

Engaging Brand Experiences for Gen Z Consumers: The Roles of Website Design and Social Interaction in Shaping Flow and Stickiness in Intellectual Property (IP) Character Stores

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Abstract

Given the growing importance of online stores in sustaining consumer engagement, intellectual property (IP) character store designs increasingly use varied interactive features that jointly influence consumer behavior. We develop a model grounded in stimulus–organism–response theory to examine how an IP character store’s visual design, visibility, and social interaction affect user flow and engagement, which in turn shape consumer stickiness. Data were collected through an online survey targeting users who had purchased IP characters from a popular branded online store. We reveal that social interaction and visual design significantly enhance flow and engagement, thereby strengthening stickiness. These findings offer actionable insights for IP character management and online retail strategy.

Keywords: Website visual design; Website visibility; Website social interaction; Website flow; Consumer engagement; Consumer stickiness

1. INTRODUCTION

Retailers pursue differentiation strategies and stronger market positions by developing intellectual property (IP) products [1]. The positioning of newly introduced IP products may differ from that of existing retail offerings. Compared with practical value, an IP product’s image primarily conveys emotional value [2]. For example, Pop Mart’s popular IP characters (e.g., Molly, Dimoo, and Labubu) feature distinctive design styles and personalities that appeal to diverse Generation Z preferences [3]. These IP characters provide special emotional value, fostering positive consumer attitudes and behaviors such as engagement and stickiness [4]. As emotional value becomes increasingly central, understanding how consumers build and develop relationships with IP characters is essential for explaining their purchase intentions.

IP characters are primarily sold through online store platforms. Unlike traditional retail channels, firms using online shopping for revenue generation can sell both physical and virtual IP characters [5]. This distinction arises from the unique features of online retail environments. Physical IP characters can be used offline,

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whereas virtual IP characters exist solely within specific digital spaces, such as with avatars or virtual stickers for designated web platforms [6]. With the rise of the internet as a major shopping medium, prior research has explored factors shaping online purchasing, including website flow experiences, and compared outcomes between online and offline shopping contexts [7]. Consequently, it is essential to examine how online shopping channels help consumers form and strengthen relationships with IP characters.

A key feature of online retailing is its ability to provide a direct, interactive channel unrestricted by time, location, or personnel [8]. Most interactions occur through websites or apps designed to meet user needs for shopping, entertainment, information, and social connection [9]. In online purchasing contexts, product information delivered through social interaction becomes adaptive and better aligned with individual consumer needs [10]. Prior studies have shown that online social interaction helps reduce information overload [11], enhance engagement [12], and ultimately influence behavior and stickiness [13].

Additionally, online stores offer both visual and utilitarian benefits [14]. Website visual design, an essential stimulus, is defined as “attention-grabbing, aesthetic, visual quality” [15]. Such visual stimuli enhance flow experiences, thereby strengthening engagement and stickiness [16]. Similarly, website visibility, as a utilitarian stimulus, fosters positive consumer attitudes and behaviors [17].

Previous research has conducted large-scale investigations into consumer engagement based on website characteristics [18, 19]. Some studies have analyzed how website visibility influences engagement [20, 21], while others have examined the relationship between website visibility features and engagement outcomes [22, 23]. Dolan et al. (2019) [22] specifically emphasized the role of visual design in shaping consumer engagement. However, few studies have simultaneously explored how visual design, visibility, and social interaction jointly affect consumer engagement and, in turn, consumer stickiness toward IP characters.

This study contributes to the literature in several ways. First, it introduces a combined IP character website feature model, offering a broader analytical lens to examine consumer flow and engagement using stimulus–organism–response (SOR) theory. Second, it investigates how consumer engagement influences stickiness toward IP characters. Finally, it highlights industry-level differences in the relationships between website features and engagement, providing practical insights for IP marketers to design more effective and targeted engagement strategies.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Website characteristics and website flow

Online sites typically incorporate social interaction, visual design, and visibility features. Site social interactivity is defined as the degree to which users can engage with virtual objects and alter the content or perspective of a mediated environment in real time [24]. Consumers’ website social interactions with virtual goods may be either enhanced or limited by the technical design of immersive environments that shape their overall experience [6]. When searching online, consumers expect diverse and detailed information [25]. A website’s informativeness through website social interaction encourages deeper user involvement by facilitating product searches and evaluations [26]. website social interaction as information adoption stimulus that affect consumer to obtain information, the more relevant the information is to users through the, the more likely they are to conduct in-depth searches and become fully immersed in the experience.

Website visual design, a core element of web development, is defined as “the attention-grabbing, aesthetic, visual quality of individual web pages” [15]. In related fields, it refers to the sensory and structural attributes

created by designers that shape consumers' first impressions of a product or interface [27, 28]. Following the previous studies, it has illustrated that website design as visual stimulus enhance consumer website flow experience.

Visibility is generally defined as the degree to which an organization shares information about its decision-making [29]. Visibility encompasses attributes such as integrity, transparency, accuracy, and forthrightness, helping reduce perceptions of ambiguity. Moreover, visibility includes consumers' ability to access relevant information [30]. Fundamentally, visibility reflects customers' emotional and cognitive perceptions of authenticity and honesty in communication [31]. Website visibility as a website stimulus, easily visibility more influence consumers' website flow experience.

Previous studies have shown that website characteristics positively enhance the consumer flow experience following the SOR theory [32]. According to SOR theory, website characteries as stimulus positively influence consumer website flow experience as organism. Meanwhile, based on flow theory, research demonstrates that specific website elements can heighten users' sense of flow [33]. Findings also indicate that interpersonal interaction and interactivity speed are vital for maintaining focused attention, thereby strengthening flow [34]. Regarding telepresence, the attractiveness of a website's visual interface significantly facilitates users' flow experience in online environments [35]. Likewise, visibility, reflecting consumers' perceptions of authenticity and transparency in communication, contributes to the generation of flow experiences [16]. Therefore, the following hypotheses are proposed:

H1: Website characteristics positively influence website flow.

H1-1: Website social interaction positively influences website flow.

H1-2: Website visual design positively influences website flow.

H1-3: Website visibility positively influences website flow.

2.2 Website characteristics and consumer engagement

Social media communication fosters a higher level of social interaction because users can observe how brand representatives engage with other followers and become familiar with their projected personalities through posts and comments [36]. Scholars also have noted that strong social interaction enhances positive attitudes and behavioral intentions, while communication from media sources with high perceived interaction produces effects comparable to consumer engagement. Because social interaction reflects an active, relational connection with media figures [37], social interaction between consumers and brand representatives is expected to strengthen engagement with brand social networking service pages. Therefore, website social interaction could as stimulus enhance consumer engagement.

Furthermore, websites and review platforms now feature rich imagery that enables immersive virtual experiences, significantly shaping consumer decision-making [38]. These aesthetic visuals help construct a pleasing digital environment, enhancing users' perceptions and encouraging deeper consumer engagement. Following these theoretical background, website visual stimulus will affect consumer engagement.

A website's ability to stimulate discussion, enhance familiarity, and increase visibility directly contributes to consumer engagement [39]. By offering diverse communication tools (e.g., text, images, and videos), social media enhances a brand's visibility, sustains continuous communication, and strengthens consumer engagement [40]. Accordingly, the following hypotheses are proposed:

H2: Website characteristics positively influence consumer engagement.

H2-1: Website social interaction positively influences consumer engagement.

H2-2: Website visual design positively influences consumer engagement.

H2-3: Website visibility positively influences consumer engagement.

2.3 Website flow and consumer stickiness

The ability of websites to create adaptive and personalized user experiences aligns with the defining features of the flow state, often leading to greater satisfaction and stickiness. Website flow describes the psychological state in which users become fully absorbed in an activity, losing awareness of their surroundings [41]. In online shopping contexts, flow reflects the enjoyable feeling consumers experience when deeply engaged with an IP character platform. Users on reputable sites tend to browse and purchase more confidently, focusing on enjoyment rather than caution in assessing information [42]. Therefore, a positive flow state enhances user stickiness.

H5: Website flow positively influences consumer stickiness.

2.4 Consumer engagement and consumer stickiness

Siebert et al. (2020) [43] introduced the concept of “sticky” customer journeys, describing engaging experiences that consumers are eager to revisit. Consumer stickiness has become a central construct in customer engagement and social media marketing research. For instance, Zhang, Li et al. (2017) [44] identified a strong link between engagement and stickiness (Lin et al., 2010), while Chen and Lin (2018) [45] found that website fashionability enhanced both engagement and stickiness in tourism contexts. However, the relationship among engagement, stickiness, and social media marketing activities remains complex and less clearly defined [46].

H5: Consumer engagement positively influences consumer stickiness.

2.5 Research Model

Based on the SOR theoretical framework, this study developed the final research model (Fig. 1) to test the proposed hypotheses. We predict that an online store’s web features positively influence flow and consumer engagement, which in turn strengthen consumer stickiness.

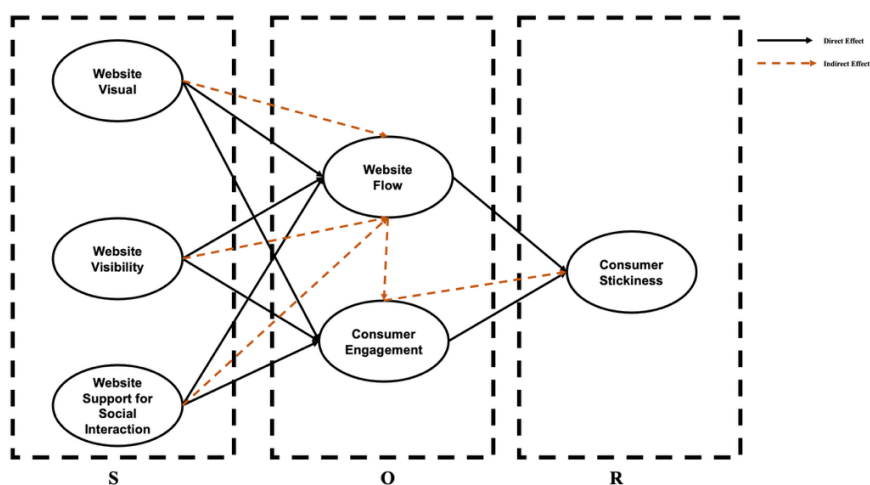


Figure 1. Research Model

3. METHOD

3.1 Measurement Development

A questionnaire was designed using insights from preliminary research and supplemented with items relevant to this study. The following data were collected through an online survey. Website social interaction is defined as the degree to which users can engage with virtual objects and alter the content or perspective of a mediated environment in real time [24] and was measured using five items adapted from [47]; Website visual design is defined as the attention-grabbing, aesthetic, visual quality of individual web pages and was assessed with four items from [48]; Website visibility is generally defined as the degree to which an organization shares information about its decision-making and was measured with four items derived from [49]; Website flow describes the psychological state in which users become fully absorbed in an activity, losing awareness of their surroundings [41] and included five items adapted from [50]; Consumer engagement described engage with other followers and become familiar with their projected personalities through posts and comment and was assessed using four items from [51]; Consumer stickiness described engaging experiences that consumers are eager to revisit and was measured with three items from [52]. All measures were originally developed in English-language studies and applied using five-point Likert scales ranging from strongly disagree to strongly agree.

3.2 Data Collection and Sample Characteristics

To ensure relevance, participants were first screened with the question, “Have you ever used the Line Friends online shop to purchase IP characters?” Only respondents answering “yes” were invited to complete the survey. This study chose generation Z as target consumer. Because of generation Z show highly purchase behavior in the IP product and they tend to build emotional relationship with IP. A total of 242 valid responses were obtained, of which 261 were usable for final analysis. Among respondents, 92% were aged 18–45, with the largest group (41%) falling between 26 and 35 years old.

4. DATA ANALYSIS AND RESULTS

4.1 Measurement Model Assessment

Based on the exploratory factor analysis results, a confirmatory factor analysis was conducted using AMOS 24 software to validate the measurement model. The model included six latent constructs [53]. As shown in Table 1, all 24 items had factor loadings above the 0.70 threshold, ranging from 0.710 to 0.934. The composite reliability for every construct exceeded 0.50 [54], and each construct’s Cronbach’s α surpassed 0.70, confirming internal consistency [55].

Convergent and discriminant validity were assessed using average variance extracted (AVE) values [53]. Each construct’s square root of AVE exceeded its inter-construct correlations, demonstrating strong discriminant validity [54].

Model fit indices further supported validity: the χ^2/df ratio was 2.035, below the acceptable threshold of 3.0 [56]; both comparative fit index (CFI) and incremental fit index (IFI) values exceeded 0.90, indicating excellent fit [57]; and the root mean square error of approximation (RMSEA) value of 0.066 was below the 0.08 cutoff [54]. Collectively, these results confirm strong model fit, validity, and reliability [58].

Table 1 Confirming factor analysis results

	Factor Loading	AVE	CR	Cronbach's Alpha
PWVISU → PWVISU1	0.872	0.791	0.938	0.875
PWVISU → PWVISU2	0.851			
PWVISU → PWVISU3	0.934			
PWVISU → PWVISU4	0.898			
PWVISI → PWVISI1	0.855	0.727	0.889	0.937
PWVISI → PWVISI2	0.801			
PWVISI → PWVISI3	0.899			
PWSSI → PWSSI1	0.813	0.645	0.879	0.893
PWSSI → PWSSI2	0.740			
PWSSI → PWSSI3	0.833			
PWSSI → PWSSI4	0.806			
FLOW → FLOW1	0.817	0.690	0.918	0.917
FLOW → FLOW2	0.821			
FLOW → FLOW3	0.829			
FLOW → FLOW4	0.839			
FLOW → FLOW5	0.848			
CE → CE1	0.901	0.782	0.947	0.947
CE → CE2	0.909			
CE → CE3	0.836			
CE → CE4	0.858			
CE → CE5	0.915			
CS → CS1	0.710	0.681	0.864	0.857
CS → CS2	0.869			
CS → CS3	0.885			
Model Fit: $\chi^2=482.396$;df=237; $\chi^2/df=2.035$;GFI= 0.861; IFI=0.951; CFI=0.950; RMSEA=0.066				

Table 2 Discriminant validity

	VISU	VISI	SSI	FLOW	CE	CS
VISU	0.889					
VISI	0.522	0.853				
SSI	0.655	0.749	0.803			
FLOW	0.631	0.398	0.558	0.831		
CE	0.601	0.467	0.622	0.690	0.884	
CS	0.411	0.168	0.313	0.715	0.559	0.825

4.2 Structural Model

As shown in Table 3, the path analysis results provide strong support for the hypothesized model. The χ^2/df ratio was below 3.0, confirming acceptable model fit. The IFI (0.941) and GFI (0.849) both exceeded their respective 0.8 thresholds, while the RMSEA (0.071) remained below the 0.08 cutoff, indicating good fit.

In terms of path coefficients, social interaction significantly and positively affected website flow ($\beta = 0.384$, $t = 3.354$, $p < 0.05$), supporting H1-1. Visual design also showed a significant positive effect on flow ($\beta = 0.460$, $t = 5.709$, $p < 0.05$), supporting H1-2, while visibility had no significant effect ($\beta = 0.150$, $t = 1.559$, $p > 0.05$), not supporting H1-3.

For consumer engagement, social interaction ($\beta = 0.478$, $t = 4.309$, $p < 0.05$) and visual design ($\beta = 0.340$, $t = 4.548$, $p < 0.05$) were significant, supporting H2-1 and H2-2, whereas visibility remained insignificant ($\beta = 0.078$, $t = 0.851$, $p > 0.05$), not supporting H2-3. However visibility did not show any significant effect, because this study only collect data from line friends site.

Finally, website flow significantly enhanced consumer stickiness ($\beta = 0.610$, $t = 7.647$, $p < 0.05$), supporting H3, and consumer engagement also had a positive effect ($\beta = 0.166$, $t = 2.615$, $p < 0.05$), supporting H4.

Table 3 Results of path analysis

	Factor Loading	S.E.	C.R.	P
SSI → FLOW	0.384	0.164	3.354	***
VISU → FLOW	0.460	0.087	5.709	***
VISI → FLOW	0.150	0.113	1.559	0.119
SSI → CE	0.478	0.162	4.309	***
VISU → CE	0.340	0.082	4.548	***
VISI → CE	0.078	0.111	0.851	0.395
FLOW → CS	0.610	0.077	7.647	***
CE → CS	0.166	0.060	2.615	**
Model Fit: $\chi^2=532.856$; $df=241$; $\chi^2/df=2.211$; GFI= 0.849; IFI=0.941; CFI=0.941; RMSEA=0.071				

4.3 Testing of Mediation Effects

This study examined whether website flow and consumer engagement serve as mediators between website characteristics and consumer stickiness. To assess mediation, bias-corrected bootstrap confidence intervals were estimated using 5,000 resamples [59]. As shown in Table 4, both flow and engagement significantly mediated the effect of social interaction on consumer stickiness ($\beta = 0.227$, $p < 0.05$, 95% CI = [0.005, 0.076]). Based on these results that reveal the store social interaction positively enhance consumer flow experience in the store page, which then enhance their engagement behavior and their stickiness in the store.

Table 4 Results of mediation effect

Path	Total Effect			Indirect Effect		
	Lower	Upper	P	Lower	Upper	p
SSI → Stickiness	0.180	0.447	0.015	0.005	0.076	0.01
VISU → Stickiness	0.150	0.451	0.010	-0.006	0.064	0.269
VISI → Stickiness	-0.195	0.077	0.912	-0.029	0.008	0.133
Model Fit: $\chi^2=492.311$; $df=240$; $\chi^2/df=2.051$; GFI= 0.949; IFI=0.949; CFI=0.949; RMSEA=0.066						

4.4 Common Method Variance

This study collected sample via online survey, therefore this study examined common method variance.

Following the previous studies, single factor approach is the most widely used and appropriate technique to address the issue of common method variance [60]. According to the results of factor analysis, if a single factor is found to represent a major share of variance, then common method biases are indicated [60]. Through applying principal-axis factoring with a fixed number (1) of factor extractions and no rotation, a CMV analysis was performed for this study. 31.69% variance extraction sums of squared loadings revealed that CMV is not a very big issue for this study, as the threshold level is 50% [60]. Therefore this study did not show any issue about common method variance.

5. DISCUSSION AND IMPLICATIONS

5.1 Conclusion

The purpose of this study was to examine how online IP character store stimuli—specifically social interaction, visual design, and visibility—influence consumer flow, engagement, and stickiness within the framework of SOR theory, offering insights for effective IP character marketing strategies. Data were collected from 242 and analyzed using SPSS 26.0 and AMOS 24.0. We indicate that social interaction and visual design significantly affect flow and engagement, consistent with prior research. However, visibility did not show a significant influence on either variable. Additionally, both consumer engagement and flow experience positively enhance stickiness, aligning with earlier studies demonstrating these effects. We further reveal that flow and engagement partially mediate the relationship between social interaction and consumer stickiness.

5.2 Theoretical Implications

This study offers several theoretical insights. It extends SOR theory by integrating IP character website characteristics with consumer engagement and stickiness. Few prior studies have examined how visibility, visual design, and social interaction jointly shape consumer attitudes and behaviors. Whereas earlier research mainly addressed satisfaction and purchase intention, this study broadens the scope to consumer engagement, which encompasses not only intention but also positive behaviors such as recommendation. Furthermore, it expands understanding of consumer stickiness, illustrating how online purchasing behavior may translate into offline actions, reinforcing loyalty. Finally, the study confirms that flow and engagement significantly mediate the link between social interaction and stickiness.

5.3 Practical Implications

From a managerial perspective, the findings suggest that consumer flow and engagement are shaped by key factors such as social interaction and visual design. Online IP character stores should cultivate environments that encourage active interaction among consumers and with the platform itself. Establishing community spaces for communication and information exchange can strengthen engagement. Additionally, visually appealing website design can attract attention and sustain user involvement. Such strategies may help convert online engagement into offline purchasing behavior, enhancing long-term brand loyalty.

5.4 Limitations

This study has several limitations. First, the survey focused exclusively on Generation Z, which may limit the generalizability of the findings, as age, gender, culture and regional factors differences can influence online behavior. Future research should therefore include more diverse samples across demographic groups to enhance external validity. Second, this study examined only website characteristics of online stores. Future studies should incorporate these broader content quality elements to gain a deeper understanding of consumers' cognitive and behavioral responses.

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