

IMPACT OF PERSONALIZATION ALGORITHMS ON CONSUMER TRUST AND VIRTUAL PURCHASE DECISIONS

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Introduction

Virtual reality (VR) offers users a realistic and interactive computer-generated environment that provides them with unique experiences in various settings, including marketing. Technological development of VR continues its relentless journey towards heightened immersion and realism, incorporating a multitude of lifelike elements, including the elusive sense of smell, which had previously remained beyond the realm of computer imitation (Liu et al., 2023). VR is anticipated to occupy a pivotal position in the lives of individuals, playing a profound role in diverse aspects of human existence (Hamad & Jia, 2022). As these advancements unfold, the significance of VR as an influential medium is set to expand in shaping the future of human experiences. A report by McKinsey (2022) has emphasized the transformative capacity of the metaverse and has projected a potential value generation of \$5 trillion by the year 2030. This estimation highlights the extensive economic opportunities of VR, implying it has the potential to reshape industries, establish novel markets, and revolutionize the dynamics of technology, commerce, and social interactions. The ever-evolving technological landscape and changing consumer preferences are therefore making it increasingly crucial for businesses to invest in digital technologies and look for ways to enhance virtual experiences. While consumers seek to access products and services from the comfort of their homes, retailers seek to identify ways to remain competitive and thrive in the emerging technological environment. This includes targeted investments in online shopping platforms, including immersive virtual reality (IVR) technologies which can address some of the limitations of e-commerce and physical retail establishments (Martínez-Navarro et al., 2019). The strategic choice to concentrate on IVR in retail is underscored by its numerous competitive advantages. IVR elevates consumer engagement, a critical element that strongly correlates with heightened sales and customer.

Digital marketing and E-Commerce

E-commerce can be described as the buying and selling of goods or services through electronic means. Like internet, mobiles, telephones, ATMs, fax machine, etc. Digital marketing means marketing of products and services through digital platform. It talks about the techniques and strategies that are used for marketing of the products and services on different digital platforms. Digital marketing aids in fascinating customers as progressively more people are engaged in digital world. Internet is the core area of digital marketing as it is the comprehensive channel of communication accessible for all kind of businesses. This could in fact make the entitlement that digital marketing is a significant fragment of Ecommerce.

Since, the lot of Ecommerce would not be existent without this Internet-based marketing. One and all who is involved in Ecommerce must do exercise their strategies which unceasing basis with the intention to attract customers, making it one among the most significant traits of success online. Therefore, Ecommerce and Digital marketing will at all times go side by side because marketing is needed to produce sales. The company cannot simply create a website and expect the people to use it. Rather, they must have a direct way to find company. There are perhaps thousands of companies offering the same products or services. The companies must be able to create a distinct brand that people will recognize. This is done through digital marketing and this makes marketing the most significant aspect of Ecommerce. No matter whatsoever about what you are selling, just need to market it properly.

Today, the world has become progressively more digital concentrated and is developing at a meaningfully faster rate. It is general at this moment to have automatic access to digital devises and the internet because of the digital capabilities obtainable that completely transformed the mode in which society communicates and interacts. The way in which digital marketing has accelerated since the 1990 and 2000 had significantly transformed the manner, how the brands and businesses utilize technology and digital marketing to enlarge value to their marketing efforts. The essential to market a brand over the comprehensive range of technology devices available has turn into a challenge for brands but nevertheless allows for additional means to reach and influence customers and their commitment with a brand.

Digital marketing drives are fetching more widespread, as digital platforms are more and more being unified into marketing plans. Digital platforms permit brands to be well storytellers and make available the customers with a space to share their experiences of brands and products. Fueled by explosion of devices to access digital media, this has shown the way to the progressive development of digital advertising.

Objectives of the Study

The primary objectives of this investigation are as follows:

1. To study the demographic information of the sample respondents in the study area.
2. To analyze the E-Commerce Metrics, and Virtual Buyer Decision of the sample respondents in the area.

Type of family wise Classification of the Sample Respondents

The type of family plays a vital role in shaping both the family and economic life of individuals. Since it also influences the social life of people, studying the family background of the respondents is essential.

Table 1 Type of Family Wise Classification

S.No.	Type of Family	Number of Respondents	Percentage
1.	Nuclear Family	169	54.50
2.	Single Parent Family	78	25.20
3.	Joint Family	22	7.10
4.	Extended family	41	13.20
	Total	310	100

Source: Survey Data

It is noted from Table 1 that out of 310 respondents 169 (54.50 per cent) sample respondents belonging to the Nuclear Family, 78 (25.20 per cent) sample respondents belonging to the Single Parent Family, 22 (7.10 per cent) sample respondents belonging to the Joint Family system, and 41 (13.20 per cent) sample respondents belonging to the extended family in the study area. he classification of respondents based on family type provides insights into their virtual buying behavior. Individuals from nuclear families often exhibit independent purchasing decisions, whereas those from joint families may prioritize collective needs. Understanding these patterns helps businesses tailor marketing strategies to different consumer segments effectively.

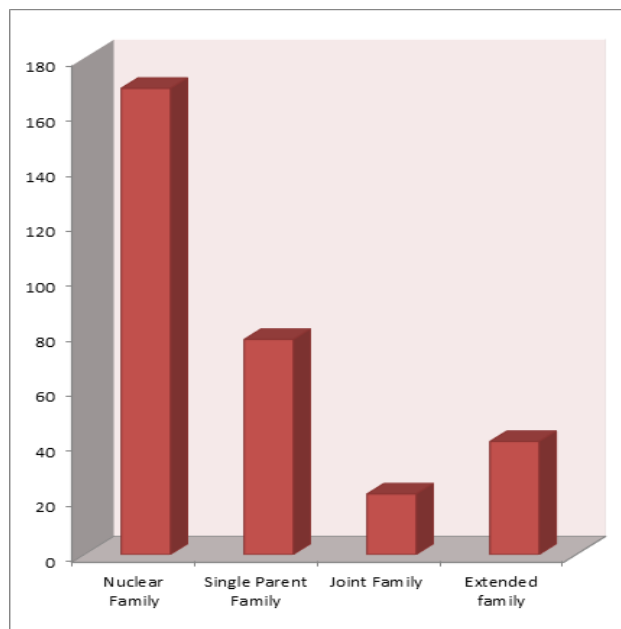


Figure 1 Type of Family Wise Classification

Satisfied With Online Products on the Classification of the Sample Respondents

Satisfaction with online products plays a significant role in both the family and economic life of individuals. Since satisfaction with online products also impacts the social life of people, it is essential to study the background of the respondents.

Table 2: Satisfied With Online Products of the Sample Respondents

S.No.	Satisfaction level	Number of Respondents	Percentage
1.	Satisfied	97	31.30
2.	Highly satisfied	148	47.70
3.	Not satisfied	23	7.42
4.	Not able to say	42	13.50
	Total	310	100

Source: Survey Data

It is noted from Table 2 that out of 310 respondents 97 (31.30 per cent) sample respondents belonging to the Satisfied, 148 (47.70 per cent) sample respondents belonging to

the Highly satisfied, 23 (7.42 per cent) sample respondents belonging to the Not satisfied, and 42 (13.50 per cent) sample respondents belonging to the Not able to say in the study area. The classification of respondents based on their satisfaction with online products provides valuable insights into consumer trust and preferences. High satisfaction levels indicate positive online shopping experiences, while dissatisfaction highlights concerns like product quality or delivery issues. Understanding these factors helps businesses improve customer engagement and service quality.

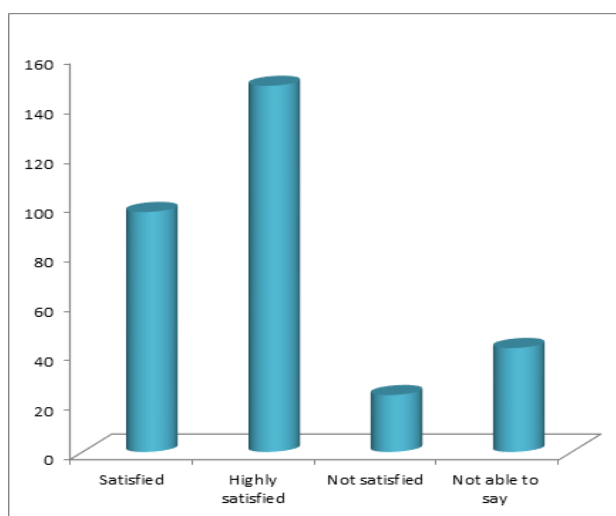


Figure 2: Satisfied With Online Products of the Sample Respondents

Employment status on the Classification of the Sample Respondents

The classification of respondents based on their satisfaction with online products provides valuable insights into consumer trust and preferences. High satisfaction levels indicate positive online shopping experiences, while dissatisfaction highlights concerns like product quality or delivery issues. Understanding these factors helps businesses improve customer engagement and service quality.

Table 3: Employment Status of the Sample Respondents

S.No.	Satisfaction level	Number of Respondents	Percentage
1.	Fulltime	91	29.40
2.	Part time	74	23.90
3.	Temporary	64	20.60
4.	Retired	42	13.50
5.	Unemployed	22	7.10
6.	Unable to work	12	3.87
7.	Prefer not to say	5	1.61
	Total	310	100

Source: Survey Data

It is noted from Table 3 that out of 310 respondents 91 (29.40 per cent) sample respondents belonging to the full time job, 74 (23.90 per cent) sample respondents belonging

to the part time, 64 (20.60 per cent) sample respondents belonging to the temporary, 42 (13.50 per cent) sample respondents belonging to the retired, 22 (7.10 per cent) sample respondents belonging to the unemployed, 12 (3.87 per cent) sample respondents belonging to the unemployed, and 5 (1.61 per cent) sample respondents belonging to the Prefer not to say in the study area.

Opinion about E-commerce of the sample respondents

The opinion of the sample respondents is given in table 4 shows the classification of sample respondents based on their righteousness.

Table 4 E-Commerce Website is User-Friendly and Easy to Navigate of the Sample Respondents

Opinion	No. of Respondents	Percentage
Strongly Agree	112	36.13
Agree	89	28.71
Neutral	56	18.06
Disagree	41	13.23
Strongly disagree	12	3.87
Total	310	100.00

Source: Survey Data

Note: Figures in brackets are percentages of the total.

In the study area, 112 respondents (36.13 per cent) strongly agreed, 89 respondents (28.71 per cent) agreed, 56 respondents (18.06 per cent) were neutral, 41 respondents (13.23 per cent) disagreed, and the remaining 12 respondents (3.87 per cent) strongly disagreed.

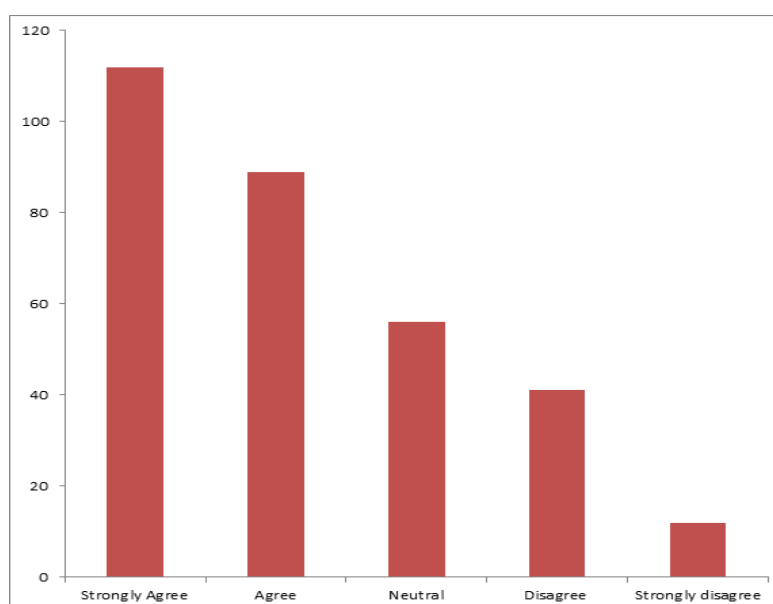


Figure 3: E-Commerce Website is User-Friendly and Easy to Navigate of the Sample Respondents

Opinion about Feel Product Descriptions and Details on the Website are Clear and Informative of the Sample Respondents

The opinion of the sample respondents is given in table 5 shows the classification of sample respondents based on their righteousness.

Table 5: Feel Product Descriptions and Details on the Website are Clear and Informative of the Sample Respondents

Opinion	No. of respondents	Percentage
Strongly Agree	154	49.68
Agree	78	25.16
Neutral	42	13.55
Disagree	27	8.71
Strongly disagree	9	2.90
Total	310	100.00

Source: Survey Data

Note: Figures in brackets are percentages of the total.

It is understood that, 154 (49.68 percent) respondents are found to be strongly agree, 78 (25.16 percent) respondents are found to be agree, 42 (13.55 percent) respondents are found to be neutral, 27 (8.71 percent) respondents are found to be disagree, and the remaining 9 respondents (2.90 per cent) are strongly disagree in the study area. The study investigates the influence of consumer behavior metrics on virtual buyer decisions, focusing on how product descriptions and website details shape purchase intent. Among the sample respondents, a significant majority expressed that clear and informative product descriptions greatly enhance their confidence in online purchases. The findings reveal that transparency in product specifications, high-quality images, and well-structured content reduce purchase hesitation and foster trust. Respondents reported a preference for websites that offer detailed information including size, features, benefits, and customer reviews.

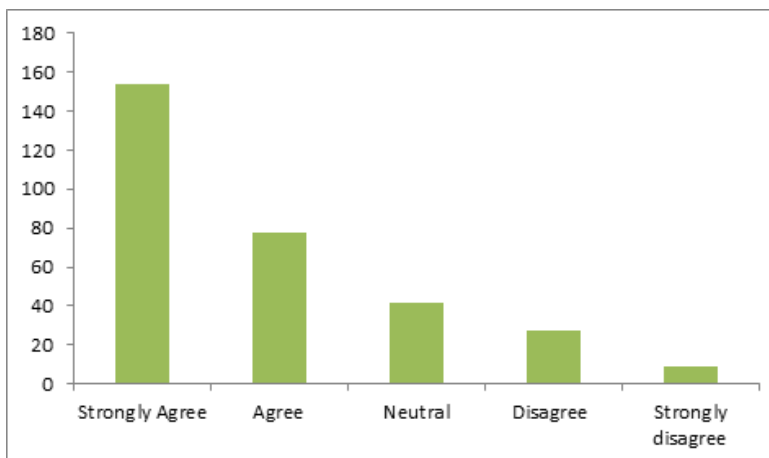


Figure 4: Feel Product Descriptions and Details on the Website are Clear and Informative of the Sample Respondents

Opinion about Ordering Process is Straight forward and Easy to Complete of the Sample Respondents

The opinion of the sample respondents is given in table 6 shows the classification of sample respondents based on their righteousness.

Table 6: Ordering Process is Straight forward and Easy to Complete of the Sample Respondents

Opinion	No. of Respondents	Percentage
Strongly Agree	139	44.84
Agree	112	36.13
Neutral	32	10.32
Disagree	16	5.16
Strongly disagree	11	3.55
Total	310	100.00

Source: Survey Data

Note: Figures in brackets are percentages of the total.

It is understood that, 139 (44.84 percent) respondents are found to be strongly agree, 112 (36.13 percent) respondents are found to be agree, 32 (10.32 percent) respondents are found to be neutral, 16 (5.16 percent) respondents are found to be disagree, and the remaining 11 respondents (3.55 per cent) are strongly disagree in the study area. The study found that a majority of respondents perceived the online ordering process as straightforward and easy to complete. This ease of navigation positively influenced their purchase decisions. A seamless checkout experience enhances user satisfaction, reduces cart abandonment, and reflects effective implementation of consumer behavior metrics in virtual buying platforms.

It is understood that, 156 (50.32 percent) respondents are found to be strongly agree, 89 (28.71 percent) respondents are found to be agree, 28 (9.03 percent) respondents are found to be neutral, 20 (6.45 percent) respondents are found to be disagree, and the remaining 17 respondents (5.48 per cent) are strongly disagree in the study area.

It is understood that, 161 (51.94 percent) respondents are found to be strongly agree, 94 (30.32 percent) respondents are found to be agree, 21 (6.77 percent) respondents are found to be neutral, 18 (5.81 percent) respondents are found to be disagree, and the remaining 16 respondents (5.16 per cent) are strongly disagree in the study area.

It is understood that, 164 (52.90 percent) respondents are found to be strongly agree, 91 (29.35 percent) respondents are found to be agree, 29 (9.36 percent) respondents are found to be neutral, 12 (3.87 percent) respondents are found to be disagree, and the remaining 14 respondents (4.52 per cent) are strongly disagree in the study area.

It is understood that, 176 (56.77 percent) respondents are found to be strongly agree, 74 (23.87 percent) respondents are found to be agree, 27 (8.71 percent) respondents are found to be neutral, 18 (5.81 percent) respondents are found to be disagree, and the remaining 15 respondents (4.84 per cent) are strongly disagree in the study area.

Conclusion

E-commerce platforms can go beyond basic product recommendations by employing deep learning to analyze customer behaviour over time, enabling predictions of future needs and offering personalized discounts and promotions. Such personalization not only boosts sales but also enhances customer loyalty by making shoppers feel uniquely valued. Platforms should also incorporate features that allow customers to easily share their purchases and reviews on social media directly from the e-commerce site. Highlighting user-generated content, such as unboxing videos or practical product demonstrations, on product pages can significantly sway purchasing decisions by providing authentic endorsements. Integrating inventory management and customer service across channels is essential, allowing customers to transition seamlessly between social media, mobile apps, and web platforms without losing their shopping carts or order history. This approach prioritizes a cohesive shopping experience across various touch points. Advanced AI can be utilized to analyze customer inquiries in real-time, offering personalized shopping advice akin to a digital shopping assistant. Implementing predictive service features, such as anticipating customer issues before they occur, can distinguish a platform in terms of customer experience. Adopting blockchain or other secure technologies for data storage and transactions can enhance security. Conducting regular audits and issuing transparency reports can reassure customers about their data safety, transforming privacy into a competitive advantage.

References

1. Ranjith and Madhumitha, "Adoption of Consumer Behavior Metrics on Virtual Buyer Decisions", Library ***Progress International (LPI)***, Vol. 44 No. 3 Jul-Dec 2024 (Published: 31-07-2024), pp.112-117.
2. Ranjith and Madhumitha, "Adoption Of Consumer Behaviour Metrics Effective Virtual Retail Marketing", *Educational administration theory and Practice*, Vol. 30 No.4, April, 2024, pp.321-337.
3. Aysu Erensoy, and Anuradha Mathrani, "Consumer behavior in immersive virtual reality retail environments: A systematic literature review using the stimuli-organisms-responses (S-O-R) model", ***Journal of consumer Behaviour***, pp.101-109.
4. Sharmila, "A Study on Impact of Digital Marketing Buying Behaviour Towards Consumer in Kovilpatti (Thoothukudi District)", ***International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)***, International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal Volume 3, Issue 6, April 2023, pp. 144-147.
5. Mahalaxmi and Ranjith, "A Study on Impact of Digital Marketing in Customer Purchase Decision in Trichy", ***International Journal for Innovative Research in Science & Technology***, Volume 2 , Issue 10 , March 2016, pp332-338.
6. Bhuvaneswari, "A study on consumer behaviour towards digital marketing in Ramanathapuram district", ***Journal of positive school psychology***, 2022, vol. 6, no. 3, pp.7384 -7390.
7. Sunderaraj, "A Study on Internet Marketing and its Impact on Buying Behaviour of Traders in Sivakasi, Tamil Nadu", ***Asian Journal of Managerial Science***, Vol. 4 No. 1, 2015, pp.18-22.

8. Mohd Moinuddin, "Impact of Digital Word of Mouth (DWOM) on the consumer behavior-A study with special reference to select city of India", International ***Journal of Research in Finance and Marketing (IJRFM)*** Vol. 7 Issue 6, June - 2017, pp. 334~340.
9. Do-Hyung Park, Jumin Lee and Ingoo Han, "Effects of word of mouth advertising on consumer risk taking.", ***Journal of Advertising***, 5(4), pp12-19.
10. Riegner, "Negative word-of-mouth by dissatisfied consumers", ***Journal of Marketing***, Vol.no.47(1), pp.68-78.