleit, 1990). Finally, density will cause excessive stimulation that overwhelms sensory systems, as a result of causing overload and arousal (Evans and Lepore, 1992) and trigger unpleasant outcomes like stress, anxiety and discomfort for the individual (Baum and Epstein, 1978; Lepore, 2012; Paulus et al., 1985). Indeed, dense situations seem to decrease positive affect (Hui and Bateson, 1991; Machleit et al., 2000) and increase tension (Stokols, 1972). Previous studies in environmental psychology dealing with affective reactions to shopping environments also underline the key role of these affective states in explaining future behaviors (and satisfaction) with service encounters (Chebat, 2002; Oliver, 1997). Therefore, building on the Stimulus-Organism-Response (S-O-R) paradigm in which characteristics of the environment (density in this case) lead to approach-avoidance responses through affective reactions of the individual to the environment itself (Donovan et al., 1994), we hypothesize that affective states triggered by the dense situation will mediate the relationship between perceived density and satisfaction in a utilitarian retail situation (Machleit et al., 2000). As this mediating role lacks clear empirical support, our first hypothesis will evaluate the potential mediating role of positive and negative affective states in a utilitarian retail situation encounter.

Hypothesis 1. The higher the perceived density, (a) the lower the consumer's positive affect and (b) the higher the consumer's negative affect.

Hypothesis 2. (a) Positive affect has a positive influence on satisfaction and (b) Negative affect has a negative influence on satisfaction.

2.2. Scarcity and the density–satisfaction relationship

Services and by extension retail experiences have often been described (and distinguished from goods) in terms of inseparability, heterogeneity, intangibility and perishability (Iacobucci, 1998; Zeithaml et al., 2006). Services are simultaneously produced and consumed, and therefore cannot be stored until a point in time of greater demand. In fact, if the consumption act is postponed, the consumer has no guarantee that his/her next experience will be what she/he was expecting on the first occasion. In the case of special events such as new store openings or special and limited offers such as Boxing Day sales, a notion of rareness or scarcity of the experience is introduced. These events are only held on a limited number of occasions, thus creating potential restriction on accessibility and a demand that exceeds the offer (Lynn, 1992).

The concept of scarcity roots in economics. In fact, "*the concept of scarcity is the cornerstone of economics as a discipline*" (Raiklin and Uyar, 1996, p. 49). In the economic sense, scarcity represents the disparity between our wants and production capacities (Leiss, 1976). This production-based definition of scarcity may appear far-fetched in shopping situations; however, studies pertaining to the experience economy (Lebergott, 1993; Pine and Gilmore, 1998) broaden the definition of scarcity to include offerings that provide attractive alternate ways to spend the increasingly scarce consumers' time (Holbrook, 2000).

In business literature, scarce goods and services appear to be more valuable and to increase consumer desire to own them (Aggarwal et al., 2011; McGrath and Otnes, 1995; Wann et al., 2004; Wu et al., 2012). Cialdini (1995) describes this phenomenon as the "*scarcity effect*" in which consumers have a tendency to acquire products that are scarce or are becoming scarcer. Empirical