

The Psychology in Tech Tactics: Basis for E-Commerce Website Development

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Abstract. This study investigates e-commerce user preferences, revealing key insights that can inform website development and strategy. The findings indicate a predominant user base in the 18–34 age range, with a slightly higher representation of females. Understanding these socio-demographic characteristics is crucial for targeted marketing and design. The psychological impact on user preferences underscores the significance of aesthetics. Users value intuitive layouts, appealing color schemes, and well-chosen fonts. Mobile optimization and fast website performance are essential for user satisfaction, highlighting the importance of responsive design and quick loading times in the mobile era. The study also delves into the profitability of e-commerce, emphasizing the role of data-driven marketing, pricing optimization, and customer feedback management. These factors can significantly impact a business's bottom line. This research provides actionable recommendations for e-commerce businesses. By focusing on intuitive design, mobile optimization, and data-driven strategies, businesses can create more appealing and profitable online shopping experiences.

Keywords: E-commerce, user psychology, web design, customer satisfaction, profitability

1. Introduction

The growth of e-commerce has revolutionized how consumers interact with retailers. With online shopping becoming a global trend, the design and user experience of e-commerce websites play a crucial role in attracting and retaining customers. Research shows that the aesthetic appeal of a website significantly influences users' first impressions, shaping their trust and willingness to engage.

Psychological factors such as color perception, typeface selection, and page layout have profound effects on user behavior. Colors evoke emotions and convey brand messages, while typefaces influence readability and user trust. Spacing, on the other hand, ensures the ease of navigation, reducing user fatigue and enhancing engagement. For instance, bold and warm colors like red and

orange are often used to stimulate excitement, whereas cooler tones like blue are associated with trust and calmness.

This study delves into these psychological elements and their role in shaping user preferences for e-commerce websites. The primary focus is on understanding how these design features contribute to overall user satisfaction, loyalty, and ultimately, profitability for businesses.

The literature review encompasses several interconnected themes related to web development and user perception. Aesthetics, content, user experience, speed, color perception, typeface perception, and space perception are all significant factors influencing the success and effectiveness of websites. Below is a synthesis of the main findings from the reviewed literature:

Aesthetics. A website's visual appeal plays a critical role in shaping users' first impressions and credibility assessments. Factors like unity, balance, harmony, contrast, and dominance contribute to users' immediate judgments on web credibility. However, it is important to acknowledge that aesthetics are subjective and can vary among individuals.

Content. High-quality and relevant content on a website enhances its credibility and increases user interest and engagement. Organized and easy-to-navigate content provides value to users, contributing to a positive user experience.

User Experience (UX). User experience is a central consideration in web development. Creating an intuitive and user-friendly interface that meets the needs and expectations of the target audience leads to increased user engagement, longer visit durations, and higher conversion rates.

Speed. Website loading speed significantly impacts user satisfaction. Users have high expectations for fast loading times, and slow websites can lead to frustration and abandonment. Optimizing website performance through caching, file size reduction, and code optimization is crucial for a seamless user experience.

Color Perception. Colors used in web design can influence users' emotions, perceptions, and actions. Different colors evoke specific feelings, and color selection can convey brand identity and establish a distinct market presence.

Typeface Perception. Typeface selection affects readability, recall of advertising claims, brand identity, and attitude towards a website. Different typefaces evoke varied impressions and can contribute to users' overall perception of a brand.

Space Perception. The spacing of text and elements on a website can impact visual search speed, usability, and user perception. Proper spacing is crucial for readability and aesthetics, and wide interline spacing can lead to a greater sense of well-being and enhance perceived aesthetics.

These findings emphasize the importance of considering multiple factors when developing websites. Aesthetics, content, user experience, and speed are essential aspects of website design to ensure positive user perception and engagement. Additionally, color selection, typeface choice, and proper spacing can further influence users' emotional responses and overall experience on a website.

The reviewed literature also highlights the need for user-centered design, where websites are tailored to meet the preferences and expectations of the target audience. By incorporating principles from engagement psychology, environmental psychology, marketing, and information systems research, web developers can create websites that effectively engage users and foster positive relationships with brands. Moreover, understanding automatic and impulsive decision-making processes can lead to better design choices that cater to users' impulsive shopping behaviors.

2. Methodology

A quantitative descriptive research design was adopted for this study, utilizing a survey of 80 frequent users of e-commerce platforms. The respondents were asked to evaluate their preferences and experiences based on various web design factors, such as aesthetics, user experience, and website speed. Data collection was facilitated through a structured questionnaire, and statistical analysis was performed to identify patterns and correlations in user responses.

The instrument will be a printed survey form in the form of a 4-Point Likert Scale. The draft of the survey form will be drawn out and supported by the researcher's readings, previous studies, professional literature, and published and unpublished thesis relevant to the study. The first part consists of a checklist

related to the respondents' socio-demographic characteristics. This is relevant as this information is the independent variable. The next part will assess the impact of colors on consumers' emotions. Photos of the color will be shown, followed by the survey choices. Finally, in the color subcategory, three photos will be shown that have the same contents but with a different color. Next, in the space category, three photos will be shown as well that have the same contents but with different spacings. Lastly, in the typeface category, three photos will be shown that have the same contents but with different font styles.

3. Results and Discussion

The study revealed that users place significant value on intuitive navigation, appealing color schemes, and readable fonts. Websites with poor layouts and slow load times were found to have higher abandonment rates. Mobile responsiveness emerged as a critical factor, with users expressing dissatisfaction with websites that failed to optimize for smaller screens. Color perception also played a vital role in user engagement, with respondents favoring websites that employed harmonious and calming color schemes.

The psychological tactics employed in website design not only enhance user experience but also foster customer loyalty. Respondents who found the website easy to navigate and aesthetically pleasing were more likely to return and make repeat purchases. These findings suggest that a focus on user psychology in design can lead to increased profitability and marketability for e-commerce businesses.

Key findings emphasize the significance of user-friendly layouts, aesthetically appealing designs, mobile optimization, and fast website performance in influencing customer satisfaction, loyalty, and profitability. Below is a summary of the results and discussion:

1. Socio-Demographic Characteristics

The study focused primarily on respondents aged 18–34, with a slight majority of female participants. Educational backgrounds ranged from high school diplomas to doctoral degrees. Respondents frequently visited e-commerce sites such as Alibaba, JD.com, and Pinduoduo.

2. Psychological Impact on Consumer Preferences

Table 1

Consumers' Preference Based on Aesthetics

STATEMENTS	MEAN	INTERPRETATIO N
The website's layout is intuitive and easy to navigate.	2.7875	Agree
The color scheme is appealing and consistent throughout the website.	2.45	Agree
The choice of fonts complements the overall design and enhances readability.	2.0625	Agree
The images and multimedia used are high-quality and relevant to the content.	2.2625	Agree
The aesthetic choices align with the website's purpose and target audience.	3.0625	Strongly Agree
OVERALL	2.525	AGREE

Table 2

Consumers' Preference Based on User Experience and Mobile Friendliness

STATEMENTS	MEAN	INTERPRETATION
The website's navigation is intuitive and easy to understand.	1.99	Disagree
The website is fully responsive and adapts well to different screen sizes (e.g., desktop, tablet, mobile).	2.375	Agree
The website loads quickly on both desktop and mobile devices.	2.2375	Agree
The website's mobile version maintains a clean and organized layout.	3.525	Strongly Agree
The website meets or exceeds my expectations in terms of usability and mobile-friendliness.	3.0375	Strongly Agree
OVERALL	2.63	Agree

Table 3

Consumers' Preference based on Website Speed

QUESTIONS	MEAN	INTERPRETATION
How would you rate the page load times of this website?	2.90	Agree
How would you rate the server response times of this website?	3.025	Strongly Agree
How would you rate the optimization of large media files (images, videos) for fast loading times?	2.575	Agree
How would you rate the website's performance on different devices (e.g., desktop, tablet, mobile)?	1.95	Disagree
Would you recommend this website to others based on its speed and performance?	2.75	Agree
OVERALL	2.64	Agree

Users valued intuitive layouts, consistent color schemes, and readable fonts. The aesthetic appeal aligned with the website's purpose significantly influenced consumer engagement. Responsive design and fast loading times were critical for user satisfaction, especially on mobile devices. Website speed, particularly fast loading and server response times, positively impacted the user experience and recommendation likelihood.

3. Tech Tactics Using Psychology in E-Commerce Website Development

Psychological principles like the online customer experience and visual design influence marketability. Proper spacing, color use, and responsive designs increase user trust and interaction. Enhancing service quality and building e-trust were vital in fostering loyalty. Innovations in website design, such as personalized services, also contributed to this. Optimization in areas like pricing and data-driven decision-making, along with customer feedback management, improved profitability. These tactics foster better customer engagement, leading to higher sales and customer retention.

4. Proposed Psychological Tech Tactics

Recommendations include enhancing website aesthetics, improving mobile responsiveness, and focusing on faster website performance to boost user engagement and profitability.

Recommendations	Reasons	Example	Literature Review	Significance
Enhance Website Aesthetics and Design	Create an aesthetically pleasing website with intuitive navigation, consistent color schemes, and well-chosen fonts. These elements enhance user engagement and make the website more appealing.	Use a clean and minimalistic design with a simple navigation menu, a color scheme that matches your brand's identity, and readable fonts. This will make the website visually pleasing and easy to navigate, reducing user frustration.	Emphasize intuitive website navigation, an appealing color scheme, and complementary font choices to enhance the overall aesthetics and user experience (Morkes, Kernal, & Nass, 1999; Labrecque & Milne, 2012; Bernard, Fernandez, & Hull, 2002).	Website visitors and potential customers.
Optimize Website for Mobile Users	Ensure your website is mobile-friendly by employing a responsive design that adapts to various screen sizes. Mobile optimization leads to higher user satisfaction as more people browse and shop on mobile devices.	Implement responsive web design so that your website automatically adjusts its layout and content for different devices, such as smartphones, tablets, and desktops. This ensures a consistent and user-friendly experience across all platforms.	Prioritize mobile-friendliness, responsive design, and quick loading times for mobile devices to meet user expectations and improve user experience (Brown, 2017; Gao et al., 2012; Wroblewski, 2011).	
Improve Website Speed and Performance	Focus on fast page load times and server response times, as well as optimizing media files for quick loading. Users expect websites to load rapidly, and slow-loading pages can deter potential customers.	Use content delivery networks (CDNs) to distribute website resources across multiple servers worldwide, reducing server response times. Additionally, compress large images and videos to improve page load times.	Focus on fast page load times, server response times, and efficient media file optimization to enhance user satisfaction and encourage recommendations (Akamai, 2017; Linden, Smith, & York, 2006; Google Developers, 2022; Chen et al., 2011).	Website visitors and potential customers.
Marketability Enhancement	Implement psychological tactics to enhance the marketability of your e-commerce website. This includes optimizing the online customer experience (OCE), considering website design's impact on user	If you're selling luxury products, ensure that your website's design reflects exclusivity and sophistication. Use persuasive language and imagery to convey the brand's premium status and create a sense of trust and value for customers.	Leverage psychological principles to create appealing, engaging, and persuasive websites. Consider the online customer experience (OCE), website design, Web 2.0 technologies, and brand alignment to improve the	Website visitors, potential customers, and the business.

	behavior, integrating Web 3.0 technologies, and aligning the design with the brand identity.		marketability of the website (Pandey & Chawla, 2018; Jia & Huang, 2015; Kiu & Lee, 2014; Angeli et al., 2009).	
Foster Customer Loyalty and Satisfaction	Prioritize service quality, perceived value, e-commerce innovation, and website quality to enhance customer satisfaction and loyalty. Building trust through e-satisfaction and e-trust is also essential.	Offer exceptional customer support, easy returns, and personalized recommendations based on user behavior to enhance service quality. Provide value-added services like detailed product descriptions, reviews, and loyalty programs to increase perceived value.	Improve service quality, perceived value, e-commerce innovation, website quality, e-satisfaction, and e-trust to enhance customer loyalty and satisfaction (Lin et al., 2016; Rizan et al., 2020; Rahman et al., 2022; Gao et al., 2020; Purnamasari & Suryandari, 2023).	Customers and the business.
Focus on Profitability	Understand the key factors that affect the profitability of your e-commerce business, such as effective digital marketing tactics, data science utilization, pricing optimization, and customer feedback management. Consider the size of your business and adapt your strategies accordingly.	Implement data-driven marketing strategies, such as personalized product recommendations based on user behavior, to increase sales. Monitor customer reviews and use feedback to improve product quality and customer satisfaction, ultimately leading to higher profitability.	Understand that the profitability of e-commerce ventures depends on various factors, including digital marketing tactics, data science, pricing optimization, and the management of customer feedback. Consider the size of the business, as it can influence the extent to which e-commerce impacts profitability (Lorca et al., 2019; Goldman et al., 2020; Fedirko et al., 2021; Wang et al., 2022; Elhaj & Barakeh, 2015).	The business.

By applying these strategies and examples, e-commerce websites can provide a more enjoyable and engaging shopping experience, leading to increased marketability, customer loyalty, and profitability while aligning with psychological principles and research findings.

4. Conclusions

Based on the results of the study, the following conclusions were drawn:

1. The survey results reveal a predominantly young age demographic. Gender-wise, the sample is slightly skewed towards females. Occupationally, the distribution is balanced across income levels. In terms of education, the

respondents exhibit a diverse background. Among e-commerce websites, Alibaba emerges as the most popular.

2. Consumer preferences in the online space are significantly influenced by the psychological impact of user experience factors. Elements such as intuitive navigation, consistent color schemes, readable fonts, high-quality images, and relevant content are highly valued. Moreover, mobile-friendliness, fast loading times, and a clean layout are deemed essential for ensuring a positive user experience, all of which play a pivotal role in shaping consumer choices and preferences in the digital realm.

3. Leveraging psychology in e-commerce website development can have a profound impact on marketability, customer loyalty, and profitability. Key areas for improvement include enhancing the online customer experience, optimizing website design with a focus on Web 3.0 technologies, and aligning the brand effectively. To foster customer loyalty and satisfaction, businesses must prioritize service quality, perceived value, e-commerce innovation, and overall website quality. Achieving profitability goals requires strategic use of digital marketing tactics, data science, pricing optimization, and efficient customer feedback management, with the business's size also playing a role in determining profitability outcomes.

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