

Influence and Satisfaction level of AI and Robotic Devices in Household work with special Reference to Thirikkakara Municipality, Ernakulam District

Dr. Bincy Baby, *Department of Commerce, Santhigiri College of Computer Sciences, Vazhithala, Kerala*

Surya Sundaran, *Department of Commerce, St. Peter's College, Kolenchery, Ernakulam District, Kerala*

Abstract

World is fast changing hence robots are becoming an essential role in our society, especially in how we handle daily tasks and household chores. From robot vacuum cleaners to smart kitchen gadgets, robots are making it easier and faster to take care of our homes, helping us save time and enjoy life more. Robots help with tasks that take a lot of time and effort, making them easier and quicker to complete. Machines like robot vacuums, dishwashers, and lawn mowers work on their own with little help from us. They do the job well and often better than we could by hand. With new technology, these robots can even learn what we like and adjust to meet our needs, giving us a more personalized experience. To analyze the data, the study uses Chi-square Test.

Key Words: *Artificial Intelligence, Robots, Household, Chi-Square Test.*

Introduction

Besides making our work easier, robots can help people. They keep our homes cleaner, safer, and more organized. This allows us to spend more time on things we enjoy, like hobbies, family, and relaxation. For elderly people or those with disabilities, robots can also be a big help by making daily tasks easier to manage. As robots get even smarter, they will continue to make our daily lives simpler and more comfortable. In the future, we may even see robots doing tasks we can't imagine today, making our lives even better.

Significance of the Study

The study of robotics in daily life is significant because it helps us to understand how robots can make everyday tasks simpler and more efficient. By looking at how robots work in

homes, we can better appreciate their role in reducing the time and effort needed to complete chores. This is especially valuable for people who have busy schedules or physical limitations, as robots can help manage household work without requiring constant attention.

Additionally, understanding the impact of robotics can guide future innovations in technology. It can inspire the development of new devices that are smarter, more helpful, and easier to use. This research can also highlight the potential benefits of robotics in improving home safety, saving energy, and making life more comfortable. As robots become more common, studying their effects on daily life will help us adapt to a future where technology plays a bigger role in improving our well-being.

Scope of the Study

This study focuses on the influence of robotics in daily life within Thrikkakara Municipality, specifically examining how robotic devices affect households. Data for the study is collected from 65 households, to understand their experiences and challenges with household robotics.

Objectives of the Study

1. To know the influence of robotic devices on reducing physical effort.
2. To explore the level of acceptance and satisfaction with robotic device users.

Hypothesis

H₀: There is no significant relation between age of respondents and satisfaction of robotic device users.

Research Methodology

Primary data will be collected through surveys with residents of Thrikkakara Municipality. The aim is to understand how people feel about and use AI and robots in household tasks. Secondary data will be collected from existing research, reports, and online sources to support and provide context for the study.

For the purpose of the study, a sample size of 65 individuals is selected in Thrikkakara Municipality. The aim is to capture diverse views on the use of AI and robotics in household work. Percentage method and chi-square is employed for the purpose of analysis of data.

Table 1: Demographic factors of the Respondents

	Frequency	Percentage
Age group		
Below 20	7	7
21–30	57	57
31–40	1	1
41–50	0	0
Above 50	0	0
Gender		
Male	38	59
Female	27	42
Educational Qualification		
HSS	6	9
Under graduate	52	80
Post graduate	6	9
Others	1	1
Occupation		
Student	55	85
Employed	5	8
Self employed	3	4
Unemployed	2	3
Use of Robotic Device		
Yes	49	75
No	16	25
Opinion on the Ease of Use of Robotic Device		
Very Difficult	2	3
Difficult	1	1
Neutral	31	48
Easy	24	37
Very Easy	7	11
Influence of Robotic devices on reducing physical effort		
Increased sales	10	15
Not at all	0	0
Slightly	6	9
Moderately	24	37
Significantly	21	32
Extremely	4	6
Satisfaction level of Users		
Satisfied	27	42
Very satisfied	4	6
Neutral	33	51
Dissatisfied	1	1

Chi-Square Analysis

Chi-square analysis is carried out between personal factors and study factors, mainly to identify the factors that have significant influence on the personal factors considered.

The study factors selected for analysis are: Age and Satisfaction

The results are represented in the following tables along with suitable hypotheses and relevant interpretation.

Hypothesis

H₀₁: There is no significant relation between age of respondents and satisfaction level of users.

Table 2: Satisfaction level of Robotic Device Users

Age	Satisfied	Very Satisfied	Neutral	Dissatisfied	Very Dissatisfied	Total
Below20	2	2	3	0	0	7
21-30	25	2	29	1	0	57
31-40	0	0	1	0	0	1
Total	27	4	33	1	0	65

Source: Primary data

Chi-Square Analysis – Age and Satisfaction

The data shows that satisfaction with AI and robotics in household work varies by age group. Among respondents aged 21–30 years (the majority group), most expressed a neutral opinion (29 respondents), while 25 respondents reported being satisfied. Only a very small proportion (around 1%) expressed dissatisfaction with robotic device usage.

Table 3: Chi-Square Test

No of individuals	Level of significance	Degree of freedom	Chi-Squire value
65	5 %	6	7.90

The Chi-square value 7.90 is less than table value 12.592 .Therefore null hypothesis is accepted that is there is no significant relationship between age of respondents and satisfaction.

Findings

The study shows that the majority of those engaged in the use of robotics in household work are male (59%), compared to female (42%).

In terms of educational background, the majority of respondents are undergraduates (80%).

Regarding usage, 75% of respondents have used robotic devices, and among them, the highest proportion (42%) reported being satisfied while using robotic devices.

The chi-square analysis indicates that there is no significant relationship between the age of respondents and their satisfaction level with robotic device usage.

Conclusion

The study highlights the increasing adoption of AI and robotic devices in household tasks, particularly among young adults aged 21–30, with a higher percentage of male users. Most respondents recognize the benefits of robotic devices in reducing physical effort, saving time, and enhancing convenience, especially for cleaning and mobility assistance.

However, factors such as affordability, usability, and trust remain key concerns that limit wider adoption.

Overall, AI-powered robotic devices are transforming household chores by making them more efficient, convenient, and supportive in daily life.

References

1. <https://www.electronicsforu.com>
2. <https://www.sciencedirect.com>
3. Blöcher, K., & Alt, R. (2020). AI and robotics in the European restaurant sector: Assessing potentials for process innovation in a high-contact service industry. *Electronic Markets*, 31, 529–551. <https://doi.org/10.1007/s12525-020-00443-2>
4. Iyer, Krishna. *Artificial Intelligence: Evaluation, Ethics, Public Policy*.
5. Malhotra, Rajeev. *Artificial Intelligence and the Future of Power*.