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# Sales impact of servicescape's emotional and rational stimuli: a survey study

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## **Abstract:**

Environmental psychologists suggest that people feelings and emotions determine what they do and how they do it. According to the stimulus organism response model (SOR), the environment creates a behavioral/emotional response in individuals that, in turn, induces approach or avoidance behaviors. We conducted survey in six stores, settled in six different Italian cities, of a Swedish-founded Dutch-based multinational group, that designs and sells ready-to-assemble furniture, kitchen appliances and home accessories. Firstly, we apply the SOR model to evaluate loyalty program participation impact on consumers receipts. Subsequently, we provide empirical evidence about the effects of an emotional-sensorial stimulus (i.e. the presence of the restaurant inside the store). Through both a non-parametric and parametric testing, we found that environmental stimuli have a positive effect in terms of sales.

**Keywords:** Servicescape; sensorial stimuli; functionality; loyalty; restaurant.

## 1. Introduction

The tendency of commercial companies to heavily invest in non-core services development can be the result of a strategy aiming to generate targeted-designed sales environments for a specific target in order to influence purchasing behavior. Environmental psychology holds that feelings or emotions are the main drivers of human behavior (Mehrabian and Russell, 1974; Donovan and Rossiter, 1982). According to Mehrabian and Russell (1974) the human reaction to environmental stimuli can be divided into three essential parts: stimuli, emotional states and two types of response (approach or avoidance). The environment (known as “servicescape” in the retailing sector) creates an emotional response in each subject and that, in turn, can boost approach or avoidance behaviors. This means that positive (approach) or negative (avoidance) attitudes towards a store are likely to be determined by the way in which environmental stimuli act on the emotional sphere of each potential buyer. According to Babin and Darden (1995), environments are not a mere background to customers’ actions but an active element able to determine and influence them. Commercial services therefore take on an important role as long as they can interact with customers by channeling the relationship between each individual and the environment (Aubert-Gamet and Cova, 1999). Through services, potential customers activate the servicescape and choose how much and how to be exposed to those stimuli (Everett et al., 1994). Retailers usually invest in various types of services (informative and hedonistic) and consumers are offered the opportunity to build their own sales environment, personalizing their relationship with it and increasing their purchasing behavior control (Jones et al., 2006). The central element in each individual-environment relationship is the consumer involvement in this relationship. The way in which consumers choose to be involved in this interaction determines the degree of environment activation, stimuli receptivity and behavioral responses. The type and level of consumers’ involvement will depend on some services features individuals decide to make use. The perceived value can also be identified with an entire purchasing and consumption process being defined gradually through the accumulation over time of past consumption experiences. Along this line, other contributions seem to be oriented (Hoolbrook and Hirshman, 1982, Babin et al., 1994, Schmitt, 1999). They essentially identify a further type of involvement with respect to Mittal and Lee’s (1989) categories that authors define as “experience involvement”. Therefore, the involvement should not be understood only with reference to products (category or brand) but also to the overall consumption and shopping experience. The involvement in shopping experiences would be represented by the value that consumers assign to this activity for being able to satisfy functional, symbolic and emotional needs. According to Foxall (2016), the different nature of commercial services (utilitarian and hedonistic) gives rise to two types of “reinforcements”. In behavioral psychology, reinforcement is defined as the consequence of a response that causes an increase in the likelihood that the same response will be repeated. Informational reinforcements take place through the offer of external rewards that belong to the economic and social sphere, while hedonistic reinforcements take place through the generation of fantasies, emotions and sensory stimulations. In the former case, stores reinforce purchasing behaviors not only providing appropriate stimuli but also some precise feedbacks on the likely consequences and meaning of the shopping task (Foxall and Greenley, 1999). In the latter case, behaviors are reinforced by offering a pleasant, relaxing and enjoyable shopping experience (Childers et al., 2001). One of the behavioral reinforcements retailers put in place to increase the level of customer loyalty (store loyalty) are loyalty programs. Loyalty programs have been defined as an integrated system of marketing actions aimed to make customers more loyal by developing personalized relationships with them (Bolton et al., 2000; Yi and Jeon, 2003). With the spread of Customer Relationship Management (CRM) policies, store managers focused their efforts more on building long-term relationships with customers since loyalty, stronger relationships and customer durability have shown to be related with high levels of cross-buying, transaction volumes and profits (Dowling and Uncles, 1997; Kumar and Shah, 2004). The Stimulus-Organism-Response model by Mehrabian and Russell may be useful in describing loyalty programs effects on consumer behavior. According to this approach, rewards (stimulus) produce internal cognitive processes such

as motivation and learning within consumers (organism) causing them to react through repeated purchases or changes in their behavior (response). Therefore, a repetition of the purchase or a change of behavior induced by reward-reinforcement effect should be positively correlated to loyalty program participation and gratification magnitude. Thereby, we test the following hypothesis:

**H1: the average receipt should be higher for loyalty cardholders than other.**

In larger stores (hypermarkets, department stores and shopping centers) customers usually spend a lot of time visiting them and enjoying their shopping experience (Wakenfield and Baker, 1998). The literature on several fields like architecture, environmental psychology and marketing started to analyze the effect of the physical environment on human behaviors (Donovan and Rossiter, 1982). Some empirical results seem to suggest that customers' reactions to surrounding environment have been severely mediated by their emotional states, especially in hedonic consumption contexts (Wakefield and Blodgett, 1996; Baker et al., 2002; Wirtz et al., 2007). According to the M-R model, the physical servicescape influences patrons emotional states as long as we assume that emotions are caused by customers exposure to specific stimuli. While most commercial services are utilitarian (when proximity, warehousing and product mix are driving motivations), lunch in a restaurant or consumption of entertainment services are more purely hedonistic and emotionally oriented services. Furthermore, the M-R model predicts that customers' responsive actions to induced emotions can be dichotomized in "approach" or "avoidance" behaviors. The former behavioral category includes all positive behaviors towards the store such as desire to stay, explore, work and affiliate. A meaningful example may be a bakery pumping the fragrance of cinnamon rolls into a major traffic area of a shopping center (Bitner, 1992). Moreover, physical signals in servicescapes can elicit other perceptual response patterns, influencing customers' judgment on the overall quality of experienced services. For example, when customers positively evaluate the internal and external store design or, through the association with other shopping experiences, consider a store brand as reliable, these stimuli can positively affect the quality of the experienced service and contribute to build an overall perception about all service aspects. Some contributions analyze physical factors influence on service quality perception (Bitner, 1992; Baker et al., 1994; Wakefield and Blodgett, 1999). Empirical results show that not only the perceptions of physical factors influence attitudes towards environment, but also beliefs about other seemingly unrelated service attributes. Essentially, such studies would confirm that customers perceptions may derive from a holistic assessment of the overall structure, including quality of other services (such as restaurants, fast-food and entertainment facilities). In this perspective, Donovan and Rossiter (1982) found that customers pleasure feelings induced by the servicescape influences sales results such as the probability of returning to the store, enjoyment of shopping and availability to talk with employees. Interestingly, they show that customers in positive mood spend more money than what initially expected. To the extent that servicescape can arouse positive feelings and emotions in patrons, it is easy to suppose that sensory stimuli in the restaurant-equipped stores can determine an approach-like response, leading us to assume the following:

**H2: the average receipt of restaurant patrons should be larger than other customers.**

## **2. Results and discussion**

Our survey was conducted in six stores, settled in six different Italian cities (Torino, Padova, Villesse, Ancona, Porta di Roma, Catania), of a Swedish-founded Dutch-based multinational group, that designs and sells ready-to-assemble furniture, kitchen appliances and home accessories. The experiment was run in two days, the 29<sup>th</sup> and 30<sup>th</sup> of march 2017. All together 1123 customers participated in the survey.

Our first research question asked whether owners of the store fidelity card perform more than non-owners. The store fidelity card guarantees a series of advantages such as special price offers, free insurance on big furniture transport, free coffee or tea at the restaurant, gastronomic specialties at reserved prices and other exclusive benefits. To the extent that they can take advantage of them,

it would be very likely that owners spend more in the store. Figure 2A depicts the average receipt for owners (YES) and for non-owners (NO). As expected, the average receipt of the members is greater and amounts to 161.73 euros although the difference with the others is less pronounced (only 16.21% more than NO). Moving the focus on distributional characteristics of receipts in Figure 2B we detect a more uniform interquartile range for YES with an only marginally higher median.

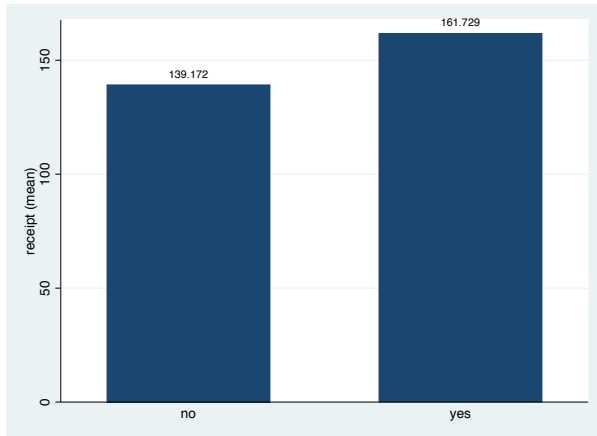


Figure 2A

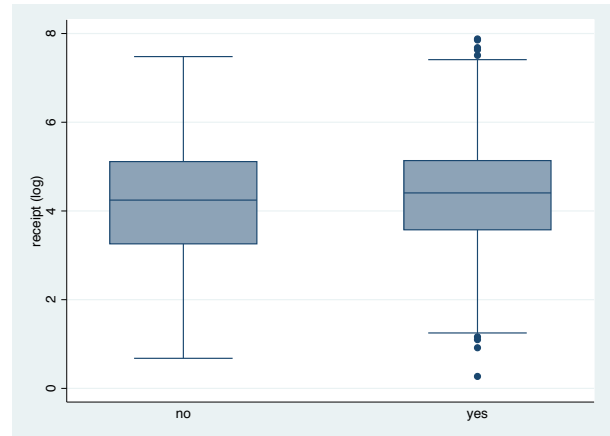


Figure 2B

The non-parametric tests results seem to confirm a significant difference between the card owners condition and NO receipts even though at lower significance levels [ $D = 0.090$ ,  $p$  value = 0.030;  $Z = -2.188$ ,  $p$  value = 0.029] whereas the probability for a YES higher receipt is equal to 54%. Substantially similar results are obtained from the ANOVA for the two groups [ $F(1,1121) = 6.34$ ,  $p$  value = 0.012] while the post-hoc Tukey test shows that receipts are significantly 19.23% higher for card owners respect to non-members.

After, we proceeded to test our second hypothesis. Figure 3A shows the average receipt for the subjects who have lunch at the restaurant (YES) and for the others (NO). We show that those who had lunch spent an average of € 194.25, i.e. 51.09% more than those who did not use the restaurant (€ 128.56). Moreover, as shown in Figure 3B, the two distributions appear to be different being the "YES" box plot higher than the counterpart. As above, a Kolmogorov-Smirnov and Wilcoxon rank sum tests were run to ascertain any significant differences. Both tests confirmed our hypothesis thus detecting a statistically proven difference [ $D = 0.142$ ,  $p$  value = 0.000;  $Z = -4.431$ ,  $p$  value = 0.000]. In particular, the probability that the YES receipt is greater than the NO one has been estimated to be approximately 58%. The ANOVA parametric analysis strongly confirmed these results [ $F(1,1121) = 20.05$ ;  $p$  value = 0.000]. Furthermore, the post-hoc pairwise comparisons test estimated a contrast of around 34% in favor of the YES receipt.

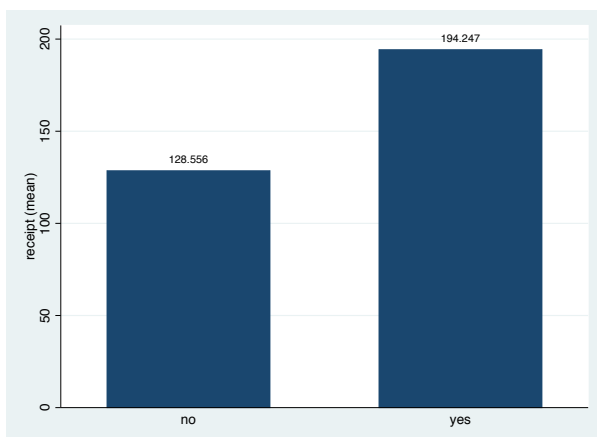


Figure 3A

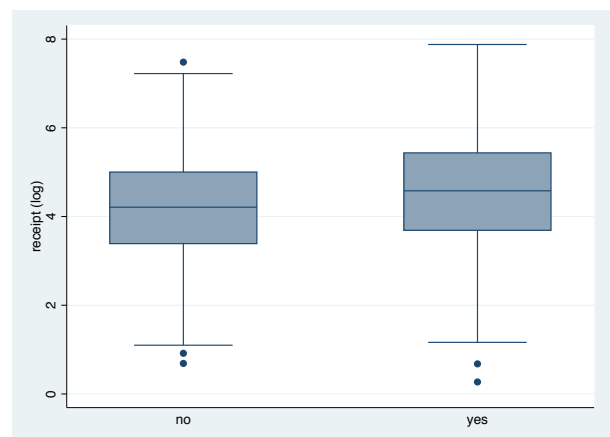


Figure 3B

Interestingly, we can further investigate on the possible interaction between being a card owners and using the restaurant (as far membership implies a greater reserved advantages take-up). In this perspective, we note that the significantly higher average receipt comes from card owners subjects that have simultaneously had lunch at the restaurant (see Figure 4A) with an average expenditure of 209.66 euros. This subjects' category seems to differ significantly from other categories (+ 39.14% compared to YES\_NO, + 69.40% compared to NO\_YES and + 55.39% compared to NO\_NO). This would imply that if we keep constant membership condition, having lunch at the restaurant increases the receipt. However, looking at box plots we get a different picture. From Figure 4B, it seems that the distributions for the card owners-restaurant combinations look different and that the YES\_YES box plot is pretty far above the others and that medians are progressively increasing across combinations.

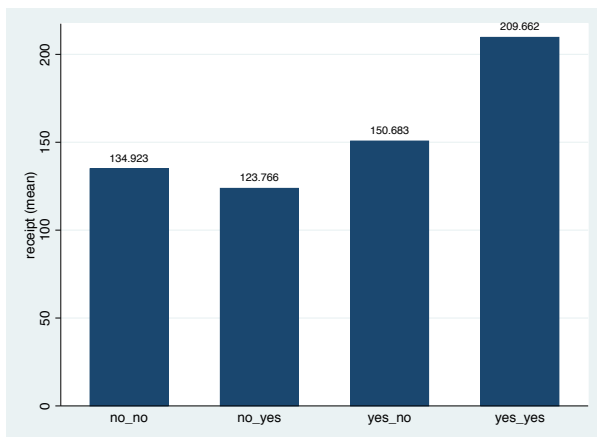


Figure 4A

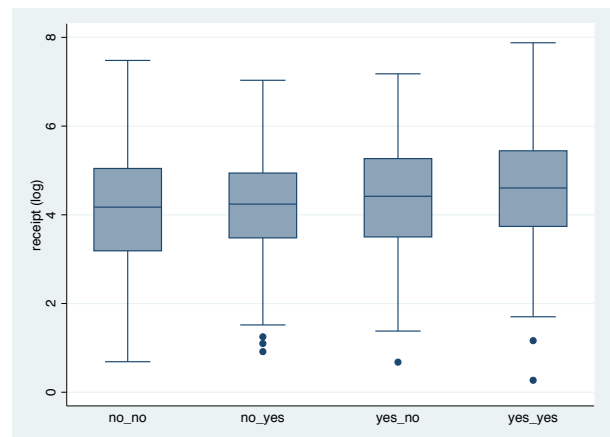


Figure 4B

Table 2A reports non-parametric tests outcomes for each possible pairwise comparison among receipt categories. Only two of them are shown to be statistically different: NO\_NO vs. YES\_YES and NO\_YES vs. YES\_YES. This give rise to the following statement: the rôle of the restaurant produces significant differences only if combined with the card owners status (YES\_YES) whereas the restaurant is not relevant when paying attention on NO\_NO vs. YES\_NO comparison. Here the non-card owners member does not seem to present a significantly higher receipt even when he had lunch compared to the opposite case (no lunch). Interestingly, being a card owners does not seem to be decisive in comparing NO\_NO vs. NO\_YES when no one among members or non-members had lunch in the restaurant. All this seems to further corroborate our hypothesis on the prominent rôle that restaurant-card owners synergy plays thus significantly affecting the average receipt.

	Kolmogorov-Smirnov Test		Wilcoxon Rank Sum Test		
	D-statistic	P value	Z-statistic	P value	P first > second
No_No vs. Yes_Yes	0.172	0.000	-4.168	0.000	0.403
Yes_No vs. Yes_Yes	0.099	0.398	-1.256	0.209	0.460
No_Yes vs. Yes_Yes	0.156	0.000	-3.789	0.000	0.418
No_No vs. Yes_No	0.123	0.179	-1.810	0.070	0.442
No_No vs. No_Yes	0.089	0.135	-1.007	0.314	0.478
No_Yes vs. Yes_No	0.120	0.170	-1.290	0.197	0.460

Table 2A

These results were also widely confirmed with ANOVA [ $F(3,1119) = 7.90$ ,  $p$  value = 0,000] and by post estimation contrasts. Mores specifically, the post-hoc test revealed that receipts were 45% higher in YES\_YES respect to NO\_NO and 35% higher respect to NO\_YES receipts (see Table 2B).

	Contrast	Std. Err.	t statistic	P value
no_yes vs. no_no	0.099	0.094	1.05	0.292
yes_no vs. no_no	0.228	0.136	1.67	0.095
yes_yes vs. no_no	0.449	0.099	4.55	0.000
yes_no vs. no_yes	0.129	0.132	0.98	0.328
yes_yes vs. no_yes	0.351	0.092	3.81	0.000
yes_yes vs. yes_no	0.222	0.135	1.64	0.102

Table 2B

### 3. Conclusion

The empirical evidence as discussed in this paper clearly shows that consumers can be induced to behave in certain ways according to atmospheric stimuli designed to purposely manage sales environments. In fact, the shopping experience in commercial enterprises should not be exclusively linked to core services but also to further areas of intervention where interaction opportunities with customers can be prompted. Their involvement can be both rational and emotional. In case of rational involvement customers are willing to assign importance mostly to some external, functional or symbolic consequences of the shopping experience. The primary functional consequence of a shopping trip is the procurement of goods consumers need, being carried out in such a way as to maximize the economic usefulness of the purchasing task, reducing its monetary and non-monetary costs. In case of emotional involvement customers are ready to concentrate more on private and personal consequences such as self-gratification, inner satisfaction and enjoyment. Environmental psychologists suggest that people feelings and emotions determine what they do and how they do it. Firstly, we apply the SOR model to evaluate loyalty program participation impact on consumers receipts. Subsequently, we provide empirical evidence about the effects of an emotional-sensorial stimulus. The emotional stimulus was manipulated as presence of the restaurant inside the store. Through both a non-parametric and parametric testing, we found that environmental stimuli have a positive effect in terms of sales. In particular, we found that both being a card owners and having lunch at the restaurant statistically increase the receipt compared to the counterparty category. Furthermore, since the card guarantees a series of advantages for consumers, we investigated on a very likely working synergy between loyalty program participation and restaurant attendance. Indeed we provide empirical evidence that not only having lunch at the restaurant and possessing the loyalty card simultaneously increase store turnover but also that this combination significantly produces the highest receipt. These results strongly suggest that with a careful and targeted service management, stores may be able to achieve high levels of economic performance through appropriate utilitarian and hedonistic environmental stimuli.

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