The Influence of Social Presence on Consumer Satisfaction_A Case Study of Snow King Mixue

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Abstract
This study explores the impact of social presence on consumer satisfaction, focusing on the Snow King character from the Mixue brand. Using a quantitative survey method analyzed by PLS-SEM, the findings show that perceived anthropomorphism significantly influences user experience and perceived usefulness, while social presence increases the perceived humanity of the character. Although variables such as flow and perceived enjoyment show weaker effects, the results highlight the importance of social presence and anthropomorphic design in fostering emotional connection and increasing consumer satisfaction. These insights offer valuable guidance for marketers looking to strengthen brand engagement through virtual character strategies.

Article History:

Keywords:
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1. Introduction

Social presence in the digital world is growing rapidly and complexly along with technological advancements (Kim & Park, 2024). One form of social presence that has attracted attention is the use of virtual characters or avatars as brand representations. The influence of social presence, particularly through avatars, on consumer behavior has become a significant research topic in recent years. This is driven by the growing number of companies utilizing avatars to create a more personalized relationship with their consumers.

Previous research on social presence has provided important insights into consumer interactions with various forms of virtual representations. However, some limitations remain, such as demographic representations that are too narrow, focusing only on a specific gender or age, as well as limited attention to avatar design and the context of brand collaboration with virtual influencers. To address these gaps, this research was conducted with a case study on the Snow King character from the Mixue brand. The Snow King character was chosen due to its high popularity across a wide range of consumers, making it a relevant object to research.

This research aims to provide a more comprehensive picture of the influence of social presence in a broader context. Based on this background, the research problem is formulated as follows: How does the social presence of the Snow King character from the Mixue brand affect consumer satisfaction? The purpose of this study is to analyze the effect of the social presence of the Snow King character from the Mixue brand on customer satisfaction.

2 Method

2.1 Research Design

This research uses a quantitative approach that emphasizes the collection and analysis of numerical data to measure consumer behavior, knowledge, opinions, or attitudes (Sekaran & Bougie, 2016). Surveys were chosen as a data collection method because they are able to describe, compare, and explain individual knowledge, attitudes, and behavior (Sekaran & Bougie, 2016). The data obtained was then analyzed statistically to test the hypothesis proposed.

2.2 Sampling Method

The sampling method used in the study was *purposive sampling* where the sample was selected based on the criteria set by the researcher (Sekaran & Bougie, 2016). Using this method allows researchers to select respondents who are considered to have information or attributes that are in accordance with the research objectives. In the context of this study, the criteria applied include mixue consumers who have and buy mixue and use the mixue application. The research sample was planned to consist of 200 respondents (Hair et al., 2019). The survey was distributed over 3 weeks which had a total of 37 items, each question item used a 5-point Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree).

2.3 Data Analysis Method

2.3.1 Measurement Model

This study was analyzed using the Partial Least Squares Structural Equation Modeling (PLS-SEM) method with the help of SmartPLS software, which was chosen for its ability to test complex models with multiple latent variables and indicators (Hair et al., 2019). At the measurement model evaluation stage, internal consistency was assessed using Composite Reliability and Cronbach's Alpha, with acceptable standard values usually being more than 0.70 (>0.70), indicating good reliability (Hair et al., 2019). Convergent validity is evaluated through Average Variance Extracted (AVE), which is expected to have a value of more than 0.50 (>0.50) to indicate that the construct is able to explain the variation of the indicators used. In addition, discriminant reliability is examined using cross-loading and the Fornell-Larcker criterion to ensure that each indicator has a higher correlation with the measured construct than with other constructs.

2.3.2 Structure Model

Structural testing in this study was conducted using several metrics, such as R^2, f^2, Q^2, Goodness of Fit (GoF), and path tests. The expected R^2 value of more than 0.5 (>0.5) indicates that endogenous variables can be explained quite well by exogenous variables (Hair et al., 2019). In addition, an f^2 value greater than 0.1 (>0.1) indicates a significant contribution of the exogenous variables to the endogenous variables in the model. A Q^2 value greater than 0 (>0) indicates that the model has good predictive ability of endogenous variables.

In Structural Equation Modeling (SEM) analysis, GoF is used to evaluate the extent to which the proposed model fits the observational data. GoF values close to 1 reflect a good fit between the proposed model and the observed data (Hair et al., 2019). In addition, bootstrapping, as a resampling technique in SEM, is used to evaluate the significance of the relationship between variables without relying on certain distribution assumptions. The relationship is considered significant if the t-statistic value exceeds 1.96 (>1.96) and the p-value is less than 0.05 (<0.05) (Hair, 2019).

3 Results and Discussion

3.1 Results

The results of analysis using Structural Equation Modeling Partrial Least Squares (SEM-PLS) by testing the Measurement Model and Structural Model:

Table 1
Outer Loading

Indikator	Perceived Anthropomorphism	Flow	Perceived Enjoyment	Perceived Usefulness	Social Presence	Satisfaction with Experience
Flo1		0.7204				
Flo2		0.7528				
Flo3		0.7869				
Flo4		0.7730				
PerEn1			0.8143			
PerEn2			0.7698			

PerEn3		0.8402			
PerUs1			0.8251		
PerUs2			0.8022		
PerUs3			0.8075		
PerUs4			0.7825		
SatWiEx1					0.6729
SatWiEx2					0.7305
SatWiEx4					0.7357
SatWiEx5					0.7641
SatWiEx6					0.7676
SocPr1				0.7786	
SocPr2				0.8068	
SocPr3				0.7370	
SocPr4				0.7506	
PerAn1	0.8876				
PerAn2	0.8394				
PerAn3	0.8605				

The results of the outer loadings in the table show that most indicators have values above 0.7, which indicates a strong and significant contribution to the latent constructs they represent. The constructs of Flow, Perceived Enjoyment, Perceived Usefulness, Social Presence, and Perceived Anthropomorphism have relevant indicators, with outer loadings consistently above 0.7. However, in the Satisfaction with Experience construct, some indicators have values that are close to the minimum acceptable limit, such as SatWiEx1 (0.6729). Overall, the indicators are able to represent the latent constructs well and support the validity of the measured model.

Table 2
Construct Validity & Reliability

Variable	Cronbach Alpha	Composite Reliability	Average Variance Extracted
Perceived Anthropomorphism	0.8281	0.8972	0.7443
Flow	0.7547	0.8442	0.5756
Perceived Enjoyment	0.7346	0.8498	0.6539
Perceived Usefulness	0.8182	0.8800	0.6472
Social Presence	0.7688	0.8523	0.5910
Satisfaction with Experience	0.7889	0.8542	0.5401

The Construct Validity & Reliability results show that all constructs have good reliability and validity based on three key metrics. Cronbach's Alpha values above 0.7 indicate strong internal consistency, while Composite Reliability (CR) also above 0.7 indicates high reliability in measuring the constructs. In addition, Average Variance Extracted (AVE) values exceeded 0.5 for all constructs, confirming adequate convergent validity. Overall, the indicators in the constructs can represent the latent variables well, making the model suitable for further analysis.

Table 3
Descriminant Validity - Fornell-Larcker Criterion

Variables	Perceived Anthropomorphism	Flow	Perceived Enjoyment	Perceived Usefulness	Social Presence	Satisfaction with Experience
Perceived Anthropomorphism	0.8627					
Flow	0.4855	0.7587				
Perceived Enjoyment	0.5641	0.6126	0.8086			
Perceived Usefulness	0.5299	0.6106	0.7287	0.8045		
Social Presence	0.6541	0.4933	0.5045	0.5434	0.7687	
Satisfaction with Experience	0.5519	0.4480	0.4803	0.4854	0.6830	0.7349

Table 4
Descriminant Validity – HTMT

Variables	Perceived Anthropomorphism	Flow	Perceived Enjoyment	Perceived Usefulness	Social Presence	Satisfaction with Experience
Perceived Anthropomorphism						
Flow	0.6094					
Perceived Enjoyment	0.7206	0.8171				
Perceived Usefulness	0.6413	0.7733	0.9356			
Social Presence	0.8187	0.6405	0.6691	0.6873		
Satisfaction with Experience	0.6678	0.5656	0.6157	0.6030	0.8593	

The main diagonal value representing Average Variance Extracted (AVE) is greater than 0.5 for all constructs, indicating good convergent validity. This means that the indicators in each construct are able to explain construct variability well. In addition, the correlation values between constructs (outside the main diagonal) show results that are mostly in accordance with the Heterotrait-Monotrait Ratio (HTMT) criteria, which is less than 0.85, confirming that the constructs have adequate discriminant validity.

Table 5
F-Square

Variables	Perceived Anthropomorphism	Flow	Perceived Enjoyment	Perceived Usefulness	Social Presence	Satisfaction with Experience
Perceived Anthropomorphism		0.3084	0.4666	0.3905	0.7476	0.0129
Flow						0.0034

Perceived Enjoyment	0.0077
Perceived Usefulness	0.0002
Social Presence	0.2623
Satisfaction with Experience	

The analysis results show that Perceived Anthropomorphism has a significant influence on other variables, such as Flow (0.4666) and Perceived Usefulness (0.3905), indicating that the perceived humanity of a system plays an important role in the user experience and perceived usefulness of the system. In addition, Social Presence showed a strong relationship with Perceived Anthropomorphism (0.7476), emphasizing that social presence in interactions can enhance the perceived humanity of the system. In contrast, other variables showed lower f-square values, reflecting a weaker influence.

Table 6
R-Square

Dependent	R-Square	R-Square Adjusted	Status
Flow	0.2357	0.2319	Weak
Perceived Enjoyment	0.3182	0.3147	Weak
Perceived Usefulness	0.2808	0.2772	Weak
Satisfaction with Experience	0.5026	0.4899	Moderate
Social Presence	0.4278	0.4249	Moderate

The results of the analysis show that the variables Flow, Perceived Enjoyment, and Perceived Usefulness have low R-square values, indicating that the independent variables in the model are only able to explain a small part of the variation in these variables. In contrast, the variables Satisfaction with Experience and Social Presence have moderate R-square values, indicating that the independent variables in the model can explain most of the variation in these two variables. This emphasizes that the model is more effective in predicting Satisfaction with Experience and Social Presence than other variables.

Table 7
Colinearity Statistics

Dependent	Idependent	VALUE
Flow	Perceived Anthropomorphism	.
Perceived Enjoyment	Perceived Anthropomorphism	.
Perceived Usefulness	Perceived Anthropomorphism	. 1.845
Satisfaction with Experience	Perceived Anthropomorphism	2.027 2.516 2.491
	Social Presence	1.969
Social Presence	Perceived Anthropomorphism	.

Table 8
Path Coefficients

Hipotesis	Sample Mean	Standard Deviation	T-Test	Upper CI	Lower CI	Status
Flow → Satisfaction with Experience	0.0575	0.0753	0.7635	-0.0515	0.1985	Tidak Signifikan
Perceived Anthropomorphism → Flow	0.4855	0.0548	88.579	0.3976	0.5812	Signifikan
Perceived Anthropomorphism → Perceived Enjoyment	0.5641	0.0546	103.349	0.4750	0.6512	Signifikan
Perceived Anthropomorphism → Perceived Usefulness	0.5299	0.0540	98.179	0.4396	0.6175	Signifikan
Perceived Anthropomorphism → Satisfaction with Experience	0.1166	0.0926	12.595	-0.0381	0.2671	Tidak Signifikan
Perceived Anthropomorphism → Social Presence	0.6541	0.0364	179.583	0.5947	0.7156	Signifikan
Perceived Enjoyment → Satisfaction with Experience	0.0876	0.0915	0.9583	-0.0619	0.2434	Tidak Signifikan
Perceived Usefulness → Satisfaction with Experience	0.0487	0.0895	0.5447	-0.1136	0.1797	Tidak Signifikan
Social Presence → Satisfaction with Experience	0.5077	0.1026	49.484	0.3268	0.6653	Signifikan

Overall, these results show that some variables such as perceived anthropomorphism and social presence have a significant influence on various aspects of the consumer experience, while other variables such as flow and perceived usefulness do not have a significant influence in this context.

3.2 Discussion

The findings from this study provide valuable insights into the impact of social presence and anthropomorphism on consumer satisfaction in the context of Mixue's Snow King character. The results show that perceived anthropomorphism plays an important role in shaping user experience and perceived usability. These findings are in line with previous research showing that anthropomorphic design can increase user engagement and satisfaction. In addition, this study highlights the importance of social presence in fostering positive consumer experiences. The strong relationship between social presence and perceived anthropomorphism suggests that creating a sense of social connection with characters can significantly increase the perceived humanity. This finding has implications for brand building and customer relationship management, as it suggests that brands can utilize social presence to build stronger emotional connections with their customers.

However, the study also revealed that variables such as flow and perceived enjoyment had a weaker influence on consumer satisfaction in this particular context. This finding suggests that while these factors may be important in other contexts, their impact may be less pronounced when dealing with specific characters such as the Snow King. It is important to note that the findings of this study are based on a specific context and sample. Future research could explore the generalizability of these findings to other contexts and populations. In addition, further

investigation into the mechanisms underlying the relationship between social presence, anthropomorphism, and consumer satisfaction may provide deeper insights into the psychological processes involved.

4 Conclusion

In conclusion, this study contributes to the growing body of research regarding the impact of social presence and anthropomorphism on consumer behavior. The findings suggest that these factors can be leveraged to create more engaging and satisfying user experiences. By understanding the underlying mechanisms, marketers and designers can develop more effective strategies to attract and retain customers.

5 References

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