



# The influence of communication language on purchase intention in consumer contexts: the mediating effects of presence and arousal

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## Abstract

Panoramic visual, tactile, and auditory interactions have been widely used to create scene-based immersive experiences to enhance consumer experience and stimulate emotional responses, thereby increasing purchase intentions. Guided by scene marketing theory and the archetypal theory of mind-flow experience, this article introduces the concepts of presence and emotional arousal to examine how communication language causes emotional fluctuations in potential consumers, leading to purchase intentions. Therefore, from the interaction experience of “external perception - scene language” and “internal sensing - communication language”, the dual chain of mediation of presence perception and emotional arousal is selected to construct a consumer. The results reveal that the pathway of consumers’ purchase intentions is not always the same in the context of consumer language perception. In addition, the results demonstrate that the vividness and richness of the presentation of scene language in a consumer language perception context have positively influenced the relationship between communication language and presence perception. Compared to the direct effect on purchase intention, communication language tends to have an indirect positive effect on consumers’ purchase intention through the single mediation of presence perception and the chain mediation of emotional arousal. The increasing prevalence of interactive linguistic experiences, where emotional arousal has become an essential trigger for consumers’ purchase intentions, is an important representation of the specificity and complexity of consumer language elements. Thus, this research provides crucial theoretical guidance for the design of immersive experiential marketing and linguistic scenarios.

**Keywords** Consumer language · Presence · Arousal · Purchase intention

## Introduction

Along with the waves of globalisation and informatisation, most countries integrated into the world economy have gradually become the “new battleground” for the consumption of goods. On the one hand, this consumer-driven social situation has deepened the degree of commodification and marketisation; on the other hand, it transformed people’s aesthetic, behavioural, psychological and value pursuits. The morphological language of the contemporary commercial landscape, which indicates a new conception of the times, is closely related to consumer society. The vocabulary,

grammar, rhetoric and semantic expression of the morphological language are all expressions of aesthetic concepts, values and social needs in the consumer society context. Companies aim to promote consumption, using the stage and products as props to create memorable consumer experiences. The changing economic times have posed new tests for commercial spaces and linguistic communication design. How to respond to the development of the context of the times, enhance the immersion of this ‘experience field’ created by the contemporary linguistic landscape, and create a living contemporary consumer language system design work that promotes economic development is a question worth considering in this economic context. In the current experience economy context, consumers need to create multiple experiential processes and connotations that they are willing to immerse themselves in. The development of information technology and the popularity of e-commerce also reminds designers of the need to expand from the design of commercial landscapes to the construction of values and meanings

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in social life, using language as a medium to evoke a more profound cultural resonance within consumers, seeking a unique experience and value of existence beyond “shopping with a mouse”.

Current consumer language research has primarily focused on theoretical studies, focusing on the research context, concepts (Leeman & Modan, 2009; Nikolaou, 2017), methodology (Begum & Sinha, 2021), analytical dimensions (Ben-Rafael et al., 2006), research status (Monje, 2017), research frontiers (Hong, 2020), etc. Yet consumer language as an emerging research object and a multidisciplinary coupled interface (Blommaert, 2014; Xiang et al., 2016), an interdisciplinary research perspective is essential for the study of linguistic landscapes (Nash, 2013; Pesch, 2021). Its theoretical research also shows a trend of interdisciplinary research, with scholars from different disciplinary backgrounds such as linguistic geography, tourism linguistics, language economics, education, landscape studies, design, and aesthetics also sorting out the existing stages of research results according to different disciplinary, theoretical frameworks (Williams & Spiro, 1985; Hennig-Thurau, 2000; Finne & Grönroos, 2017). Moreover, quantitative research perspectives are lacking and singular. The volume is small, focusing mainly on sociolinguistics, semiotics, sociology and geography, with even fewer studies introducing them to the field of experience perception and consumer behaviour (Hennig-Thurau, 2000; Alawni et al., 2015).

Based on this, the study attempts to introduce the concept of arousal to reveal the essence of the influence of consumer language on potential buyers' willingness to purchase in two different experiential scenarios, namely physical consumption and online shopping, from the perspective of presence perception. The study further applies the theoretical model of presence awareness to construct an outcome equation model to empirically test the moderating role of scene language in consumer language and the mediating effect of experience awareness and arousal to clarify the pathway through which consumer language induces potential consumers' willingness to purchase and to provide theoretical reference and reference for marketing planning of language consumption based on enriching the existing relevant research perspectives.

## Literature review and research hypothesis

### Language in consumption

In marketing, the language of communication is seen as a tool, and a means to negotiate the extent to which firms and consumers perceive information about goods and services (Gremler et al., 2001). However, information asymmetries often occur because the firm dominates the amount and

authenticity of information (Harrison-Walkeret, 2001; Rese et al., 2020). Effective communication language can alleviate individuals' doubts and anxieties caused by information constraints, thus reducing the cost of buyers' consumption decisions (Song et al., 2022b). High-quality product sales communication can be divided into four levels. Level 1 is the communication of product safety information. Product safety and qualification are essential components of consumer safety. Level 2 is the communication of the product attractor. By demonstrating the unique value resources of the product, the attractiveness of the consumer product is enhanced, thus motivating individuals to purchase and increasing the perception of the consumer immersion experience. Level 3 is the communication of sales services, including product information services, after-sales services, and a comprehensive logistics system around consumer needs (Ortiz-Bonnin et al., 2022). Level 4 is the communication of product culture and image. For example, product videos convey product concepts and scientific values to shape the image of the product brand in the audience's mind and enhance the sense of presence (Ahakwa et al., 2021; Chen & Li, 2022). The more vivid, diverse and ample the language of communication, the higher the quality of communication and the greater the consumer's perception of social and spatial presence.

In addition to communicative language, scenic language is another visual form of consumer language, first referred to by researchers as linguistic landscape. The concept of “linguistic landscape” was first introduced by Canadian scholars Landry & Bourhis in 1997 and refers to the various linguistic signs such as road signs, street names, place names, billboards, shop signs and government building signs in public social spaces. The linguistic signs are the visual and material linguistic landscape of a territory, region or urban agglomeration composed of language (Song et al., 2022a). In recent years, the study of linguistic landscapes has gradually developed into one of the most popular interdisciplinary topics. Its research horizons have extended to semiotics, sociology, economics, and management (Yoon & Ham, 2016). The active role of linguistic landscapes in sales communication and marketing practices has led to the study of consumer language from the dual perspective of communicative language and scenic language (Tufi & Blackwood, 2010; Ren & Quan, 2012; Deng et al., 2021). Together, they outline the functional role of consumer language (e.g. informational function, symbolic function, etc.) and build up an appropriate research dimension (e.g. language commodification framework, language visualisation framework, etc.), thus mapping out that marketing management and sales practitioners, while pursuing economic benefits (Pishghadam et al., 2015), must take the premise of satisfying consumers' experiential needs in terms of The development of product consumption should be energised by the instrumental and cultural properties of language, by considering discursive

strategies in terms of the circulation, uniqueness and authenticity of language forms, and by considering landscape design in terms of the vividness, convenience and impact of visual language. The more strongly consumers perceive the presence of the language of the scene, the more likely it will be that the communication language of salespeople and shops will prompt consumers to make a purchase. The study thus proposes the following hypothesis.

H1: The language of communication during the purchase process can positively influence the consumer's sense of presence.

H2: Ambient language positively moderates the effect of communication language on consumer presence.

### Language transmission and emotional arousal

Arousal is a subconscious emotional state that emerged from the PAD model of emotion proposed by Herabadi et al., (2009). It is a model of mental states that characterises emotions through three dimensions: pleasure, arousal and dominance; in which arousal, as one of the emotional response variables, is defined as the emotional state of being stimulated, aroused and awakened in response to a situational stimulus, as opposed to being relaxed, bored or sleepy (Herabadi et al., 2009; Ha & Lennon, 2010). The generation of evocative emotions is often influenced by the presence, which is an essential antecedent of arousal, as consumers unconsciously generate evocative emotions and feel excited and happy when they perceive a highly immersive experience.

Furthermore, arousal is often used in consumer behaviour research, with arousal emotions elicited by both retail websites and third-party reviews positively predicting consumer purchase intentions (Perham et al., 2014; Hill et al., 2016), price discounts and the number of purchases in online group purchase contexts affect arousal, which further acts on impulsive consumption behaviour (Hwang et al., 2020). In addition to background music enhancing the auditory and visual aspects of online shopping, other senses in e-commerce scene design interact to produce marketing effectiveness. For example, while visual images are a crucial element of e-tailer design, auditory (e.g. background music), on-screen gestures (e.g. zooming, dragging, swiping movements), olfactory and gustatory inputs may all contribute to the overall experience of online shopping, triggering evocative emotions to enhance purchase intentions (Banovic & Otterbring, 2021). That is, the literature has confirmed the positive impact of multisensory integration in online consumer behaviour as seen (Lin, 2021; Martins et al., 2019), the driving role of presence on arousal, and the predictive role of arousal on consumer behaviour have been demonstrated. Accordingly, the following hypotheses were developed:

H3: Presence positively influences arousal.

H4: Arousal positively influences purchase intention.

H5: Arousal mediates the relationship between presence and purchase intention.

### Mind-flow experiences arising from language

A high level of presence is the degree to which individuals perceive themselves as natural in a virtual environment. A high level of presence gives a psychological feeling of immersion, which quickly brings consumers closer to the product (Ozkara et al., 2017), enabling consumers to develop trust and recognition of the product, generating intense emotional satisfaction and thus inspiring their willingness to purchase or actual purchase behaviour (Fernandes et al., 2021). Thus, presence is considered an important driver of positive consumer purchase attitudes and purchase behaviour (Skadberg & Kimmel, 2004). It has been shown that presence has a significant positive effect on consumers' purchase intentions and that the higher the level of presence perceived by consumers in a virtual environment, the more likely they are to have a better impression and evaluation of the product and thus show a higher purchase intention. (Skadberg & Kimmel, 2004) Based on this, this study suggests that the higher the level of presence experienced by individuals when browsing online or experiencing the consumption process, the more likely they are to develop recognition and emotional satisfaction with the consumer product, and thus the more likely they are to be willing to purchase or consume it.

It has been found that a mind-flow experience is a pleasurable experiential state that is usually accompanied by the onset of positive emotions and gives a sense of excitement and pleasure. Individuals in a state of mind-flow experience tend to be excited and pleasurable, whereas arousal is the process of moving from calm and boredom to excitement and stimulation; the formation of mind-flow experience requires the arousal stages of calm to excitement and boredom to stimulation, and thus arousal is often seen as a precursor to mind-flow experience. It is difficult for individuals in low arousal states to produce conscious flow experiences because individuals in low arousal states tend to feel bored and lack external stimuli, making it difficult to focus entirely on an activity (Hwang et al., 2020). Social cues in retail scenarios can enhance consumers' arousal emotions, positively influencing the mindstream experience. Banovic et al. found that consumers' emotional responses to shopping situations stimulate their mindstream experience to form an arousal phase, which further influences consumers' purchase intentions (Banovic & Otterbring, 2021). In a consumption context, a presence not only positively influences arousal but may also mediate the relationship between external verbal stimuli and consumption behaviour in conjunction with arousal. Therefore, these hypotheses were proposed:

H6: The higher the level of presence experienced by the consumer, the stronger the purchase intentions.  
 H7: Presence and arousal jointly mediate the chain between communication language and purchase intentions.

In summary, the following research model (as shown in Fig. 1) can be formed based on each research hypothesis.

## Study design

### Research programme

Based on the above theoretical model, the research questionnaire was designed with three parts: basic demographic information, screening and measurement questions. The questionnaire was designed to capture the external elements of the language environment of the target audience. The empirical analysis process was divided into two parts: firstly, exploratory factor analysis was conducted with the help of SPSS25.0 software to determine the dimensionality and structure of the variables and to test the reliability of the scale; secondly, the results of the exploratory factor analysis were validated using Mplus8.3 and the modified model was tested for goodness of fit, mediating effects and moderating effects.

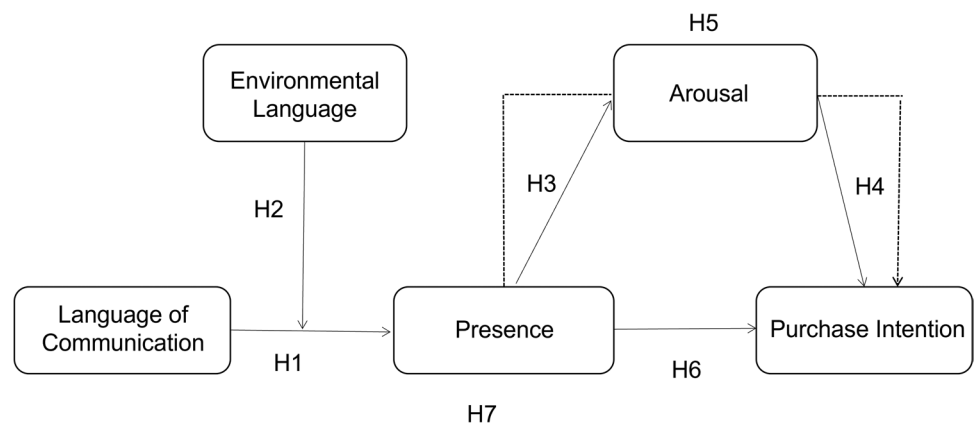
### Data collection

In this study, two consumer contexts were chosen as the experimental setting, namely “online shopping” and “offline physical consumption”, to make the study more representative and extendable. Based on the above selection, a small-scale online pre-survey was conducted before the formal research to ensure the rationality and validity of

the questionnaire design, and the results showed that the scale design was well structured and met the requirements of reliability and validity tests.

The official survey questionnaire will be conducted online and offline based on the pre-survey. A total of 120 questionnaires will be collected online from post-purchase reviews of daily-use products on Amazon and TikTok, and 120 questionnaires will be collected offline from well-known shopping platforms in Malaysia, such as Pavilion Kuala Lumpur, SuriaKLCC and Starhill. A total of 340 questionnaires were collected. Probability sampling will not be used as the study does not have a sampling frame. The study will select a sample based on untested modelling assumptions using convenience sampling from non-probability sampling picks, with respondents being judged by the researcher based on the selection of appropriate characteristics. Based on the two parts of data, 640 questionnaires were initially collected, invalid questionnaires with less than 1 min to fill in and consistent scores on the questionnaire items were removed, resulting in 580 valid sample data, with an effective rate of 90.63%. The information on the essential characteristics of the respondents (as shown in Table 1) shows that: in terms of gender ratio, the respondents included 296 females and 288 males, accounting for 49.32% and 50.68% of the total, respectively, with a coordinated gender ratio; in terms of age structure, middle-aged teenagers from 19 to 44 were predominant, with 488 people in total, accounting for 83.56% of the total number; in terms of education distribution, the In terms of educational attainment, the majority of respondents had a university degree, with 327 people (56% of the total) having the ability to fill in questionnaires; in terms of employment structure, the majority of respondents fell within the range of company employees and students, with a certain level of spending power, with 483 people (82.7% of the total).

Fig. 1 Theoretical model



**Table 1** Descriptive statistical analysis

Category	Demographic characteristics	Number	Percentage	Category	Demographic characteristics	Number	Percentage
Gender	Man	288	49.32%	Occupation	Students	344	58.90%
	Women	296	50.68%		Company employees	139	23.80%
Monthly income	RMB3,000 and below	208	35.62%	Self-employed/freelance workers	56	9.59%	
	3001-12000RMB	332	56.85%	workers	37	6.34%	
	12000-25000RMB	32	5.48%	State institutions	2	0.34%	
	25,001 RMB and above	12	2.05%	Institutional staff	6	1.03%	
Age	18 years and under	22	3.77%	Education level	Others	30	5.10%
	19–44 years old	488	83.56%		High School and below	180	30.80%
	45–59 years old	70	11.99%		Specialized	327	56.00%
	60 years and above	4	0.68%		Undergraduate	47	8.00%

## Scale selection

The study used the Likert 5-point scale to measure all measured variables, with 1 indicating strong disagreement and 5 indicating strong agreement.

Communicative Language (CL). This paper draws on Sundaram and Webster's (2000) research. It proposes to use the Communication Language dimension of the Social Cues in Service Scenarios scale, which typically measures the "ability of the salesperson to present the product in the easy-to-understand language during the purchase process", with an Alpha of 0.853.

The former contains fundamental indicators such as place information and product information, while the latter is a co-sensory indicator mapping product power and social status. In this paper, we propose to use the scale of Landry R, Bourhis R Y scholars to measure four items. Its standard measure is "During the purchase process; I can clearly understand the advertising slogans on the product shelves", which has an Alpha of 0.836.

Arousal (AR) was measured using a scale based on the PAD model of emotion by Detandt et al. (2017). Four items were selected, the specific item being "Failure to evoke attention - Arousal of attention", which had an Alpha of 0.886.

In this paper, we propose to use Steuer's (1992) and Khalifa et al.'s (2002) scale to measure spatial presence perception and draw on Ning Shen and Khalifa's (2008) scales to measure social presence perception, and divide social presence perception into three dimensions: conscious presence perception, emotional presence perception and cognitive presence perception. Four items were selected, with the specific item being "The salesperson and other consumers influence my emotions to some extent when buying goods", with an Alpha of 0.881.

Purchase Intention (PI), which is divided into "consume intention", "recommend intention," and "share intention", was designed using Cronin and Taylor's (1992) definition of the dimensions of behavioural intention and its connotation.

The study used Cronin and Taylor's (1992) definition and elaboration of the dimensions of behavioural intentions to design a scale to measure the willingness to punch a card. Four items were selected, and the typical item was "I would consume this product again if I had the chance", with an Alpha of 0.807.

Based on the above question composition, the initial measurement scale items were formed, and the data collected were analysed using AMOS 26.0 software, dealing with the relationships and validation between a range of variables, mainly including validation analysis, discriminant validity, model fit and path coefficients.

## Research results

### Confirmatory factor analysis

The results of the Confirmatory Factor Analysis (CFA) study showed that the Squared Multiple Correlations (SMC) values for all variables ranged from 0.704–0.888, which met the criterion of greater than 0.5, and the Average Variance Extracted (AVE) values ranged from 0.851–0.860, which met the criterion of greater than 0.5. Average Variance Extracted (AVE) values ranged from 0.851–0.860, which is greater than the criterion of 0.5, and the Composite Reliability (CR) values ranged from 0.959–0.972, which is greater than the criterion of 0.7. Therefore, this study's validation factor analysis results met the criteria, the convergent validity was good, and all the constructs had good convergent validity.

### Discriminant validity

Table 2 reports the discriminant validity of the measurement model, with the bolded items on the diagonal line indicating the square root of the mean-variance extraction. In this study, discriminant validity was tested using Fornell

**Table 2** Discriminant validity for the measurement model

Variables	Mean	SD	AVE	(1)	(2)	(3)	(5)
CL	3.412	0.841	0.851	<b>0.923</b>			
AR	3.172	0.930	0.852	0.681**	<b>0.928</b>		
PR	3.586	0.820	0.860	0.807**	0.879**	<b>0.923</b>	
PI	3.469	0.827	0.853	0.764**	0.692**	0.743**	<b>0.922</b>

\*\* indicates significant at the 0.01 level, diagonal values are the square root of each variable AVE

and Larcker’s (1981) recommendation that the open root of the mean-variance extraction for each construct be greater than the correlation between it and all other constructs. A comparative analysis of Pearson correlation values and AVE root values can initially verify the scientific validity of the research hypothesis proposed in the previous section. This study has good discriminant validity. Based on this, the study will further clarify the interrelationships and interactions among the elements of internal communication language, arousal, presence and purchase intention through factor analysis and model construction and explore the influence of consumer language on potential consumers’ purchase intention.

**Model fit degree**

The study used AMOS 26.0 to test the fit of the model to be validated, and the final measurement model met the ideal criteria for each of the main fit indicators, i.e.  $\chi^2/DF = 2.958$  ( $< 3$ ), RESEA = 0.058 ( $< 0.08$ ), SRMR = 0.000 ( $< 0.08$ ), CFI = 0.982 ( $> 0.9$ ), the GFI = 0.934 ( $> 0.9$ ), AGFI = 0.901 ( $> 0.9$ ), the model fit is satisfactory and the research model constructed from the sample data is not significantly different from the actual situation. Therefore, the model can be used to explain the actual observed data.

**Regression coefficient**

In the model of this study (e.g. Table 3), CL significantly affects Presence Perception (PR) ( $b = 0.692, p < 0.05$ ), indicating that there is a significant positive effect of Communication Language on consumers’ Presence Perception in the consumption scenario, as verified by Hypothesis 1; PR significantly affects Arousal (AR) ( $b = 0.681, p < 0.05$ ), indicating that there is a significant positive effect of PR on

consumers’ psychological arousal in the consumption scenario, as verified by Hypothesis 3; PR significantly influences purchase intention (PI) ( $b = 0.614, p < 0.05$ ), indicating that there is a significant positive effect of PR on consumers’ purchase intention in the consumption scenario, as verified by Hypothesis 3; presence PR significantly influences PI ( $b = 0.614, p < 0.05$ ), as verified by Hypothesis 4 was verified; AR significantly influenced PI ( $b = 0.358, p < 0.05$ ), indicating that there was a significant positive effect of consumer psychological arousal on their purchase intention in the consumption scenario, Hypothesis 6 was verified. Therefore, hypotheses H1, H3, H4 and H6 are valid.

**Mediating effect analysis**

In order to calculate the mediating effect more precisely, this study tested the mediating effect using structural equation modelling analysis, firstly using the Bootstrap estimation technique (Hayes, 2009) to estimate the standard error of the mediating effect by selecting a 95% confidence interval, and then further calculating the significant level of the mediating effect. The results showed (as in Table 4) that the total effect of communication language on willingness to use purchase was 0.608, with a standard error of 0.044 and a z-value of 3.182, which met the criterion of greater than 1.96. At a 95% confidence level, the lower limit of the confidence interval obtained by Bias-corrected estimation is 0.514, and the upper limit is 0.665; the lower limit of the confidence interval obtained by Percentile estimation is 0.511, and the upper limit is 0.660, which does not include 0, so the total effect holds. The indirect effect of communication language on purchase intention through the mediation of presence is 0.425, with a standard error of 0.046 and a z value of 3.179, which meets the criterion of greater than 1.96. At a 95% confidence level, the lower bound of the

**Table 3** Direct path analysis

DV	IV	Unstd	S.E.	C.R.	p	Std.	R <sup>2</sup>	Result
PR	CL	0.681	0.035	20.426	***	0.692	0.479	Pass
AR	PR	0.708	0.034	20.238	***	0.681	0.463	Pass
PI	PR	0.603	0.035	20.943	***	0.614	0.852	Pass
	AR	0.298	0.054	6.829	***	0.388		Pass

Abbreviations: DV: direct variables; IV: Indirect variables; S.E.: Standard error ; C.R.: Critical ratio

**Table 4** The analysis of mediation effect

Effect	Point Estimate	product of coefficients			Bootstrap			
		S.E.	z-value	p-value	Bias-corrected 95%		Percentile 95%	
					Lower	Upper	Lower	Upper
Total effect CL→PI	0.608	0.044	3.182	0.001	0.514	0.665	0.511	0.660
Indirect effects CL→PR→PI	0.425	0.046	3.179	0.001	0.107	0.506	0.093	0.491
Indirect effects CL→PR→AR→PI	0.183	0.016	3.784	0.000	0.038	0.234	0.032	0.226

confidence interval obtained by Bias-corrected estimation is 0.107, and the upper bound is 0.506; the lower bound of the confidence interval obtained by Percentile estimation is 0.093 and the upper bound is 0.491, which does not include 0. Therefore, the indirect effect of presence is valid; the indirect effect of communication language on purchase intention through the chain mediation of presence and arousal is 0.183, and the indirect effect of communication language on purchase intention through the chain mediation of presence and arousal is 0.183. The indirect effect of communication language on purchase intention through the chain mediation of presence and arousal is 0.183, with a standard error of 0.016 and a z value of 3.784, which meets the criterion of greater than 1.96. At a 95% confidence level, the lower bound of the confidence interval obtained by Bias-corrected estimation is 0.038, and the upper bound is 0.234, while the lower bound of the confidence interval obtained by Percentile estimation is 0.032 and the upper bound is 0.226, which does not include 0. Therefore, the indirect effect of presence and arousal is valid.

In summary, it is clear that presence mediates between communication language and purchase intentions and, together with arousal, plays a mediating role between communication language and purchase intentions. Accordingly, H5 and H7 were established.

### Analysis of moderating effects

When testing the moderating effect of scene language on the direct path between communication language and presence, a confidence level of 95% was chosen. The confidence intervals for the path coefficients of the interaction between communicative language, scene language, and communicative language and scene language, respectively, on creativity, did not include zero at the 95% confidence level, indicating that their path coefficients were all significant, thus allowing the moderating effect of scene language on the relationship between communicative language and presence sensors to be significant. Further analysis revealed that communication language and scene language had a positive predictive effect on presence sense performance (regression coefficients of 0.573 and 0.263, respectively), and the cross-product term

had a positive predictive effect on presence sense, with the above three variables explaining 64% of the variance in creativity performance ( $R^2 = 0.640$ ,  $T = 23.875$ ,  $p < 0.000$ ). These results suggest that scene language is a moderator between communication language and presence sense and enhances the positive predictive effect of communication language on consumers' presence sense; thus, the research hypothesis H2 was confirmed.

## Research discussion

### Conclusion

This study investigates the relationship between consumer language and consumers' purchase intentions based on a sense of presence perspective. Through two differentiated consumption introduction context experiments, the association between the influence of consumption language on purchase intention in various shopping scenarios is examined comprehensively, and the pathways of the effect of presence, evocation and other stream-of-mind experiences on purchase intention are further revealed, with the following findings.

Firstly, the more vivid and visible the presence of consumer language, the more significant the effect on the sense of presence. The findings show that communication language positively influences consumers' sense of presence, and that environmental language has a positive and significant moderating effect between the two, in line with Chesterman's (2009) idea of linguistic landscape theory, and the findings are similar to those of Mohammad (2019). In online shopping, without direct contact and interaction with the object, individuals form mental images of the object in their minds with the stimulation of cues in the natural environment, such as text, pictures, videos and other information, thus forming a virtual experience of the scene. Generally speaking, the more concrete and vivid the cues are, the easier it is to awaken individuals' mental images. In the process of physical consumption, with the development of product packaging, presentation and other sales processes, consumers are more and more eager for deeper spiritual enjoyment while enjoying material life, and the experience of emotion

in product language packaging has become one of the most direct reasons for consumers to choose products.

Second, presence is an important driver and antecedent variable of arousal, and arousal plays a vital role in bridging the gap between presence and purchase intention. The findings are consistent with existing research, confirming the significant relationship between presence and arousal (Lénia & Beatriz, 2020). Vivid consumer language can provide:

- a realistic feeling of “I am already using the product”,
- making potential consumers feel “present” after the purchase,
- enhancing their trust in the product and bringing them closer to the merchant.

This presence tends to enhance the potential consumer’s trust in the product, bringing them closer to the merchant’s psychological distance and perception of value.

Third, the direct effect of presence on willingness to purchase intention was positively significant and formed a chain mediator with arousal in the relationship between the effects of communication language and willingness to purchase. The findings are consistent with those of Kim and Cooke (2021). The pathway of verbal consumption is a complex and nuanced process involving several elements of pre-consumption (information gathering, product selection, etc.), in-consumption (scene interaction, merchant communication, sales guidance, etc.) and post-consumption (consumption experience and evaluation of purchase intention, etc.) experiences. Compared to the general stimulus factor, verbal consumption is more costly in time and money, making impulsive consumption less likely to occur. It is not enough to have an immersive experience or an arousing emotion of excitement or stimulation. However, the emotion needs to go deeper, and only when it is transformed into an optimal experience of enjoyment, pleasure, and immersion can it stimulate the individual to consume. At the same time, the language of communication and the language of the scene has to be evoked and evoked in order to be used as an incentive to buy, which means that consumer purchases are, to a certain extent, controllable and can increase the potential consumer’s “impulse purchase index” by evoking the experience.

### Theoretical implications

Firstly, the existence and applicability of psychological arousal in consumption confirm that potential consumers may also strongly urge to consume when stimulated by external linguistic elements. Secondly, it extends the research related to the influence of scenario language on potential consumers’ behaviour in consumer consumption contexts. While previous studies have focused on the communication

discourse between salespeople and live broadcasters during the consumption process and have mainly focused on the influence of functional discourse in product advertising on potential consumers, this study is based on a comprehensive consumption context. It reveals the relationship between visual language presentation forms such as linguistic landscapes in consumption scenarios and potential consumers, which can enrich the existing research findings to a certain extent. Again, the study introduces the concept of presence in the field of communication and reveals the influence of communication language on purchase intention based on the perspective of presence, which provides a new perspective for understanding the relationship between consumer language and buyer behaviour and enriches the boundaries of the application of presence in the consumer marketing environment. Finally, the study further examines the applicability of presence evocation in a marketing environment, but the findings are inconsistent with traditional research. According to previous research, evocative emotions in a marketing shopping environment can only play an indirect role through the mindstream experience. In contrast, in this study, evocative emotions in a linguistically mediated environment significantly affect purchase intentions. This result reflects the difference between consumer language and general consumer stimulus elements.

### Practical implications

First of all, we study the emotional language in the visual language of the colour, shape and material of product packaging, shelf presentation slogans, advertising slogans and instructions, and analyse their unique emotional expressions to realise the emotional connection between consumers and goods, making it a high-level activity at the spiritual level. The visual form language of inspirational commodity design refers to a series of visual symbols, the essence of which is to decode the visual symbols of the shape, colour and material of the product packaging, using the visual impact on the audience and mobilising their own accumulated visual art experience and visual art thinking to express the linguistic and human emotions embedded in the sale of the product.

In the Web 2.0 era, live e-commerce shopping platforms and social media not only have low cost, high communication efficiency and broad audience, but also their shopping sharing can positively predict individual impulsive shopping intentions. Therefore, marketers can adopt incentives to encourage and guide consumers to share their shopping experience and product usage on their social media, making full use of communication language sharing to achieve the marketing objective of attracting potential consumers.

Finally, strengthen the guidance of evoking a sense of experience for the product information in the scene



language, and arrange vivid and visual scene language to prompt consumers to resonate with the flow of the heart. The stronger the vividness of the linguistic landscape, the more pronounced the evocative effect on the sense of presence. For offline experience marketers, while inspiring consumers to shop and consume, they should also pay full attention to the visual language of the experience context, pay attention to the guidance of consumers, attract potential consumers to “enter” the contextual experience scene and form a sense of presence, thus stimulating their impulse to buy. Finally, evocation’s role in forming impulsive purchase intentions should be emphasised. Therefore, in the future, offline shops will need to use more emotive rendering in their marketing campaigns to evoke the best experience for potential consumers and increase their likelihood of making impulsive purchases.

## Limitations

Firstly, the study only selected a small number of social online shopping platforms such as Amazon and a small number of specific experience destinations such as Pavilion Kuala Lumpur in Malaysia to design the experimental materials, which may lead to a lack of generalisability and rigour in the experimental results. Therefore, future research can be extended to other online shopping platforms or enrich the types of offline experience destinations to enhance the generalisability of the research results. Secondly, this study only focuses on the immersion experience brought about by presence, which is only at the level of individual psychological perception. Presence can also influence sensory experiences such as perspective and hearing, so it is necessary to design further experiments in the future to test whether the presence in a linguistic landscape context can influence individuals’ sensory experiences and, thus, their behaviour or behavioural intentions.

**Abbreviations** *CL*: Communicative Language; *AR*: Arousal; *PI*: Purchase Intention; *CFA*: Confirmatory Factor Analysis; *SMC*: Squared Multiple Correlations; *AVE*: Variance Extracted; *CR*: Composite Reliability; *PR*: Presence Perception

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Noor Azlin Ismail: Revision of the statistical analysis and the manuscript.

**Data availability** The dataset is available from the corresponding author on reasonable request.

## Declarations

**Consent to participate** An informed consent was obtained from all of the participants at the beginning.

**Consent for publication** Written informed consent for publication was obtained from all participants.

**Conflicting interest** The authors declare that they have no conflict of interest.

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