

Article

The Effects of the Biophilic Atmosphere on Hedonic Value, Utilitarian Value, and Customer Loyalty

Leonardo Ortegón-Cortázar ¹  and Marcelo Royo-Vela ^{2,*} 

¹ School of Marketing and Branding, Faculty of Society, Culture and Creativity, Politécnico Grancolombiano, Bogotá 110231, Colombia; lortegon@poligran.edu.co

² Marketing and Market Research Department, Faculty of Economics, University of Valencia, 46022 Valencia, Spain

* Correspondence: marcelo.royo@uv.es; Tel.: +34-96-3828315

Abstract: Current literature emphasizes the benefits of the biophilic atmosphere on people's lives. However, there is a shortage of in-depth research pertaining to its effects on variables such as perceived value and customer loyalty. Therefore, the objective of this study is to evaluate the positive effects of the biophilic atmosphere both in the hedonic and utilitarian dimensions of perceived value and on customer loyalty. An analysis conducted using structural equations applied to 385 customers in shopping malls revealed that hedonic and utilitarian values mediate the relationship between this new retail atmosphere and loyalty responses. Additionally, results indicate that hedonic value can positively influence utilitarian value in a physical setting that includes natural elements. These results improve the understanding of the effect of biophilia on the promotion of sustainable environmental practices of protection and preservation of nature; moreover, they offer alternative information to encourage attraction and loyalty towards modern commercial settings.

Keywords: biophilic atmosphere; retail atmosphere; hedonic value; utilitarian value; customer loyalty; current commercial setting



Citation: Ortegón-Cortázar, L.; Royo-Vela, M. The Effects of the Biophilic Atmosphere on Hedonic Value, Utilitarian Value, and Customer Loyalty. *Sustainability* **2023**, *15*, 16435. <https://doi.org/10.3390/su152316435>

Received: 15 August 2023

Revised: 6 November 2023

Accepted: 27 November 2023

Published: 30 November 2023



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1. Introduction

Research on biophilic atmospheres, including physical spaces based on natural resources such as plants, bushes, green areas, water fountains, and elements of nature, constitutes a topic of interest from the perspective of environmental sustainability. This green practice is good environmental management for society [1] and is characterized by the imitation and usage of patterns, shapes, materials, symbols, and spaces that represent nature and evoke positive responses in people [2]. It has been implemented in several contexts, including the restoration of buildings, hotels, hospitals, and even retail stores, among others, thus proving its benefits to consumer responses. In keeping with this, it has also been reported that biophilic atmospheres contribute to responsible environmental design, maintain vital resources [3], entail economic benefit for companies, and entail construction [4]. It also uplifts multisensory and multidimensional experiences, both at the individual and social level, becoming a relevant stimulus of interest [5].

Current literature agrees on emphasizing the benefits of biophilic atmospheres on people's lives through a causal approach [1,3,6]. This means analyzing the relationships and effects caused by this typology of nature features. Regarding its potential effects, the following have been identified: benefits in attention restoration [7], attitude improvement [8,9], increase in stress resilience [10,11], mental health benefits [12], psychological benefits [9,10], emotion stimulation [10,13,14], and satisfaction [11,12,15].

Additionally, these benefits can positively affect other dependent variables such as perceived quality [14], well-being [5,10], productivity [5], consumption [9], pro-environmental actions [11,15] and people's behavior measurements such as intentions to visit [13], behaviors of approach/avoidance [14], and loyalty towards service environments [12]. Despite

extensive research in this field, it is noticeable that, to date, the relationship between biophilic atmosphere and the dimensions of consumer perceived value have not yet been systematically explored, nor have its effects on customer loyalty in this context been sufficiently addressed. This underlines the need for further research to close these gaps and attain a greater understanding of its effects from an empirical point of view [16–19]. Thus, there is a void in the literature in terms of explaining the effects of the biophilic atmosphere on consumer perceived value, particularly the hedonic value and the utilitarian value, as well as their effects on customer loyalty.

In the practical application of biophilic atmospheres, prior research has explored their effects in various constructed environments, including domestic settings [7], residential areas [15], schools for children [8], hospitals [1], tourist attractions [9], offices [5], hotels [11,14,20], restaurants [21], and retail stores [22]. There is also a body of relevant research within the context of shopping malls [13,23,24], which represents a subject of significant interest within the fields of marketing and business literature [25–29]. This interest has further contributed to the ongoing development, expansion, and evolution of this area of study [27,28,30,31]. Consequently, we consider that there is still a gap in analyzing the effects of the biophilic atmosphere in shopping malls that has not been sufficiently studied, which allows extending its understanding and management opportunities.

Due to the aforementioned, we have conducted research to address these gaps in knowledge through a study of an explanatory nature based on a literature review and on hypotheses in the field pertaining to the benefits and implications of biophilic atmosphere management in shopping malls. Specifically, we argued that the biophilic atmosphere is based on how the incorporation of physical spaces and features of nature in shopping malls can affect people's perceived value and, simultaneously, drive customer loyalty. Also, even though research analyzing the atmosphere and experience of customers in shopping malls does exist [23–26,32,33], to our knowledge, none have considered research on the effects of the biophilic atmosphere on the customers' perceived value response in its dimensions of hedonic value and utilitarian value, nor how these responses affect customer loyalty measurements towards the shopping mall.

Based on its objectives, this study contributes to the literature on biophilic atmospheres in several ways. First, it evaluates the positive effects of the biophilic atmosphere on the dimensions of hedonic value and utilitarian value and on customer loyalty, becoming novel research. Second, it explores the mediation of the dimensions of the customer's perceived value on the relationship between the biophilic atmosphere and customer loyalty, with this mediating connection being a singular aspect that, to the best of our knowledge, has not been previously studied in the literature. To fulfill these purposes, this research adopted an empirical quantitative approach [34] through a model of structural equations deemed adequate to verify the relationships and proposed effects [35].

Finally, our findings provide research and practical implications for shopping mall developers and managers, emphasizing the perspective of environmental sustainability entailed by the biophilic atmosphere with the aim of increasing customer loyalty towards the shopping mall.

2. Literature Review

In the field of retail atmospheres, the concept of a biophilic atmosphere, grounded in the integration of natural features and elements, represents a relatively recent research paradigm. Its roots trace back to the incorporation of biophilic design attributes within built environments. These attributes are characterized by the emulation and utilization of patterns, shapes, materials, symbols, and spaces that mimic nature, thus evoking corresponding responses [2] (p. 3). This approach seeks to comprehend the intrinsic connections and intricate relationships between individuals and natural constructs [36].

Simultaneously, the notion of atmosphere in the context of constructed environments, such as shopping malls, has its origins in Kotler's groundbreaking research from 1973 [37]. Researchers have delved into various aspects of atmospheric design, ranging from dis-

crete elements of such design [38] to more substantial transformations, such as mall renovations [39], which have the potential to significantly impact the success or failure of businesses [26].

Biophilic atmospherics pertains to the organization of retail spaces and surroundings that incorporate natural elements, including plants, shrubs, greenery, water features, and natural light, with the aim of satisfying people's intrinsic connection with nature [13]. This is achieved through the utilization of environmental cues that influence shoppers [40] to support marketing objectives [6].

From the perspective of enhancing the consumer experience, the exploration of atmosphere has expanded to encompass the concept of 'perceived atmospherics' as discussed by Vilnai-Yavetz [26], which traces its origins to Bitner's seminal work [41]. This approach focuses on the comprehensive perception of atmospheric components, such as music, design, fragrance, and lighting, collectively shaping the service environment and resulting in an overall pleasing or displeasing impression [42].

In the context of our research, we embrace the notion of "biophilic atmospheres" to assess the presence of elements like plants, water features, greenery, and other natural elements. This approach differs from evaluating the pleasantness or unpleasantness of a set of elements, including physical aspects of nature, as it prioritizes the assessment of these natural elements themselves.

Numerous studies have explored the concept of biophilic atmospheres, examining the presence of these environmental factors, which have a significant influence on individuals' cognitive and emotional responses as well as their behaviors [8,10–12,14,15]. As a result, in line with the existing body of literature, this research is situated within the framework of the stimulus–organism–response (abbreviated as SOR) paradigm of environmental psychology [43,44]. Within this paradigm, the stimulus (S) is considered a force within the commercial environment with the potential to affect consumers' cognitive and emotional processes (O) and their behaviors related to customer loyalty (R).

In the framework of research on sustainability and physical environments with a biophilic atmosphere, preservation and restoration of constructions include buildings, hospitals, hotels, or shopping malls with architectural traits that resort to the use of physical spaces, elements, and features of nature. This preservation or restoration favors the likelihood of caring for and protecting natural resources, including biodiversity, ecosystems, and the environmental services it provides, such as air and water quality, climate regulation, and soil fertility, under the premise of encouragement, protection, and conservation of these natural environments [1,3]. Additionally, this type of atmosphere in physical construction leads to more habitable, healthier, and safer spaces that offer well-being while being sustainable.

Therefore, biophilic atmospheres are fundamental for human well-being [12,24,45] and for the balance of ecosystems [1,2]. These settings provide a series of essential benefits for society, which manifest in opportunities for recreational and functional experiences, often conceptualized as hedonic and functional values perceived by the customer [32,46,47]. To substantiate the study's reasoning, the hypotheses are introduced as follows:

Effects of the Biophilic Atmosphere

Prior research has demonstrated the positive effect of the biophilic atmosphere on issues such as attitudes [8,9], resilience to stress [10,11], value of mental health [12], psychological benefits [9,10], restoration of attention [7], emotions [10,13,14], satisfaction [11,12,15], perceived quality [14], well-being [5,10], productivity [5], consumption [9], pro-environmental behavior [11,15], and loyalty of visit [11–13].

In the field of physical construction, shopping malls have developed a special interest in scientific literature. According to the systematic review by Gomes and Paula [28], most studies have focused on analyzing the image and the factors of attraction to the shopping mall; four areas of research stand out: spatial orientation, atmosphere, customer experiences, and consequences in the behaviors of visitors [29]. Due to the purpose of this

study, we delved into the typology of the atmosphere and its effects on measurements of behavior, such as perceived value and customer loyalty.

In terms of the biophilic atmosphere in shopping malls, several studies have explored the effects attributed to the role of nature, ecological settings, natural spaces, or stimuli. Forero and Ortegon [48] included the eco-natural component in nine aspects of attraction to the shopping mall; their study revealed insufficient direct effect on intention to visit compared with other variables such as offer and entertainment. Kumar et al. [49] analyzed the indirect experience with nature, evaluating attention, emotions, and cognitive responses applied to retail and identifying the benefits and preferences of the biophilic services landscape. Ortegon-Cortazar and Royo-Vela [13] assessed the mediator effects of affective states between the atmosphere of nature and the intention to visit, suggesting an indirect influence of the biophilic atmosphere on customers. Previously, the effect of physical spaces in nature on attitudinal variables such as customer cognition, emotions, and behavior had been examined, suggesting a greater command of the emotional response [50]. For its part, from the paradigm of restoration of attention, the studies by Rosenbaum et al. [24] and Rosenbaum et al. [23] emphasize the healing role of the biophilic atmosphere in fostering human health and well-being through experimental and cluster sampling designs, respectively. Hence, it is observed that neither of these studies has considered analyzing the effects of the biophilic atmosphere on the responses of value perceived by the customer, particularly in the dimensions of hedonic and utilitarian values, in spite of them being concepts of general interest from the perspective of services and marketing management [16,17].

Zeithaml et al. [17] state that examining the value perceived by the customer is critical for academic research and business practices. In keeping with this, even though there is no global consensus pertaining to its conceptualization or measurement [16], research has considered the hedonic and utilitarian values experimented by customers [19] in contexts of consumption and retail atmospheres [32,46,47,51,52] as key components. For El-Adly [32] (p. 217), the hedonic value represents the enjoyment, amusement, and leisure that customers get from their visit to the shopping mall, whereas the utilitarian value represents the fulfillment of the purpose of the visit with respect to getting what they need or wish.

In the context of the impact of biophilic atmospheres on the perceptions of hedonic and utilitarian values, research has established that the presence of natural stimuli and elements positively affects people's responses. For instance, Tifferet and Vilnai-Yavetz [6] conducted an experiment in three service environments and found that the presence of a potted plant has a significant indirect effect on perceived service quality through the experience of pleasure, with pleasure being a key element of hedonic value. This study also extends the discussion on how this mediating effect can be expanded to satisfy needs or align with utilitarian values related to specific objectives.

Additionally, Brengman [53] has shown that introducing natural elements, such as foliage, in store settings can enhance the sensation of pleasure and reduce stress (representing hedonic value). This research also suggests that these findings can be extended to more densely designed commercial environments. Similarly, positive effects have been observed in the assessment of both hedonic and utilitarian values in the context of shopping malls. For example, in the work of Chebat et al. [39], it is demonstrated how the atmosphere in a shopping mall can influence both the hedonic and utilitarian value of a visit by enhancing the enjoyable experience and facilitating the accomplishment of shopping objectives. In summary, the literature suggests that the stimuli and elements comprising a biophilic atmosphere led to responses related to both hedonic and utilitarian values as experienced by customers. Thus, it is logical to think that the dimensions of value perceived by the customer in the context of shopping malls may be affected by an atmosphere based on nature. The following hypotheses are suggested:

H1a. *The biophilic atmosphere positively influences the hedonic value of customers in a shopping mall.*

H1b. *The biophilic atmosphere positively influences the utilitarian value of customers in a shopping mall.*

On the other hand, research has shown connections between hedonic value and customers' perceived functional value. However, there are studies suggesting that hedonic value does not necessarily lead to a utilitarian value orientation. For instance, in the case of Chinese youth, they may prioritize hedonic value with symbolic meanings over the satisfaction of purchase needs (as observed in Wang et al. [54]). Furthermore, research has also revealed differences in hedonic and utilitarian values between men and women [55], and different effects on purchase behaviour [56]. The literature has also highlighted how hedonic value, associated with enjoyment, fun, and leisure [19], can contribute to responses linked to a utilitarian value orientation. This means that even when customers are shopping in an enjoyable manner, they are still able to efficiently obtain what they need or want [32]. So, when Hidalgo-Alcazar, Ruiz, and Sicilia [57] (p. 16) analyzed the factors that contribute to the image, recommendation, and purchase intention of tourist services, they found that the hedonic dimension influences the utilitarian dimension and concluded that the beliefs and opinions of a service's image (shopping ease) may benefit from the feelings experienced by consumers. In addition, when they were analyzing the behavior of online retail shopping, Childers et al. [58] found that hedonic motivation (such as enjoyment) is a significant predictor of utilitarian motivations, such as attitudes towards grocery shopping. These results validate the need to study the role of hedonic value in the experience of utilitarian value in modern commercial construction. Therefore, the next hypothesis is:

H2. *The hedonic value positively influences the utilitarian value of customers in a shopping mall.*

Continuing with Babin et al. [19], it has been proven that hedonistic and utilitarian values have meaningful and positive effects on customer loyalty in retail environments. In the first case, the study by Tyrväinen et al. [59] demonstrates that the hedonic value dimension increases customer loyalty in the omnichannel retail context, contributing to experience management. For its part, the study by Valentika [60] evaluated the effects of utilitarian value on satisfaction and loyalty in online retail shopping and found positive effects in every aspect. In terms of the comparative effects of both dimensions of perceived value, the study by Wu and Li [61] indicated that both hedonic and utilitarian values positively influence customer loyalty in social commerce [62]. Also, the research on the differential effects of hedonic and utilitarian values in retail settings by Jones et al. [63] suggests the existence of a strong interrelation between hedonic and utilitarian values and the results of shopping, such as satisfaction, recommendation, and customer loyalty. The authors suggest that the functional value can largely explain loyalty, while the hedonistic value can largely explain satisfaction and the recommendation of a retail outlet. Thus, the next hypotheses are:

H3a. *The hedonic value positively influences the loyalty of customers visiting a shopping mall.*

H3b. *The utilitarian value positively influences the loyalty of customers visiting a shopping mall.*

Regarding the relation of the biophilic atmosphere to result measurements, the literature has interpreted diverse effects. In the field of medical service settings, Untaru et al. [12] discovered that the elements of the biophilic atmosphere significantly improved patients' loyalty measurements, particularly through mediators such as self-perception of health and satisfaction. In the case of the hospitality industry, Lee [14] found that the presence of elements of the biophilic atmosphere, such as plants, water fountains, and natural light, was capable of positively affecting behaviors of approach. In other words, guests had the tendency to spend more time and money in biophilic atmospheres compared to hotels that lacked biophilic environments. These findings are similar in retail in terms of the behaviors of approach [53]. In the context of shopping malls, there are also studies that analyze the

biophilic atmosphere as an alternative factor of attraction [48,64,65] albeit without being able to extend it to likely effects on customer loyalty. It is worth adding studies that examine its effects on intentions to visit [13] and other research that interprets the biophilic atmosphere as a strategic resource to favor measurements of human health and thus improve behaviors towards the shopping mall [23,24]. Therefore, the next hypothesis is:

H4. *The biophilic atmosphere positively influences the loyalty of customers visiting a shopping mall.*

3. Methodology

The study follows a quantitative approach by means of a survey and structural equation modeling for data treatment. This technique is accepted in the social sciences to analyze and prove structural relationships and effects among variables [34,35]. In this case, the effect of the biophilic atmosphere and the customer's perceived value on loyalty. The research encompasses a set of 31 shopping malls with a surface area larger than 25,000 square feet, located in Bogota, Colombia, South America, which has been regarded as a geographic zone with high development and progressive growth for shopping malls [31,66].

3.1. Sample and Fieldwork

One of our three research assistants handed out a questionnaire in situ in each shopping mall. Buyers were conveniently recruited by intercept in different areas of the mall. The sample included those who agreed to the conditions of personal data processing for academic purposes. Two filter questions were used as selection criteria. The questions were aimed at asking if they had visited a shopping mall in the last two months and to disclose the name of said shopping mall. Data are compiled at different moments of the day and on different days of the week for a month. Of the 405 visitors contacted, 385 completed the study's questionnaire. The sample was made up as follows: 57.7% were women, and 42.3% were men. A total of 16.9% were aged 18 to 21, 30.2% were aged 22 to 30, 16.1% were aged 31 to 41, 19.5% were aged 42 to 53, and 17.4% were above 53. In terms of level of education, 22.9% finished secondary education, 63.9% finished higher education, and 13.2% have postgraduate studies. In terms of socioeconomic level, 14% are lower class, 66.2% are middle class, and 19.7% are upper class. As for the shopping malls, those with more surveys were SantaFe, Titan Plaza, Unicentro, Centro Mayor, Gran Estacion, and Parque La Colina, among others.

3.2. Measurements

The questionnaire consisted of 18 items that covered the four main constructs of the study, along with other variables for the classification of respondents. Variables' operationalization was done through a 7-item Likert scale, with one being strongly disagree and seven being strongly agree, for each statement or item in each construct. This process has been used in other research that has included the topic of biophilic atmospheres [9,11,15] and the context of shopping malls [39,47,51]. The biophilic atmosphere in shopping malls was measured through four items using a scale developed by Ortegon-Cortazar and Royo-Vela [13], which delves into the perceptions of visitors on the amount or presence of spaces, scenes, physical environments, resources, and the use of architecture that resembles or is inspired by nature. To assess the value perceived by customers in the shopping mall, we utilized a measurement scale comprising ten items adapted from El-Adly and Eid [32]. This instrument encompassed five items for hedonic value and five items for utilitarian value perceived by the customer. These items aimed to capture indirect measurements of emotional states and mental judgments experienced during visits to a shopping mall. Customer loyalty towards the shopping mall was measured with a 4-item scale adapted from Gilboa et al. [25], characterized by manifesting the degree of preference, loyalty, prioritization, and recommendation of a particular shopping mall. Finally, four demographic items (gender, age range, level of education, and socioeconomic level) were considered. The items on the scales are displayed in Table A1 in Appendix A.

3.3. Statistical Analysis

Structural equation modeling based on covariance structures and the AMOS 23.0 software were used for data processing. This technique allows us to confirm and explain the conceptual models that deal with attitudes, perceptions, and other factors determining consumer behavior [67]. It is an adequate method when the researcher has clear hypotheses that are based on theory and that have empirical support, as has been previously argued [68]. In line with this approach, data processing through structural equation modeling (SEM) involves an assessment of the reliability and validity of the measurement model [35]. To evaluate the common method bias (CMB; [69]), we calculated Harman's single factor test following an exploratory factor analysis that restricts all of the elements of the survey to a single factor [70]. The variance was 39%, which suggests that the items are not loaded into a single common factor.

4. Results

Both analyses and stages were completed with the indications of Anderson and Gerbing [71]. Therefore, to begin the study, an exploratory factor analysis (hereinafter EFA) was applied using the principal component method to reveal the underlying structure of the items as evidence for each construct. Subsequently, with the goal of corroborating the initial dimensionality, a confirmatory factor analysis (hereinafter CFA) was applied in line with the recommendations of Lloret-Segura et al. [72], managing to evaluate the scales' structure and validity.

Table 1 shows that the EFA identified four factors with eigenvalues above 1.0, which explained 72.5% of the variance, exceeding the limit of 45% advised by Netemeyer et al. [73].

Table 1. Exploratory Factor Analysis of the Items.

Item	Factor Loading			
	C1	C2	C3	C4
HV2	0.862			
HV3	0.801			
HV5	0.795			
HV4	0.784			
HV1	0.779			
UV2		0.843		
UV3		0.841		
UV5		0.785		
UV4		0.733		
UB1		0.640		
BA2			0.899	
BA3			0.860	
BA1			0.858	
BA4			0.840	
CL1				0.795
CL2				0.786
CL3				0.722
CL4				0.714

Extraction method: analysis of principal components with varimax rotation. Total variance explained: 72.5%; KMO = 0.89; Bartlett's (1951) test of sphericity: 4635.2; 153 df; $p < 0.001$.

With the aim of supporting the proposed model, the EFA was followed by a CFA to correct or corroborate the method's deficiencies according to the underlying structure of the data [67,72]. To that end, the generalized least squares (GLS) method was used because the data revealed a multivariate non-normal distribution, the variables were of interval, and the size of the sample was considered medium [74].

The analyses of reliability and validity were done based on the solution of the CFA. To evaluate the internal consistency, Cronbach's alpha (CA) was calculated for each subscale and for the total scale (0.90), and values were found to be sufficiently high (>0.70 ; [75]). Also, the composite reliability values (hereinafter CR) were above 0.70 [76].

In terms of convergent validity and discriminant validity, the results obtained may be deemed acceptable for the reflective constructs [35]. For convergent validity, following the suggestions of Hair et al. [68], the CR values and the average variance extracted (hereinafter AVE) were analyzed. Adequacy is observed since $CR > AVE$ and $AVE > 0.50$ for all of the variables. AVE exceeded the threshold of 0.50 for all of the constructs, thus convergent validity was confirmed. Discriminant validity was observed in all of the constructs since the square roots of the AVE exceeded the correlations between constructs [77], indicating the existence of discriminant validity among the measurement model's constructs (see Table 2).

Table 2. Reliability, Convergent validity, and Discriminant validity.

	CA	CR	AVE	Correlation Matrix. Fornell-Larcker Criterion			
				(BA)	(HV)	(UV)	(CL)
Biophilic atmosphere (BA)	0.897	0.902	0.698	0.836			
Hedonic value (HV)	0.901	0.923	0.706	0.207	0.840		
Utilitarian value (UV)	0.879	0.909	0.671	0.334	0.521	0.819	
Customer loyalty (CL)	0.851	0.885	0.659	0.252	0.647	0.707	0.812

After the reliability and validity of the measurement scales were verified, the hypotheses proposed in the conceptual model were contrasted using AMOS 23.0 through a path graph, which shows the standardized indexes of the indicators for each factor and for the covariation between factors. See Figure 1.

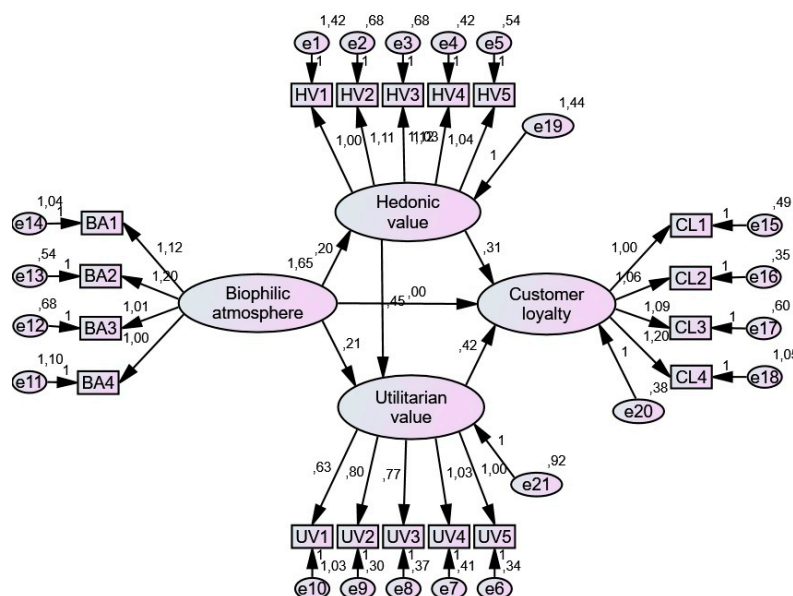


Figure 1. Structural model of relationships between variables.

Following Kline's recommendations [74], the model fit was evaluated. The initial model yielded the following values: $\chi^2 = 289.2$, $df = 129$, $p < 0.001$; $\chi^2/df = 2.24$; GFI = 0.916; and AGFI = 0.897. The CFI was 0.76, and the RMSE indicator was 0.057. Since these values did not meet the criteria suggested by experts individually to confirm a good fit of the model to the data [78], a process of respecifying the structural model was undertaken [79].

After these adjustments, the following values were obtained: $\chi^2 = 174.7$, $df = 122$, $p < 0.001$; $\chi^2/df = 1.43$; GFI = 0.94, AGFI = 0.93, CFI = 0.92, TLI = 0.90, and RMSEA = 0.034. These already indicate a satisfactory model fit.

The estimation of parameters between latent variables was conducted to verify the relationships proposed in the hypotheses of the study. The estimators of the relationships of the different latent variables with their respective standard error (S.E.), standardized coefficient (S.C.), and p value are all introduced in Table 3.

Table 3. Estimators of Relationships and their significance for Latent Variables.

Relationships			Estimate	S.E.	S.C.	p	Hypothesis
Biophilic Atmosphere	---	Hedonic Value	0.175	0.058	3.026	0.001	Accept H1a
Biophilic Atmosphere	---	Utilitarian Value	0.220	0.050	4.404	0.001	Accept H1b
Hedonic Value	---	Utilitarian Value	0.532	0.070	7.630	0.001	Accept H2
Hedonic Value	---	Customer Loyalty	0.269	0.048	5.587	0.001	Accept H3a
Utilitarian Value	---	Customer Loyalty	0.351	0.042	8.308	0.001	Accept H3b
Biophilic Atmosphere	---	Customer Loyalty	0.004	0.029	0.124	0.901	Declined H4

Table 3 depicts the results of the estimators and their significance in supporting the research hypotheses. It is evident that the presence of a “Biophilic Atmosphere” has a positive impact on both “Hedonic Value” and “Utility Value” perceived by consumers ($p < 0.05$). In essence, this support for H1a and H1b underscores that incorporating natural elements within shopping malls can enhance both the pleasurable experience and the perceived utility for customers. Regarding H2, the findings reveal a strong positive relationship between “Hedonic Value” and “Utility Value”. This suggests that customers who find enjoyment in a shopping environment, such as a shopping mall, are also likely to perceive higher utility, effectively meeting their shopping needs. Furthermore, “Hedonic Value” exerts a notable and positive influence on “Customer Loyalty”, as does “Utility Value”, thus supporting hypotheses H3a and H3b. However, the results indicate that the impact of the “Biophilic Atmosphere” on “Customer Loyalty” is not statistically significant. This suggests that, despite enhancing hedonic and utilitarian values, the biophilic atmosphere does not directly and positively affect customer loyalty in this specific context.

Total, Direct, and Indirect Effects of the Structural Model

Once the direct effects were confirmed, the indirect (mediators) and total effects between the variables that make up the structural component were analyzed. To that end, faced with the convenience of the structural analysis in AMOS and following the procedure of Perez et al. [68] (p. 61) to identify the indirect and total effects of the variables, a matrix decomposition of the standardized effects of the hedonic value, utilitarian value, and customer loyalty was built compared with the biophilic atmosphere variable (see Table 4).

Table 4. Total (T), Direct (D), and Indirect (I) Effects of the Model's Latent Variables.

Model's Variables	2	3	4
(1) Biophilic Atmosphere	T = 0.198 D = 0.198 I = 0.000	T = 0.328 D = 0.231 I = 0.098 *	T = 0.234 D = 0.005 I = 0.229 **
(2) Hedonic Value		T = 0.494 D = 0.494 I = 0.000	T = 0.584 D = 0.347 I = 0.241 **
(3) Utilitarian Value			T = 0.488 D = 0.488 I = 0.000
(4) Customer Loyalty			

* $p < 0.05$; ** $p < 0.0001$. Source: Compiled by the authors based on Perez et al. [68] (p. 61).

The analyses of the indirect effects of the biophilic atmosphere on customer loyalty reveal a total effect (0.234) and an indirect effect (0.229), thus pointing to the existence of significant mediating effects. In other words, the biophilic atmosphere positively influences customer loyalty, mediated by hedonic and utilitarian values, respectively. Also, it affects utilitarian value mediated by hedonic value (0.098). Likewise, the analysis of the indirect effects reveals that the hedonic value directly affects customer loyalty (0.347) and is indirectly mediated by the utilitarian value (0.241).

5. Discussion

This research established two objectives. First, to evaluate the positive effects of the biophilic atmosphere in the dimensions of hedonic and utilitarian values and customer loyalty. Second, to explore the mediation of the dimensions of value perceived by the customer in the relationship between the biophilic atmosphere and customer loyalty. This is in the context of shopping malls, which are characterized by gathering and facilitating the traffic of substantial volumes of people, with constant growth and development of large-scale construction and top innovation for their competitive management. Based on the literature consulted, this study is the first, to our knowledge, to analyze the role of the biophilic atmosphere on perceived value, comparing the dimensions of hedonic and utilitarian values from an environmental sustainability point of view. Findings contributed to the state of knowledge and ecological management of novel atmospheres that encourage designing environmentally responsible settings for society. Additionally, it allowed us to verify how biophilic atmospheres can uplift pleasing and efficient sensory experiences of shopping that can translate to loyalty to the shopping mall because of customer behavior.

Thus, according to the SOR model [43], this research revealed how spaces and features of nature serve as stimuli for customers, favoring bodily responses to more pleasant or recreational experiences and efficiently accomplishing what they need or desire. These biophilic spaces also drive behavioral responses, such as customer loyalty.

Even though current literature agrees on highlighting the benefits of the biophilic atmosphere in people's lives [1,3,6,8,10,12,15], this research's findings reveal how customer experience can be improved using this new typology of retail atmosphere. Likewise, this research is useful to complement prior research on service settings centered on photographs of elements of nature [6,80], audiovisual material displaying elements of nature [24], or the use of elements of nature (foliage) in stores [53].

These findings are discussed in each hypothesis regarding the contributions and contrasts assumed by the literature. In terms of hypotheses 1a and 1b, findings suggest that the biophilic atmosphere positively and meaningfully affects both the hedonic and utilitarian values of customers that visit the shopping mall. As far as is known, these results are unique to the extent that they prove that the effects of the biophilic atmosphere are

equivalent in both dimensions of perceived value [19]. Regarding mediating effects, a biophilic atmosphere affects utilitarian value mediated by hedonic value.

In terms of hypothesis 2, the results confirm that the hedonic value is capable of positively and meaningfully influencing the utilitarian value of customers that visit the shopping mall in a biophilic atmosphere. That situation has been identified in prior studies [57,58], claiming that hedonic nature motivations, such as enjoyment, act in an intrinsically pleasant way in a novel setting, subsequently favoring instrumental responses of usefulness and ease of consumption. These relationships may vary depending on the context; therefore, more research is required.

Regarding hypotheses 3a and 3b, which focus on the influence of the dimensions of hedonic and utilitarian values on customer loyalty, the research revealed positive and significant direct and mediated effects. In other words, findings suggest that responses experienced by customers, such as amusement, joy, relaxation, and enjoyment (hedonic value) and responses to being able to get what they need or want (utilitarian value), lead to behaviors of preference, visit, and recommendation of the shopping mall. These findings concur with prior studies in the retail field [63] and complement existing research on shopping malls that evaluates the effects on satisfaction [39,46,47], well-being of shopping [51], intention to sponsor [52], as well as the moderating effects of hedonic and utilitarian experiences towards spending and loyalty [26].

In terms of hypothesis 4, the results indicate that the biophilic atmosphere does not have a direct influence on the loyalty of the shopping mall's customers. Nevertheless, the analysis of the total, direct, and indirect effects of the structural model [68] uncovered that the biophilic atmosphere has an indirect effect on customer loyalty. In other words, hedonic and utilitarian values mediated the relationship between the biophilic atmosphere and customer loyalty. These findings agree with the study by Ortegon-Cortazar and Royo-Vela [13], who identified that the biophilic atmosphere has mediator effects (not direct) on intention to visit through the customer's affective states, examining the capacity of nature's settings to awaken positive connections and emotions. Future research may delve deeper into the role of each dimension and mediation in these relationships.

5.1. Implications and Limitations

5.1.1. Theoretical Implications

Our research understands the effects of the biophilic atmosphere on the promotion of customer loyalty through the dimensions of hedonistic value and utilitarian value perceived by the customer. Concretely, results suggest that customer loyalty is more closely related to the dimension of hedonic value compared with the dimension of utilitarian value; this shows consistency with prior studies that reveal indirect effects of the biophilic atmosphere on behavioral variables such as intention to visit through emotional states [13]. We introduce two theoretical implications. First, this research and the relationships between variables are based on the SOR model [43], a conceptual framework that is extensively used in managing retail atmospheres [81], to explain how a stimulus placed in the customer's physical environment can generate internal responses in the organism (emotions and feelings) and simultaneously encourage client behaviors. In keeping with this, despite having identified that the biophilic atmosphere is a strategic resource to encourage behaviors in people, to date, the variable of perceived value has not been considered a mediator variable capable of driving said cumulative effect. We have discovered that the biophilic atmosphere has an indirect effect on customer loyalty through the mediation of the dimensions of hedonic and utilitarian value. Results emphasize the importance of understanding that customer loyalty may be encouraged within the SOR explanatory mechanism attributed to the layout and use of biophilic features and, thus, contribute to the literature on biophilic atmospheres in built settings.

Second, the role of perceived value has been identified through its key components of hedonic and utilitarian value [19,46]. Consumers respond to the biophilic environment in three ways: First, the biophilic atmosphere can promote hedonic value, characterized by a

positive emotional state that may include feelings of happiness, fun, and relaxation; second, the results suggest that the biophilic atmosphere has the potential to develop utilitarian value in the shopping environment based on thoughts of utility, ease of purchase, and satisfaction of shopping needs and desires. Additionally, the emotional positive response generated by the biophilic environment generates some kind of fulfillment of shopping objectives and the quality—breadth, variety, cleanliness, and clean atmosphere—of the buying experience. These two types of values perceived by the customer may be considered a strategic opportunity to create memorable and delightful experiences in the field of sensory marketing [40,82], strengthening its effects with behavioral measurements of preference, loyalty, and recommendation in a commercial setting. Consequently, these results contribute to the literature on customer experience management, adding useful knowledge in terms of the significance of dimensions of hedonic value and utilitarian value in retail atmospheres that utilize biophilic spaces and features.

5.1.2. Managerial Implications

This research advocates for the development of holistic, healthy, and safe living spaces, which can make shopping malls environmentally sustainable and closely connected with nature. The study discovered a biophilic effect that influences loyalty behaviors in both the hedonic and utilitarian value dimensions. This effect can be explained in several ways. First, from an evolutionary standpoint, humans have an innate desire for a connection with nature, making it easier for them to engage with natural settings and elements. Depending on their reasons for visiting the shopping mall, customers may have varying degrees of involvement with the biophilic atmosphere. For example, those seeking an escape from routine, boredom, or mental stress may find states of enjoyment in such settings, which retailers can leverage to enhance their likelihood of commercial persuasion. Management can also cater to customers with utilitarian motivations, emphasizing a sense of accomplishment and showcasing the variety of stores in the mall. This opens up opportunities for designers and mall managers to use natural elements strategically to captivate, provide joy and relaxation, or project an image of an efficient commercial offering that encourages preferences, loyalty, and recommendations, including an increased willingness to spend more money [33]. Secondly, the findings offer developers and managers the opportunity to create and optimize an eco-friendly experience that is environmentally sustainable while conserving essential resources through activities that provide sensory enjoyment. For instance, incorporating interactive gardens that convey messages of sustainable environmental awareness and care to customers through sounds, aromas, colors, water features, and natural lighting can be part of the shopping mall's sustainability policies and renewable energy initiatives. This not only enhances the overall shopping experience but also promotes environmental consciousness and responsible resource management.

5.1.3. Limitations and Future Research Lines

Some limitations of this study need to be considered. Firstly, this study focused on a general sample of shopping mall visitors who were recruited by intercept; consequently, additional covariables may exist (for instance, characteristics of customer profiles, size of the shopping mall, location, offering mix, sustainability policies and practices). This has to be considered a likely limitation of the research in terms of mistakes in the representativeness of the population. Therefore, we recommend future studies consider implementing more rigorous sampling methods and leveling or comparing this characteristic, including different moderators (gender, age, visit, etc.), where it would also be interesting to expand the size of the sample in order to make comparisons, even though our research is deemed suitable according to size recommendations for techniques and models of structural equations [35]. In keeping with this, the methodology used and related to the quality of the data may be improved in upcoming studies, not just including questions of inclusion and exclusion of recent visits to shopping malls in the questionnaires and the name of the shopping malls, but also including possibilities to validate or follow-up on each customer's

spatial element by accessing and consulting their geographic displacement captured in a smartphone with geolocation technologies. Additionally, even though statement scores in the surveys are commonly used in social sciences' literature and are equivalent to indirect measurements, we recommend complementing our findings with in-depth interviews to delve into the motivational aspect of each visit's hedonic and utilitarian value, which could drive loyalty and preference behaviors in a particular shopping mall that can be attributed to the setting and features of the biophilic atmosphere.

Moreover, we believe that the generalization of our results needs to be done with caution since this research was conducted in a large city in South America (characterized by a large amount of development and the existence of shopping malls), yet future research may extend our findings and compare different countries or cultures, elements that were not covered by this research because this was only an initial approach to the effects of the biophilic atmosphere in the dimensions of perceived value and customer loyalty. We believe that future research may improve our understanding of the biophilic atmosphere from the point of view of shopping malls' competitive management by including variables such as sales in stores and visitors shopping behavior.

Finally, professionals and researchers are encouraged to contrast our results pertaining to the role of the biophilic atmosphere on the advancement of environmental, economic, and social sustainability and to provide tools to shopping mall developers aimed at improving the sustainability of current construction.

6. Conclusions

This investigation proves the positive effects of the biophilic atmosphere on perceived value and customer loyalty, particularly through the dimensions of hedonistic and utilitarian value experienced by people who visit shopping malls. This suggests that biophilic spaces and features can provide pleasure and utility, thus enhancing consumers' experiences and simultaneously positively influencing customer loyalty. Based on the SOR model, we verified that the biophilic atmosphere is a stimulus that favors the organism's internal responses, such as positive emotions and perceptions of fulfillment pertaining to needs and wishes, and at the same time, the attained experience favors behaviors of preference, loyalty, and recommendation towards a shopping mall. These findings contribute to the literature by expanding the benefits of the biophilic atmosphere to matters of general interest for marketing and business, such as how to get higher perceived value and increase loyalty in built settings. Likewise, results offer a promising framework for the field of sustainability in commercial settings because it is a good environmental management practice for society, it applies responsible design to maintain vital resources, and it allows for uplifting people's sensory experiences. We invite professionals to emphasize and include biophilic atmospheres in the physical management of commercial and service settings since they are an alternative attraction factor capable of captivating customers' positive experiences and because it is considered a sustainable and responsible good environmental management practice. In summary, this research provides information about mechanisms that favor the construction of customer value and loyalty from the point of view of physical features and settings that are based on nature and that can be applied to modern commercial formats.

Supplementary Materials: The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/su152316435/s1>.

Author Contributions: Conceptualization, L.O.-C. and M.R.-V.; methodology, L.O.-C. and M.R.-V.; data curation, L.O.-C.; writing—original draft preparation, L.O.-C. and M.R.-V.; writing—review and editing, L.O.-C. and M.R.-V.; project administration, L.O.-C. and M.R.-V. All authors have read and agreed to the published version of the manuscript.

Funding: This research was made possible through support of the Politécnico Grancolombiano, which provided dedicated time and allocated resources for the development of this project with number IA2022-FIDI-FSCC-CITIC-MI2-87333. Additionally, the university facilitated the translation

of the article into English. The authors express their gratitude for the invaluable support received from the university throughout the entire research process.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board of Politécnico Gran Colombiano (protocol code IA2022-FIDI-FSCC-CITIC-MI2-87333 and date of approval of 15 September 2023) for studies involving humans.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Data are contained within the article and Supplementary Materials.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. List of Survey Items.

Construct	Item	Measurement Items	References
Biophilic atmosphere	BA1	[The shopping mall has natural spaces or settings]	[13]
	BA2	[Considers the shopping mall has environments with vegetation]	
	BA3	[There is a wealth of eco-environmental resources in the shopping mall in the form of plants, water fountains, green areas and other natural elements.]	
	BA4	[The shopping mall used architecture with natural resources]	
Hedonic value	HV1	[I always visit said shopping mall to relieve tension and negative emotions]	[32]
	HV2	[I am excited about walking in that shopping mall]	
	HV3	[I feel happy with the variety of products in the shopping mall]	
	HV4	[It is fun to be in that shopping mall]	
	HV5	[I feel happy to go to that shopping mall]	
Utilitarian value	UV1	[Said shopping mall is a place for effortless shopping]	[32]
	UV2	[The shopping mall may satisfy everyone in the family when they visit it]	
	UV3	[Each member of the family can find what they want in that shopping mall]	
	UV4	[I prefer to buy in that shopping mall because it has an array of supply and activities to satisfy everyone in the family]	
	UV5	[I prefer to shop in that shopping mall because it has a variety of stores and products to satisfy the needs of everyone in the family]	
Customer loyalty	CL1	[I will recommend that shopping mall to other people]	[25]
	CL2	[In the future, I will be loyal to this shopping mall]	
	CL3	[This shopping mall will be my first option in the future]	
	CL4	[I will prefer to visit this shopping mall compared to others in the competition]	

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