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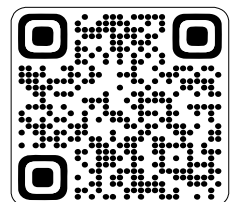


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A STUDY ON THE IMPACT OF WEBSITE DESIGN ON CUSTOMER SATISFACTION IN ONLINE GROCERY SHOPPING

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ABSTRACT

E-commerce, which served as a huge support for millions of Indians during the pandemic by enabling safe, anytime purchase of essential commodities, hygiene products and groceries, continued to grow strongly owing to its strong value propositions of choice, convenience, accessibility, and affordability. Within e-commerce, grocery has emerged as a fast-growing segment over the past year, with great potential for further expansion.

Purpose: *The objectives of this study is to analyse the impact of website design on customer satisfaction in online grocery shopping. It also identifies those website elements which have significant influence on the satisfaction of the online grocery shoppers.*

Originality – The findings are based on the sample data collected from 200 respondents who are online grocery shoppers.

The literature about online purchasing behaviour will aid academicians and researchers in the future studies. Additionally, it will also provide guidance for website designers and vendors in creating an effective marketing strategy.

Keywords: Website Design, Customer Satisfaction, Online grocery shopping.

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1. Introduction

Nowadays, the first touchpoint a customer has with a business typically takes place online, especially if the company has a presence on social media. As entrepreneurs look to start new businesses with little overhead, renting a physical retail space is no longer a top priority. The focus is shifting to establishing a web presence that can capture online sales. One of the greatest benefits of e-commerce is that vendors can sell their products and services to anyone, from anywhere. As long as a customer has access to the website, they can purchase from any part of the world. Customers will research a product's features, price and after-sale support options among many internet retailers before making a final purchase decision. With India's expanding middle class, which has more disposable money but less time to spend it, the country's online retail business is likely to expand rapidly. By 2023, it is projected to reach \$56 billion, accounting for 6.5% of the retail industry. As a result of increased disposable income, changing work cultures, and other factors, the online grocery shopping sector has gained more momentum in the western and southern regions of India. Due of its bigger geographical market than the conventional industry, e-commerce has seen rapid growth in recent years. Unlike brick-and-mortar stores, customers of an e-commerce company may make purchases without physically visiting the company's location. With the advent of the World Wide Web, entrepreneurs may now set up an online store where customers can browse for goods and make purchases directly from the site. A high-quality e-commerce website increases consumers' propensity to make a purchase. When a customer makes a purchase from an online store, the goods are sent to the address the customer specifies. Due to developments, users can now engage with a virtual storefront inside the shopping website. As an added convenience, most e-commerce platforms like Amazon and Alibaba let the consumers monitor their purchase right

on their site. Maintaining current clients while also actively seeking the new ones is crucial to the success of any online store. Having a well-designed and fully-functional website may serve as a means toward this end. According to Hsu et al. (2014), certain e-commerce sites are more successful at retaining and attracting customers than others, due to factors such as the quality of their design and the simplicity of their interface. In addition, Shin et al. (2013) believed that a well-designed website is crucial to the profitability of an online store. The internet has the potential to enhance the shopping process by delivering previously unavailable levels of ease and customization. Using a comparison tool before making a purchase is useful. In addition, several studies have shown that customers' opinions expressed in internet reviews have an effect on their final purchasing choices. The online shopping process is distinct from the conventional one due to the unique characteristics of the activities involved. Finding alternatives, amazing necessary data, comparing many stores at once, revealing private information, and making a purchase are all handled differently in the digital sphere. In India's rapidly expanding e-commerce market, online grocery selling is carving itself a distinctive niche. The adoption of online grocery shopping is theorized to be motivated by a number of different variables. Shopping in India is a nightmare due to the lack of infrastructure and the crowd of the country's main cities. There aren't many places to park near supermarkets in many large cities, and driving into the heart of the city, where there are more full-service supermarkets and sophisticated businesses, is a time-consuming and dangerous proposition. Another major element that is increasing the regularity with which people make purchases online is their comfort and familiarity with the technology and the convenience of doing so.

1.1 Online Grocery Shopping:

Ordering groceries online has become prevalent in the past few years, owing to change in lifestyle, rapid urbanization, and increased internet penetration in rural parts of India. The online grocery market grew significantly in 2020 and 2021, when the COVID-19-induced lockdowns and social distancing norms compelled most Indian households to opt for online grocery shopping. Some of the key market players are Spencers Retail Limited, Grofers India Private Limited, Supermarket Grocery Supplies Private Limited (BigBasket), and Amazon India Limited. In 2020, online grocery sales registered a growth rate of about 60%. One of the key reasons behind this growth is the COVID-19 pandemic. It compelled consumers, especially those in urban areas, to use online platforms for daily grocery shopping in order to follow lockdown-related restrictions and maintain social-distancing. Initiatives such as no contact delivery and the ability to make payments online made it convenient for consumers to buy

groceries from online platforms during the pandemic. The online grocery market is dynamic and both, domestic and foreign players compete to expand their market share and presence.

1.2 Website Design drivers which influence customer satisfaction

Website design elements can have a significant impact on consumer satisfaction. Here are some of the features that can influence customer satisfaction:

1. **Personalization:** Personalization can create a customized shopping experience for consumers by using their browsing history, location, and other data to tailor the website's content and product recommendations to their interests and needs. Personalization can enhance customer engagement and boost sales.
2. **Fast page load speed:** Consumers expect websites to load quickly, and a slow-loading website can lead to frustration and abandonment. Fast page load speed can improve the user experience and reduce the likelihood of consumers leaving the website without making a purchase.
3. **Reviews and ratings:** Reviews and ratings can provide social proof and help consumers make informed decisions about products. Including reviews and ratings on the website can increase consumer trust and encourage them to make a purchase.
4. **Product images and descriptions:** High-quality product images and detailed descriptions can help consumers better understand the product and its features, leading to more informed purchase decisions.
5. **Responsive design:** With the increasing use of mobile devices, it's important for websites to have a responsive design that adapts to different screen sizes. A responsive design can improve the user experience and increase the likelihood of consumers making a purchase.

1.3 Website Quality

A website facilitates electronic commerce by connecting an online vendor with an online buyer. In this respect, a website is crucial to the efficiency and success of online purchasing. Thus, according to Aladwani and Palvia (2002), measuring the overall effectiveness of a website system becomes a measure of website quality. Researchers claim that users' perceptions of a website's quality are highly subjective, with high ratings indicating that the site's features are well-suited to the intended audience. In 2008, Chang and Chen quantified the website evaluation process. Based on their assessment, visitors to a website decide whether or not it satisfies their requirements. Website quality has been shown to be a multi-dimensional concept in the previous researches. However, it is well-known that the quality of a website depends on the quality of the information provided and the quality of the system itself.

Information on an online store's website refers to the textual material used to describe a certain product. Hsieh and Tsao (2014) argue that in order to attract and retain online customers, material must be timely, comprehensive, relevant, and easy to grasp. Therefore, according to DeLone and McLean's (2003) definition, information quality refers to the standard of the material presented online. A quicker online customer purchase choice is the result of improved information quality. The system quality of an e-commerce website refers to how well customers think the website works in general. System quality covers essential aspects including availability, usefulness, appropriateness, dependability, and reaction time, as outlined by DeLone and McLean (2004). The convenience of purchasing online is often viewed as a major selling point. Therefore, a positive user experience when purchasing online is directly linked to high system quality. Online shoppers may want to do more research than is available inside an online store before making a final purchase choice, regardless of how detailed the retailer's product descriptions may be. All aspects of a customer's experience on an e-commerce website are considered part of the service's quality. The quality of an e-commerce website is often measured by how well it facilitates an easy and quick online purchase by a customer. DeLone and McLean (2003), this depends on the timeliness, dependability, and promises of the internet shop. Expressive attractiveness, balance, uniformity, and graphics are all aspects of the website's design. It might be anything from a form to a color to an image to a certain typeface (Garrett, 2010). Researchers have found mixed results when looking at the correlation between a website's credibility and its aesthetic appeal; some have found a positive correlation (Karvonen, 2000), while others have found a significant one (Wang & Emurian, 2005). Studies demonstrate a positive and significant connection between a pleasant user's experience and the visual appeal of a website (Tarasewich, 2003). According to (McKinney, Yoon, & Zahedi, 2002), even if the website's material is honest and very efficient, the consumer will quit if they have trouble finding what they're looking for.

2. System quality

System quality refers to the degree to which an online shopping system is functional, reliable, and easy to use. It includes factors such as website design, navigation, responsiveness, and security. The quality of the online shopping system can have a significant impact on consumers' behavior and their willingness to shop online.

2.1 Positive effects of high system quality:

1. Consumers are more likely to trust and have confidence in an online shopping system that is well-designed, responsive, and secure. This, in turn, can increase their willingness to purchase products online.
2. A high-quality online shopping system provides a better user experience for consumers.
3. A system that is easy to use, reliable, and functional can lead to higher customer satisfaction. This can lead to repeat purchases and positive word-of-mouth recommendations.

2.2 Negative effects of low system quality:

1. A poorly designed, unresponsive, or insecure online shopping system can decrease consumers' trust and confidence in the website. This can lead to a reluctance to shop online or make purchases through that website.
2. A low-quality online shopping system can result in a poor user experience for consumers.
3. A system that is difficult to use, unreliable, or dysfunctional can lead to lower customer satisfaction. This can result in negative reviews and a decrease in repeat purchases. In conclusion, system quality is a critical factor that can affect online shopping behavior. A high-quality online shopping system can increase trust and confidence, improve the user experience, and increase customer satisfaction. A low-quality system, on the other hand, can lead to a decrease in trust and confidence, a poor user experience, and a decrease in customer satisfaction.

2.3 Information Quality

It includes product descriptions, pricing, shipping information, and customer reviews.

Positive effects of high information quality:

1. Consumers are more likely to trust and have confidence in an online shopping website that provides accurate and relevant information. This can increase their willingness to make purchases online.
2. High-quality information allows consumers to make more informed purchase decisions. They can compare products, read reviews, and understand the product features and benefits.
3. Accurate and complete information can lead to higher customer satisfaction. This can result in repeat purchases and positive word-of-mouth recommendations.

2.4 Negative effects of low information quality:

1. Inaccurate or incomplete information can decrease consumers' trust and confidence in an online shopping website. This can lead to a reluctance to shop online or make purchases through that website.
2. Low-quality information can result in uninformed purchase decisions. Consumers may not have enough information to compare products or understand the features and benefits of a product.
3. Inaccurate or incomplete information can lead to lower customer satisfaction. This can result in negative reviews and a decrease in repeat purchases. In conclusion, information quality is an important factor that can affect online shopping behavior. High-quality information can increase trust and confidence, lead to informed purchase decisions, and increase customer satisfaction. Low-quality information, on the other hand, can lead to a decrease in trust and confidence, uninformed purchase decisions, and a decrease in customer satisfaction. Online shopping websites should prioritize providing accurate, complete, and relevant information to their customers.

3. Scope of the Study

Online shopping has been more popular over the last several years, and this trend is expected to continue. Digital grocery businesses is a small portion of the whole internet industries, and the number of people utilizing Online Grocery Shopping is still a minority. If stores wish to take advantage of the growing popularity of grocery shopping online and survive in the very competitive e-commerce sector, they must first understand how their consumers go about doing it. Therefore, it's important for stores and their managers to learn not just what drives customers to buy groceries online, but also how their customers' attitudes change in response to different aspects of online grocery shopping.

3.1 Objective:

The objective of this study is to analyse the impact of website design on customer satisfaction in online grocery shopping. It also identifies those website elements which have significant influence on the satisfaction of the online grocery shoppers.

4. Research methodology

This study is descriptive in nature and a cross sectional study is undertaken with 200 respondents who are online grocery buyers within Tamil Nadu. Primary data was gathered from the respondents throughout the month of December 2022, through the use of Google Form.

4.1 Analysis, interpretation and Results

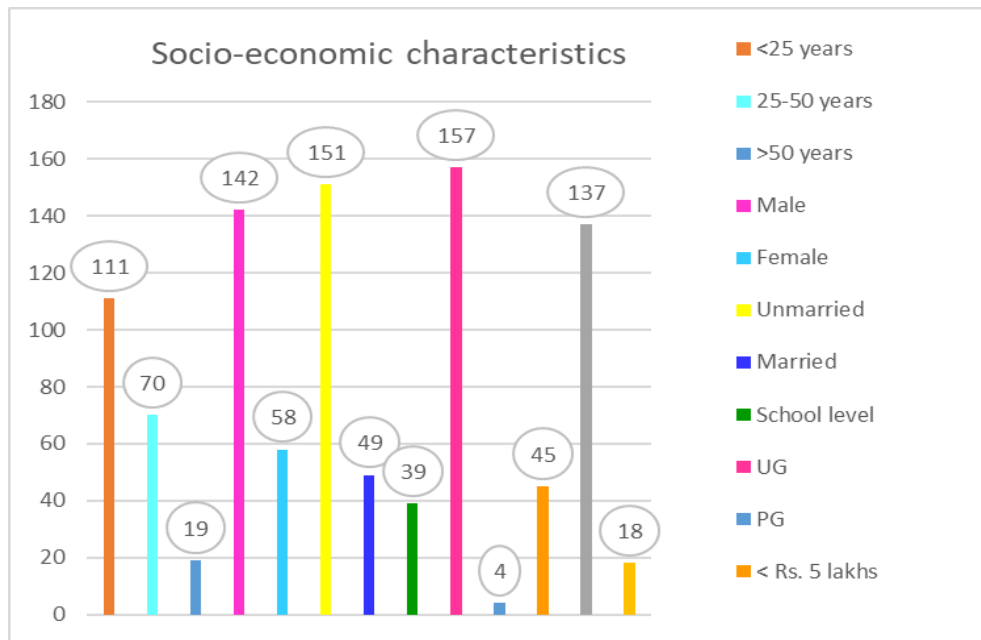
Socio-economic nature of the respondents

The socio-economic nature of the respondents is presented in the following table.

Table 1: Socio-economic characteristics

Socio-economic characteristics		Frequency	Percent
Age group	<25 years	111	55.5
	25-50 years	70	35.0
	>50 years	19	9.5
Gender	Male	142	71.0
	Female	58	29.0
Marital status	Unmarried	151	75.5
	Married	49	24.5
Educational status	School level	39	19.5
	UG	157	78.5
	PG	4	2.0
Income group	< Rs. 5 lakhs	45	22.5
	Rs. 5 lakhs to Rs. 10 lakhs	137	68.5
	> Rs. 10 lakhs	18	9.0
Total		200	100.0

The distribution of the respondents based on the age shows that 111 (55.5%) respondents are aged less than 25 years, 70 (35.0%) respondents are aged between the 25 to 50 years and 19 (9.5%) are aged more than 50 years. According to the gender, it is found that 142 (71.0%) are male and the rest of the 58 (29.0%) are female.



Out of 200 sample respondents, 151 (75.5%) are unmarried and 49 (24.5%) are married. The sample respondents based on the educational qualification, depicts that 39 (19.5%) have studied upto school level, 157 (78.5%) are undergraduates and 4 (2.0%) are post graduates. The family income of the respondents indicates that 45 (22.5%) of the sample below to the income range earning less than Rs. 5 lakhs per annum. 137 (68.5%) respondents earn between Rs. 6 lakhs to Rs. 10 lakhs and 18 (9.0%) respondents earn more than Rs. 10 lakhs per annum.

4.2 The impact of website design elements on customer satisfaction

On these websites, a wide variety of items are readily accessible. In the last ten years, online shopping has undergone a significant transformation. Many things are available for purchase online nowadays. Customers have additional possibilities to choose and purchase the needed goods. Understanding consumer buying patterns enables a business to more readily meet customers' demands and market its goods and services. Therefore, the elements of a website design which influence customer satisfaction are analyzed through mean ranking below.

Table 2: Mean ranking of the features of a website design

Features	Mean	Std. Deviation	Mean Rank
Personalization	2.65	1.052	7.30
User-friendly interface	2.39	1.072	5.26

Loading speed of the webpage	2.24	1.134	5.21
Reviews and ratings	1.57	0.974	4.56
Product images	1.72	1.026	4.52
Responsive design	1.68	1.058	4.52
Descriptions	1.65	1.113	4.69
Secured payment option	2.45	1.211	6.52
Categorization in the product display	2.23	1.255	6.41
More search option	2.23	1.119	6.22

Friedman ranking test has been applied and the mean rankings denote that personalization (7.30), Secured payment option (6.52) Categorization of the product display (6.41) and More search option (6.22) are the website features which affect customer satisfaction when customized. The results reflect that the impact level of the website features vary in affecting the satisfaction of the customers. Apart from the features mentioned above User-friendly interface and Loading speed of the webpage are next in order to have a significant impact on the satisfaction level of the online grocery buyers. Descriptions, Product images, Responsive design and Reviews and ratings are the features which have least impact on customer satisfaction of online grocery buyers.

Table 3: Friedman Test

N	200
Chi-Square	321.172
Df	9
Asymp. Sig.	0.000

The result of the Friedman test reveals that the difference in the mean ranks is significant at 1% level with a calculated chi-square value of 321.172.

4.3 The features of a website design

The opinion of the respondents may be based on their demographic characteristics. The difference in the opinion about the features of a website design according to the age and educational qualification is tested with the help of one-way ANOVA as below.

Age can have a significant impact on the online grocery shopping behavior of consumers. In this essay, we will explore the impact of age on online grocery shopping. Firstly, younger consumers tend to be more tech-savvy and comfortable with using technology. As a result, they are more likely to shop for groceries online. According to the review, the highest percentage of online grocery shoppers were between the ages of 18 to 34 years. This is likely due to the fact that younger consumers are more comfortable with using technology to shop for groceries and are more likely to have grown up with online shopping as a normal part of their lives. Secondly, older consumers may have more concerns about the quality and freshness of the products they are purchasing online. This is particularly true for perishable items like fruits, vegetables, and meats. Older consumers may prefer to inspect these products in person before purchasing them to ensure they meet their standards. Additionally, older consumers may be more hesitant to provide personal and financial information online, which can also impact their willingness to shop for groceries online. In this regard, the relationship between the age and the opinion of the respondents is studied.

Table 4: Results of One-way ANOVA on different age categories

Age group	N	Mean	Std. Deviation	F	Sig
Below 25 years	109	22.1321	6.96751	4.127	0.012
25-50 years	70	26.1412	7.51305		
Above 50 years	21	21.4316	7.71374		
Total	200	22.3750	8.57019		

The perception of the respondents according to the age wise category is analysed with regard to the features of a website design. The difference in the opinion of the different age group of consumers with regard to the impact of website features on customer satisfaction is found significant at 5% level. The calculated F value is 4.127 and the p value is 0.012 (<0.050). The results reveal that the respondents between 25 to 50 years feel that the website features

have more influence on customer satisfaction. Older consumers are less comfortable using technology and have difficulty navigating online grocery shopping platforms. They also have concerns about the security of their personal and financial information when shopping online. This can lead to a lack of trust in online shopping platforms, making them less likely to use them for grocery shopping. In conclusion, age can have a significant impact on online grocery shopping behavior. As the online grocery shopping industry continues to grow, it will be important for retailers to address the concerns of all age groups to ensure they can attract and retain customers of all ages.

The opinion of the respondents from different educational levels on the website design elements are given below. Statistical test with the help of the one way ANOVA is performed.

Table 5: Results of one-way ANOVA on educational qualification

Educational qualification	N	Mean	Std. Deviation	F	Sig.
School level	59	21.3862	8.53247	0.022	0.933
UG	137	22.3218	8.41237		
PG	04	24.1400	7.12742		
Total	200	22.3250	8.18139		

The F value is 0.022 and p value is 0.933 which reveals that the perception of the respondents belonging to various educational backgrounds does not differ much with regard to the impact of website features on customer satisfaction.

The respondents who have completed post-graduation have the highest mean values (24.1400). But the mean is not significantly higher than respondents in other categories.

5. Discussion and Findings

The purpose of this paper is to learn the impact of website design on customer satisfaction in online grocery shopping. Personalization creates a customized shopping experience for consumers. Secured payment option gives trust and confidence to the users on the website. Categorization of the product display makes the purchase easier and more convenient. More search options help in finding related brands and products which aids in selection of grocery. User-friendly interface and Loading speed of the webpage makes the

consumers to reuse the same website for purchase. These considerations should be taken into account all through the design process of any business website. There are a lot of aspects of website design that may significantly affect users' and visitors' impressions, opinions, and motivation to explore other websites. Nonetheless, this work adds to the existing body of knowledge by offering novel insights into aspects of web design that have real-world implications in e-commerce. It is intended that this will lead to more research and assist site designers, marketers, developers, and online businesses with some helpful advice.

5.1 Research limitations/implications

Due to the limited research area, the research findings cannot be applied to all online shoppers as well as to other product categories. Future research may use other statistical methods to strengthen the validity of the data presented. The findings ought to be valuable to internet businesses as they choose their marketing strategy.

6. Conclusion

The website is the most important and perhaps one of the mediums that can pass relevant information about the product and services offered. For generations, retail was simple. Manufacturing companies sold to retailers and retailer sold to shops. But in the age of the internet, consumers can interact directly with brand manufacturers. The need for a good brand website has been felt as the majority of consumers expect a better shopping experience. Website design elements can have a significant impact on customer satisfaction. By focusing on personalization, a user-friendly interface, fast page load speed, reviews and ratings, product images and descriptions, and responsive design, website owners can create a customized shopping experience that enhances customer engagement and boosts sales.

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