ANALYSING THE KEY FACTORS INFLUENCING CUSTOMER PURCHASE INTENTION FOR SMART HOME APPLIANCES

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ABSTRACT

The rapid evolution of smart home gadgets has substantially transformed modern households by providing convenience, efficiency, and security. However, consumer acceptance remains variable due to a variety of causes. The purpose of this research is to identify the important characteristics that influence customer purchase intentions for smart home equipment. Considerations include perceived utility, simplicity of use, cost, security issues, and brand trust. External effects such as marketing methods, social recommendations, and demographic variables are also important in decision making. The study is based on a survey of 125 respondents from Coimbatore, and it interprets consumer behavior patterns using statistical tools such as percentage analysis, chi-square testing, and ANOVA. The findings show that pricing, privacy concerns, and technological complexity are key impediments to adoption, although energy efficiency and time-saving aspects are attractive. The study helps manufacturers and marketers connect product plans with consumer expectations, resulting in increased acceptability and satisfaction in the smart home market.

KEYWORDS: Customer Purchase Intentions, Smart Home Appliances, Consumer Behaviour, Market Analysis, Technology Adoption

1.1 INTRODUCTION

Smart home appliances have revolutionized the domestic scene, offering convenience, efficiency, and connectedness. However, adoption varies among users, making understanding the factors driving purchasing intentions crucial for manufacturers and marketers. Factors such as perceived usefulness, compatibility, and ease of use influence consumer decisions. Technological qualities like dependability and performance also play a role, as they create consumer confidence. Marketing methods like advertising and product reviews also impact consumer behavior. However, the complexity of smart appliances can be a disincentive, leading to underutilization of energy-saving features. Privacy and security concerns also influence purchasing decisions,

necessitating strong security measures. Economic considerations, such as price sensitivity and perceived value, also play a role. Offering a variety of products at different price points and expressing long-term value can appeal to a larger audience. A holistic approach is needed to accelerate adoption and ensure visible advantages for users.

1.2 OBJECTIVES

1. To know the factors influencing the purchase intentions towards smart home appliances
2. To examine customers awareness and existing practices related to smart home appliances
3. To analyse the key factors influencing customer purchase intention for smart home appliances.
4. To Assess customer satisfaction with their smart home appliance purchase.
5. To identify the challenges customers face when purchasing smart home appliances.

1.3 STATEMENT OF THE PROBLEM

Despite of the rapid growth and technological advancements in smart home appliances, consumer adoption remains inconsistent. Many customers are hesitant to embrace these devices due to factors such as high costs, lack of awareness, perceived complexity, and concerns about privacy and security. At the same time, businesses struggle to pinpoint the precise drivers of purchase intention and address consumer apprehensions effectively. This study seeks to identify and analyze the key factors influencing customer purchase intention for smart home appliances, providing insights to bridge the gap between consumer needs and market offerings, ultimately fostering broader acceptance and satisfaction in this emerging industry.

1.4 SCOPE OF THE STUDY

The scope of analyzing the key factors influencing customer purchase intention for smart home appliances encompasses several dimensions. This analysis aims to identify and understand the determinants that drive consumers to consider and ultimately decide to purchase smart home devices. Key factors include perceived usefulness, ease of use, privacy and security concerns, social influences, economic considerations and marketing effectiveness. By examining these elements, the study seeks to provide insights into consumer behaviour, enabling manufacturers and marketers to tailor their strategies effectively. The study is to enhance the adoption rates of smart home appliances by aligning product offerings and marketing efforts with consumer expectations and addressing potential barriers to purchase.

1.5 RESEARCH METHODOLOGY

SOURCE OF DATA

The sources of data collected are primary data.

PRIMARY DATA COLLECTION

The method of collecting data was to google forms by using questionnaire. The questionnaire was filled only by the customers.

SECONDARY DATA COLLECTION

The secondary data was gathered from the journals, magazines and websites.

AREA OF THE STUDY

This study covers Coimbatore city.

SAMPLE SIZE

Sample size used for the study was 125 respondents from the customers.

SAMPLE METHOD

The method of sampling used is convenient sampling for the research purpose.

TOOLS USED FOR THE ANALYSIS

The statistical tools used for the analysis for the study are

- Percentage analysis
- Chi square analysis
- One-way ANOVA
- Correlation

1.6 RESEARCH GAP

While smart home appliances are gaining popularity, there is limited research on the specific factors influencing customer purchase intentions. Most studies focus on technology adoption in general, overlooking unique concerns like privacy, cost, and ease of use specific to smart appliances. Additionally, there is a lack of insights into how demographic differences and external influences, such as social recommendations, shape consumer decisions in this growing market. The study is focusing on key factors influencing the customer purchase intention for smart home appliances.

1.7 LIMITATION OF THE STUDY

1. Lack of access to or familiarity with established frameworks for analyzing consumer behaviour.
2. Relies on self-reported data, which may include biases or inaccuracies.
3. Variations in cultural perceptions of technology adoption may not be fully captured in the study.
4. External factors like market trends or economic changes are not fully addressed.

REVIEW OF THE LITERATURE

1. Zhang, L., Liu, Y., & Chen, S. (2022)

This study examines how privacy concerns impact consumer trust in smart home devices. The authors investigate factors such as data security, transparency in data collection, and consumer control over personal information. The findings show that trust is a crucial factor in adoption, as concerns about hacking and misuse of data deter potential buyers.

2. Lee, S., & Park, M. (2021)

This study applies the Technology Acceptance Model (TAM) to examine how perceived ease of use and perceived usefulness influence smart home appliance adoption. The authors explore how these factors shape user attitudes and behavioural intentions, emphasizing the role of technology familiarity, trust, and perceived benefits. Findings suggest that consumers are more likely to adopt smart home devices if they believe the technology is user-friendly and enhances their daily life.

3. Singh, R., & Raghav, H. (2021)

This paper discusses how social media platforms influence consumer decisions. It explores the role of user-generated content, online reviews, influencer marketing, and brand engagement. The study finds that positive social media exposure significantly increases consumer interest in smart home appliances, while negative reviews can discourage adoption.

FACTORS INFLUENCING PURCHASE INTENTION

Several factors influence whether consumers choose to buy smart home products, including:
Devices with high perceived ease of use and usefulness (TAM) are more likely to be adopted.

- Price Sensitivity: Despite the ease and creativity of smart home technologies, buyers generally prioritize price when making a purchasing decision.
- Social Influence: Consumers are impacted by family, friends, and internet reviews. Positive social feedback can influence people to buy smart home gadgets.
- Consumers may be concerned about the security and privacy of smart home gadgets.
- Consumer trust in a brand's reputation can significantly impact purchasing decisions.
- Established brands like Apple, Google, and Amazon are popular among consumers.

KEY FACTORS INFLUENCING PURCHASE INTENTION FOR SMART HOME APPLIANCES

This section identifies and explores the primary elements that influence consumer purchasing decisions for smart home equipment, both good and negative.

- Ease of integration with current home ecosystems is a key technological factor for smart home devices.
- Psychological and social factors: Consumers' views towards technology are vital in the adoption process.
- Economic factors: Price remains a substantial obstacle, particularly in price-sensitive sectors. Consumers frequently compare the initial cost against the long-term benefits and convenience. Discounts, bundles, and promotions can all impact a consumer's purchasing decision.
- Cultural and demographic factors, such as age, income, and education level, significantly influence views towards smart home gadgets. Younger generations, who are more comfortable with technology, are more inclined to use smart home goods. Similarly, higher-income people may be more inclined to invest in smart appliances because of their perceived long-term worth.

Types of Smart Home Appliances

There are various types of smart home appliances, each with unique features. The most commonly used categories are:

- **Smart Lighting:** Lights that can be controlled remotely or programmed to run on a certain schedule, and are frequently linked to voice assistants or smartphone apps.
- **Smart Thermostat:** A thermostat that learns your preferences and adjusts the temperature accordingly, frequently with app-based remote control.
- **Smart Security Systems**: This includes smart cameras, doorbell cameras, alarms, and locks that can be monitored and operated remotely for home security.
- **Smart Kitchen Appliances:** Refrigerators, ovens, coffee makers, and dishwashers that can be operated using apps or voice commands.
- **Smart Home Entertainment:** Entertainment-related gadgets such as smart TVs, sound systems, streaming media players, and home theater systems.
- **Smart Home gadgets:** A wide term that encompasses all other gadgets in a smart home ecosystem, such as smart speakers, smart plugs, smart sensors, etc.

ANALYSIS AND INTERPRETATION

SIMPLE PERCENTAGE ANALYSIS

AGE GROUP OF THE RESPONDENTS

Age group	Frequency	Percentage
18 – 25 years	8	6.4
26 – 35 years	41	32.8
36 – 45 years	52	41.6
46– 50 years	16	12.8
Above 50 years	8	6.4
Total	**125**	**100**

Source: Primary data

INTERPRETATION

The above table represents that 6.4% of the respondents are in the age group of 18 – 20 years, 32.8% of the respondents are in the age group of 26 -35 years, 41.6% the respondents are in the age group of 36 – 45 years, 12.8% of the respondents are in the Age group of 46 – 50 years and 6.4% of the respondents are in the age group of above 50 years.

GENDER OF THE RESPONDENTS

Gender	Frequency	Percentage
Male	33	26.4
Female	92	73.6
Total	**125**	**100**

Source: Primary data

INTERPRETATION

The above table represents that 26.4% of the respondents are male and 73.6% of the respondents are female.

EDUCATIONAL QUALIFICATION OF THE RESPONDENTS

Educational Qualification	Frequency	Percentage
Illiterate	7	5.6
High school	13	10.4
Professional degree	36	28.8
Undergraduate degree	47	37.6
Postgraduate degree	22	17.6
Total	**125**	**100.0**

Source: Primary data

INTERPRETATION

The above table shows that 5.6% of the respondents are Illiterate, 10.4% are in high school level, 28.8% are in Professional degree level, 37.6% are in Undergraduate degree level and 17.6% are in postgraduate degree level.

OCCUPATIONAL STATUS OF THE RESPONDENTS

Occupational Status	Frequency	Percentage
Student	15	12.0
Public Employee	38	30.4
Private Employee	43	34.4
Home Maker	12	9.6
Unemployed	10	8.0
Retired	7	5.6
Total	**125**	**100.0**

Source: Primary data

INTERPRETATION

The above table depicts that 12% of the respondents belongs to student category, 30.4% belongs to Public Employee, 34.4% belongs to private Employee, 9.6% belongs to home maker, 8% belongs to unemployed, and 5.6% belongs to retired.

MONTHLY INCOME OF THE RESPONDENTS

Monthly Income	Frequency	Percentage
Below 20000	34	27.2
20001 – 40000	37	29.6
40001 – 60000	29	23.2
60001 – 80000	17	13.4
80001 - 100000	6	4.8
Above 100000	2	1.6
Total	**125**	**100**

Source: Primary data

INTERPRETATION

The above table shows that 27.2% of the respondents income range are below Rs.20000, 29.6% income range are Rs. 20001 – Rs.40000, 23.2% income range are Rs.40001 – Rs. 60000, 13.4% income range are Rs.60001 – Rs.80000, 4.8% income range are Rs.80001 – Rs.100000, and 1.6% income range are above Rs.100000.

FAMILY STATUS OF THE RESPONDENTS

Family Status	Frequency	Percentage
Joint Family	44	35.2
Nuclear Family	81	64.8
Total	**125**	**100**

Source: Primary data

INTERPRETATION

The above table shows that 35.2% of the respondents are living in joint family and 64.8% of respondents are living in nuclear family.

CHI – SQUARE

AGE GROUP AND PRIMARY REASON FOR CONSIDERING SMART HOME APPLIANCES

Age group	Primary reason for considering smart home appliances					Total
	Busy Lifestyle	Energy efficiency and cost savings	Home Security and Safety	Modern and stylish design	Time Saving	
18 - 25	1	2	0	0	5	8
26 - 35	7	10	2	8	14	41
36 - 45	10	16	5	4	17	52
46 - 50	4	2	3	1	6	16
Above 50	3	1	0	1	3	8
Total	**25**	**31**	**10**	**14**	**45**	**125**

Source: Primary data

CHI SQUARE TEST

Calculated Value	Table Value	Degree of freedom	Level of Significances	Result
18.43	21.03	12	0.05	Accepted

INTERPRETATION

The table deals with the calculated value of X^2 (**18.43**) is lesser than the table value (**21.03**) so the null hypothesis is accepted. Hence it can be concluded that there is no significant relationship between Age of the respondents and primary reason for considering smart home appliances.

ONE-WAY ANOVA

RELATIONSHIP BETWEEN MONTHLY INCOME AND FREQUENCY OF UPGRADING SMART HOME APPLIANCES

SOURCES	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.190	7	0.170	0.225	0.979
Within Groups	88.522	117	0.757		
Total	**89.712**	**124**			

Source: Primary data

INTERPRETATION

The calculated value (0.979) is greater than the significant value (0.05), so the null hypothesis is accepted. Hence it can be concluded that there is no relationship between Gender of the respondents and frequency of upgrading smart home appliances.

CORRELATION

GENDER AND BIGGEST CONCERN WHEN PURCHASING SMART HOME APPLIANCES

	PEARSON CORRELATION	SIGNIFICANCE (2-TAILED)
INTERPRETATION	-0.030	0.738

Source: Primary data

INTERPRETATION

The derived correlation result is **-0.030** in Karl Pearson correlation with level of significance (2-tailed) is **0.738**. It can be concluded that there is **Very weak negative** correlation between Gender of the respondents and biggest concern when purchasing smart home appliances.

SUGGESTION

To boost consumer trust and confidence in smart home appliances, strengthen data security, introduce budget-friendly models, conduct awareness campaigns, develop energy-efficient appliances, ensure seamless integration with existing systems, and leverage online reviews and influencer marketing to boost credibility.

CONCLUSION

The study reveals that factors influencing smart home appliance purchases include convenience, energy efficiency, pricing, privacy, and product integration. Despite technological advancements, adoption remains inconsistent due to high costs, security risks, and limited awareness. To boost adoption, manufacturers should enhance security, introduce affordable pricing models, and educate consumers.

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