

Original Article

# The Influence of Space Design on Social Interactions: An Application to Private Hospitals

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Received Date: 09 October 2021  
Revised Date: 10 November 2021  
Accepted Date: 21 November 2021

**Abstract** - The objective of this article is to analyze, in a French-speaking African context, the impact of space design on social interactions in a private hospital. A quantitative study was conducted with 401 users of private hospitals. The treatments were carried out using the following software: SPSS, AMOS. The results obtained by the structural equation method reveal a positive relationship between Space Design and Consumer-Personal Contact Interaction (PCI). Similarly, for the relationship between space design and consumer-consumer interaction (CCI.)

**Keywords** - Space design, Social interaction, PKI, CCI.

## I. INTRODUCTION

The intensification of competition, the volatility of customers, and the extent of the search for hedonistic consumption by consumers lead them to adopt new behaviors and become more and more demanding. To this end, it is up to companies to enrich the content of their commercial offers to encourage consumers to have positive behavioral responses. Today, places of consumption are not simply repositories of their function of exchange of goods or services but constitute a primary space of physical, social, or more personal experiences that arouse feelings and participate in the construction of the self (Debenedetti, 2007). Indeed, insofar as "place participates fully in the creation of experience by providing the framework for action" (Ouvry and Ladwein, 2006), the experience lived by individuals appears to be strongly conditioned by their perception and evaluation of the physical environment.

Given the strategic interest of space design for marketing professionals, it is not surprising that much research has focused on its influence on consumer behavior. Notably, the work of Mencarelli (2008) However, a significant lack of empirical work exists in regards to analyzing the impact of the service environment on consumers' perceived social interaction. The importance of social interactions in service stores has been little explored, particularly customer-employee interaction and customer-customer interaction (Tran Xuan, 2020). To this end, this paper proposes to analyze not only the impact of space design on social interactions but also to study the

moderating effect of gender on the relationship between "Space design and social interactions."

How does space design influence social interactions in a private hospital?

In other words;

- What is the influence of space design on consumer-personal contact interaction?
- What is the impact of space design on the Consumer-Consumer interaction?

The objective assigned to this research is, therefore, to analyze the influence of space design on social interactions in a private hospital. To achieve this general objective, we set two (2) specific objectives:

- To analyze the influence of space design on consumer-personal contact interaction
- Then examine the influence of space design on consumer-consumer interaction.

In this article, we present first a review of the literature and the hypotheses of the research, then the methodology adopted, the results reached, and their discussion and we end with the contributions of the research.

## II. LITERATURE REVIEW AND HYPOTHESES

### A. Space design and consumer-person interaction

The work of Bitner (1992) is at the origin of the look at the role of space design in the development of social links, just like the link between the consumer and the staff. Thus, his work in 1992 highlighted the existence of a link between the components of the physical environment and the nature of social interactions. The design of the space (the layout, the arrangement of the furniture...) determines the quality of the interaction between the consumer and the staff in contact. Thus, according to Clauzel and Riché (2015), the arrangement of tables and inter-furniture spacing in the case of luxury restaurants tends to discourage interaction and minimize its duration. Also, Camelis et al. (2013) find that the intention to help will be more evident when the consumer is physically close to the staff in contact. Hence our hypothesis:



H1: Space design positively influences Consumer-Personal Contact Interaction (PCI).

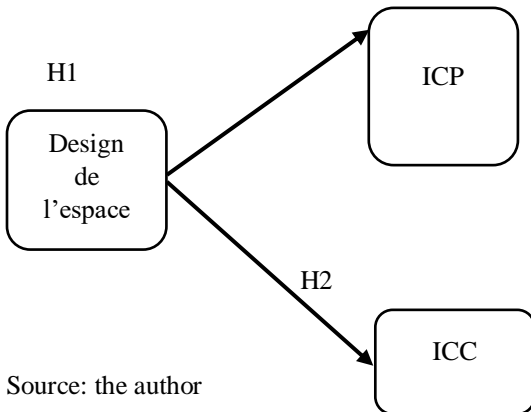
**B. Space design and consumer-consumer interaction**

The place is a space that is understood as a moderator and modulator of inter-individual relationships. It is defined as a framework that will influence the interactions

which are developed within it. Some authors, such as Clauzel and Riché (2015), support the hypothesis that friendship between consumers is based on unexpected contact and physical proximity. Similarly, Aubert-Gamet and Cova (1999) advocate the idea that the design elements of the space should be designed to facilitate oral interactions between consumers who do not know each other. This leads us to formulate the following hypothesis:

H2: Space Design positively influences Consumer-Consumer Interaction (CCI).

The conceptual model of this research that will allow us to test our different hypotheses is illustrated in Figure 1 below:



Source: the author

**Fig. 1 Conceptual research model**

CCI = Consumer-Consumer Interaction

CPI = Consumer-Contact Personnel Interaction

**III. RESEARCH METHODOLOGY**

**A. Choice of the field of study**

The objective assigned to this research is to analyze the influence of the design of the space on social interactions in a private hospital and the moderating effect of the user's gender on this relationship. The hospital, in general, is a place of service production where social interactions are frequent. It is a dynamic industry that is constantly evolving and where competition is heightened. This must push the owners of private hospitals to be concerned about how to provide users with pleasant experiences by adapting the design of their structures in order to promote social interactions that are a source of user satisfaction.

**B. Choice of the data collection method**

In the framework of this research, we adopted the method of self-administration of the questionnaire. The administration of our questionnaires by the face-to-face method has the advantage of establishing "a climate of trust between the interviewer and the respondents, in addition to being the most effective method of collection in terms of the quantity and quality of the information gathered" (Jolibert and Jourdan, 2006, p. 101). To verify our causal model, we conducted a face-to-face survey of a sample of 401 users of private hospitals in the city of Lomé (Togo) and the outlying districts using the conventional method, as we did not have an exhaustive list of these users.

**C. Measurement of variables**

In order to measure the variables in this article, we used measurement scales previously used in the literature. The use of existing measurement scales can have several advantages for the researcher, such as the guarantee of a certain level of objectivity, a saving of time as well as a greater possibility of generalization (Nunnally and Bernstein, 1994).

**a) Explanatory variable**

The design represents in this work the explanatory variable. It was measured by five (05) item scales developed by Brocato (2006) and cited by Han (2013) and adapted to our study context.

**b) Variables explained**

In this paper, we have two (2) explanatory variables, PCI and CCI.

- ✓ The PCI was measured by eleven (11) Items adapted from Temessek (2008) and the qualitative field. These eleven (11) items were grouped into three (3) dimensions: Friendship; Social Comfort, Social Esteem.
- ✓ For the purposes and objectives of our work, the CCI was measured by nine (9) items adapted from Capelli and Sabadie (2007).

**IV. RESULTS**

The first step is to use preliminary analyses to ensure the structure and validity of the measurement scales for the variables in the research model. The second step is to test the research hypotheses.

**A. Results of the preliminary analyses**

Results of the Principal Component Analysis (PCA) Analyses were carried out for each of the constructs measuring the research variables in order to specify their content validity and reliability.

Principal component analysis (PCA) was used to purify the measurement scales of the research model variables. To test the reliability and internal consistency of the different measurement scales at the exploratory level, we calculated Cronbach's Alpha ( $\alpha$ ) for each scale. The results show that the values of ( $\alpha$ ) are greater than 0.5 for the dimensions obtained. The KMOs also being greater than 0.5 leads to an acceptable factorial solution for the measurement scales selected in this research.

After the exploratory factorial analysis, a confirmatory factorial analysis (CFA) is necessary. It allows the validation of the structure previously obtained during the exploratory analysis; it is carried out via structural equations. We used the AMOS 23 software for this analysis. The results of the confirmatory factor analysis performed for each of these constructs using SPSS 24 software show that the values of ( $\alpha$ ) are greater than 0.5 for the dimensions obtained. The KMOs is also greater than 0.5. Also, the Jöreskog coefficients (Fornell and Larcker, 1981), convergent and discriminant validities of the constructs were verified (Evrard et al., 1997).

The fit of the measurement model

The goodness of fit of the overall model is verified by examining the absolute, incremental, and parsimony indices.

**Table 1. Structural Model Fit Indices**

$\chi^2$	GFI	AGF	RMSE	NFI	CFI	$\chi^2/dd$
		I	A			l
195,388	0,925	0,887	0,083	0,929	0,947	3,757

Source: Survey data (August 2020)

In view of the results in Table 1, the goodness of fit of the model is globally acceptable and satisfactory to the theoretical requirements, according to Roussel et al.

**D. Results of the test of the research hypotheses**

After having assessed the quality of the model, and the latter having been validated, we studied the structural relations in order to test our research hypotheses. This study allowed us to confirm or refute the different hypotheses previously put forward.

**a) Testing of direct hypotheses**

The method of structural equations is the method by which our hypotheses are tested. As shown in the table below:

**Table 2. Structural Coefficients of the Model**

		Estimate	S.E.	C.R.	P
PCI <---	Design	0,491	0,049	10,052	***
CCI <---	Design	0,434	0,046	9,344	***

Source: Survey data (August 2020).

In this research, we hypothesized that the Design of the space exerts a positive influence on the PCI (H1).and the CCI (H2). Looking at Table 2 related to the Structural Coefficients of the overall model, we find that the relationship between the Design and the PCI is a positive relationship since the standardized structural coefficient is positive, as evidenced by the following statistical indices: (CS = 0.049; t = 10.052; p = 0.000). The structural regression between Space Design and KPI is therefore significant.

Also, in view of Table 2, the structural equation performed in order to assess the effect of space design KPI informs us that design significantly affects the KPI at the 5% threshold. Therefore, the design contributes to explaining the CCI. Therefore, the structural regression between the design and the CCI is significant.

The synthesis of the validation of our different hypotheses is summarized in the table below

**Table 3. Summary of the Validation of the Research Hypotheses**

Hypotheses	Headings	Conclusions
H1	Space Design positively influences Consumer-Staff Interaction	Confirmed
H2	Space Design positively influences Consumer-Consumer Interaction	Confirmed

Source: Study data

**V. DISCUSSION**

The objective of this article is to analyze the influence of the Design of space on social interactions. Following an empirical approach, we were able to test the causal relationships between the different variables of the model using the method of the structural equation (Awizoba et al., 2018). Indeed, testing the conceptual model through structural equations allows us to validate or invalidate the hypotheses put forward previously

**A. Influence of Space Design on Consumer-Staff Contact Interaction**

According to Clauzel and Riché (2015), in the luxury restaurant setting, table layout and inter-furniture spacing tend to discourage interaction and minimize its duration. Whereas in less luxurious restaurants, the design of the space (the layout of the space, the proximity of the seats, the arrangement of the furniture) elicits and promotes interactions between consumers and staff in contact. In the context of private hospitals in Togo, space design has a positive influence on consumer-staff interaction. That is, the proximity of the seats and the counters allows users to easily approach the staff either to obtain information about the service or to make a complaint. This supports previous work by some authors, notably the work of Clauzel and Riché (2015). This can be explained by the fact that in the Togolese context, private hospitals are

**B. Influence of the Design of the Space on the Consumer-Consumer Interaction**

A recent study by Clauzel and Riché (2015) underlines the fact that friendship between consumers, i.e., consumer-consumer interaction, is based on unexpected contact and physical proximity. In an exploratory study, Camelis et al. (2013) also pointed out the existence of a

positive link between space design and consumer-consumer interaction. Thus, the result of the test of the hypothesis that positive perception of space design positively influences consumer-consumer interaction corroborates with the results of previous research (Clauzel and Riché, 2015; Imankhan et al., 2012). The results of our research thus enrich previous work done in this area. In particular, the work of Zgolli and Zaiem (2017). Our results can be explained by the fact that in hospitals in Togo, the seats for users are not distant. This situation favors interaction between the different users present on the site. Also, hospital users in Togo are sociable beings. Even if they do not know each other, once they find themselves in the same place, these users consider themselves to be brothers.

## VI. CONCLUSION

### A. The Contributions of the Research

The contributions of this research are examined here under two levels. (Theoretical and managerial).

#### a) Theoretical Contributions

The need to emphasize the design of space in hospitals is little known in most African countries, particularly in Togo. Despite its importance in the commercial strategies of a company, there is almost no research work, particularly in Togo, that has focused on the influence of space design on consumer behavior. In such contexts, our research at the theoretical level contributes to the popularization of the importance of the implementation of environmental actions.

Two types of theoretical contributions are distinguished: on the one hand, contributions linked to the definition of theoretical concepts, and on the other hand, contributions allowing a better understanding of consumer behavior in a context of social interaction in a specific field such as the hospital in a country like Togo.

### B. Limitations and Future Research Directions

#### a) Limitations of the Research

Like all research, this study has its limitations. It was only interesting in the Togolese context. Our research did not take into account the patient's personality. At the same time, personality is a very determining factor of the consumer's behavior.

Also, our sample is a non-probability sample since the respondents of the study cannot be considered as representative of the population studied even if the sample size is satisfactory. Future research should remedy this.

These limitations do not call into question the validity of this research.

#### b) Future Research Directions

The limitations of the research we have just raised open up multiple possibilities for future.

Possibilities for future research :

- ✓ To take into account in future work the impact of crisis situations, particularly the health crisis due to Covid-19, in the relationship between spatial design and social interactions.
- ✓ To take into account the personality of the patient in the analysis.
- ✓ To analyze the moderating effect of gender in the relationship between spatial design and social interaction.

## REFERENCES

- [1] Aubert-Gamet, V., & Cova, B. Servicescapes: From modern non-places to common postmodern places. *Journal of Business Research*, 44(1) (1999) 37–45.
- [2] Awizoba, b., & Azakpo, k. Influence of the pleasantness of the seller on the loyalty of the customer: case of convenience stores with a predominance of food. *Annal of Economics and Management*, 18(1) (2018).
- [3] Camelis, C., Dano, F., Goudarzi, K., Hamon, V., & Llosa, S. The roles of 'co-customers' and their mechanisms of influence on overall satisfaction during a service experience. *Research and Applications in Marketing (French Edition)*, 28(1) (2013) 46–69.
- [4] Carù, A., & Cova, B. Consumption experiences and experiential marketing. *French Management Review*, 41(253) (2015) 353–367.
- [5] Debenedetti, Alain. A synthesis on attachment to place: Conceptualization, exploration and measurement in the context of consumption. *Proceedings of the XXII International Congress of the AFM, Aix-les-Bains*. (2007).
- [6] Evrard, Y., & Aurier, P. Identification and validation of the components of the person-object relationship. *Journal of business research*, 37(2) (1996) 127–134.
- [7] Evrard, Y., Pras, B., & Roux, E. *Market: Studies and research in marketing* (3rd ed.) (2003). Dunod, Paris.
- [8] Fornell, C., & Larcker, D. Structural equation modeling and regression: Guidelines for research practice. *Journal of Marketing Research*, 18(1) (1981) 39–50.
- [9] Imran Khan, N., Fakharyan, M., & Feyzabadi, S. The effect of customer-to-customer interactions on satisfaction with the firm, loyalty to the firm, and firm word-of-mouth: The case of Iran Air Company. *African Journal of Business Management*, 6(39) (2012) 10427–10437.
- [10] Mencarelli, R., Conceptualization and measurement of the perceived value of a place of consumption. Application to the field of live performance., (2005).
- [11] Ouvry, M., & Ladwein, R. Between research and production of experience in shopping environments: Lived experience. *Proceedings of the 9th Colloquium Etienne Thil, Institute of Management, University of La Rochelle*, (2006a) 1–27.
- [12] Tran Xuan, Q. The role of service environment and social interaction on the experience of customers and employees in a cafe setting. The case of Vietnam. *Doctoral thesis in management sciences*. Defended on 10-12-2020.
- [13] Zgolli, S., & Zaiem, I. The development of social interactions and their impacts on affective reactions in a service experience. *Management and Organization Review*, (2017).