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## A Study On Consumer Perceptions Towards RO Water Purifier With Special Reference To Tirupur City

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### ABSTRACT

The study aims to investigate consumer perceptions towards Reverse Osmosis (RO) water purifiers in Tirupur city, exploring the factors that influence their attitudes, awareness, and usage of RO water purification systems. A survey-based research design was employed, collecting data from 100 respondents in Tirupur city. The findings reveal that consumers in Tirupur city are aware of the importance of water purification, but have limited knowledge about RO water purifiers. The study identifies key factors influencing consumer perceptions, including health concerns, environmental awareness, and product features. The results also highlight the need for effective marketing and communication strategies to educate consumers about RO water purifiers. The study provides valuable insights for companies, policymakers, and researchers, contributing to the existing literature on consumer perceptions towards RO water purifiers. The study further explores the influence of socio-economic factors on consumer preferences and usage behavior. It was found that consumers in urban areas, particularly those with higher incomes, are more inclined to invest in RO purifiers, while affordability remains a significant concern for lower-income households. Additionally, the research indicates that there is a growing demand for smart RO systems equipped with advanced features such as real-time monitoring and mineralization to improve water taste and quality.

### KEYWORDS:

Consumer Perceptions, RO Water Purifiers, Tirupur City, Water Purification, Health Concerns, Environmental Awareness.

### INTRODUCTION

Access to clean and safe drinking water is a critical concern in many parts of India, and with rising health awareness and water contamination issues, households are increasingly turning to water purification systems. Among the various types of water purifiers available, Reverse Osmosis (RO) technology has gained considerable popularity for its effectiveness in removing impurities and providing purified water. However, the choice of water purifier is influenced by various factors, including consumer perception, awareness, and preferences. This study aims to examine the consumer perception towards RO water purifiers, with a special focus on Tirupur city, a rapidly growing industrial hub in Tamil Nadu. Tirupur has witnessed significant urbanization and industrial growth, which has also led to concerns about water quality and availability. As a result, understanding how consumers in this region perceive RO water purifiers, their purchasing decisions, and the factors influencing their preferences is crucial for both manufacturers and marketers in the water purification industry.

Tirupur City Municipal Corporation has implemented various water supply schemes to meet the growing demand for clean drinking water. The corporation receives water from three water supply schemes, two with River Bhavani as the source and one with River Cauvery as the source.

Regarding RO water purifiers, they play a crucial role in ensuring access to clean drinking water. With the growing demand for safe and purified water, RO water purifiers have become increasingly popular in Tirupur.

### **STATEMENT OF THE PROBLEM**

With increasing urbanization, industrialization, and concerns over water pollution, the demand for water purifiers, particularly Reverse Osmosis (RO) systems, has witnessed significant growth in recent years. As cities like Tirupur experience rapid industrial growth, water quality issues such as contamination by harmful chemicals, heavy metals, and microorganisms have become more prevalent. In response to these challenges, many households and businesses in Tirupur are increasingly adopting RO water purifiers as a solution to ensure safe and clean drinking water.

### **OBJECTIVES OF THE STUDY:**

- To determine how price sensitivity affects consumers decisions to purchase RO water purifiers
- To know the factors influencing the choice of buyers while making a purchase of water purifier
- To measure the satisfaction level of the customer and determine the factors influencing satisfactory level
- To know the problems faced by the consumers water purifier

### **SCOPE OF THE STUDY**

This study focuses on understanding the consumer perception towards RO (Reverse Osmosis) water purifiers in the city of Tirupur, Tamil Nadu. The scope of the research is defined by the following key aspect The primary objective is to access how consumer perceive RO water purifiers. This includes evaluating their awareness of RO technology ,their purchasing decisions, and the factor influencing their choice of water purifiers, such as cost,brand, quality of water,health effectiveness of RO system in addressing water quality issues

### **RESEARCH METHODOLOGY**

#### **DATA SOURCES**

#### **PRIMARY DATA**

The primary data was collected through observation. Questionnaire with stratified sample of 100 respondents have been taken for carrying out the study.

#### **SECONDARY DATA**

The secondary data sources were collected from the official websites, magazines, journals, reports and other documents.

#### **RESEARCH DESIGN**

This study will utilize a mixed method research design, incorporating both quantitative and qualitative approaches to comprehensively investigate consumers perception towards RO water water purifiers.

### **SAMPLING STRATEGY**

A convenient sampling techniques will be used participants will be selected based on their accessibility and willingness to participate. The sample will include individuals from diverse demographic background, including age, gender, income level and geographical location to ensure representativeness.

### **TOOLS USED FOR ANALYSIS**

- Chi –square test
- Ranking

## REVIEWS OF LITERATURE

**Arun D'Souza, Katharina Zink, 2024<sup>(1)</sup>** In their study the main aim of this systematic review was to examine the effects of drinking natural mineral waters on heartburn from various causes by identifying all published intervention studies and critically appraising their methods as well as summarizing their results.

**Matteo Vitali, Mario Fontana, 2023<sup>(2)</sup>** His study mentioned Natural mineral water and diuresis the present systematic review is aimed at evaluating the diuretic effects determined according to the natural mineral water consumption on healthy individuals

**Farah Ejaz Ahmed, Raed Hashaikeh, 2020<sup>(3)</sup>** The study mentioned the Further reduction in energy consumption is an attractive prospect for both well-established technologies such as reverse osmosis and electrodialysis, and for emerging desalination technologies struggling to reach commercialization.

**Yoshiki Okamoto, John H Lienhard, 2019<sup>(4)</sup>** Research provides valuable insights about Reverse osmosis (RO) technology has progressed steadily over the last few decades. Those gains were achieved through improvements in both RO membrane element performance and energy recovery technologies. This paper considers not only conventional RO processes, but also the recently proposed closed-circuit RO and batch RO processes.

## DATA ANALYSIS AND INTERPRETATION

### RANKING ANALYSIS

#### BRAND RATING OF THE RESPONDENTS

S.NO	BRAND	I	II	III	IV	V	TOTAL	RANK
1.	Aqua guard	59	25	10	1	5	432	I
2.	Kent	20	49	22	8	1	379	II
3.	Blue star	20	30	41	9	-	361	IV
4.	Tata plus	33	30	19	15	3	375	III
5.	Pureit	28	32	22	6	12	352	V

## INTERPRETATION

From the above table, it shows the clear picture of respondents are Aqua guard got the first rank with a score of 432, kent got the second rank with a score 379, blue star got the third rank with a score 361, tata plus got the fourth rank with the score of 375 and pureit got the fifth rank with a score of 352.

## INFERENCE

Aqua guard ranks the top of the list with the high score of 432.

**CHI – SQUARE TEST****CHI SQUARE ANALYSIS**

There no significance associated between Age and Brand of the RO purification system

<b>BRAND</b> <b>AGE</b>	<b>AQUAGUARD</b>	<b>KENT</b>	<b>LG</b>	<b>OTHERS</b>	<b>TOTAL</b>
<b>BELOW 25</b>	32	4	15	18	69
<b>25 TO 35</b>	9	3	1	7	20
<b>35 TO 45</b>	5	2	2	-	9
<b>ABOVE 45</b>	1	-	1	-	2
<b>TOTAL</b>	47	9	19	25	100

Degree of freedom = 9

Level of significance =0.05

Table Chi-square Value= 16.919

Calculated Chi-square Value= 10.66047742

Result=Accepted

The calculated value (10.66047742) is lesser than the table value (16.919) ,Hence the Hypothesis is accepted and there is no significance associated between age and brand of the RO purification system.

**SUGGESTIONS**

- ✓ Most of the water purifiers are costly to buy and install. The price range varies when the features are getting upgraded, which makes people with low income cannot afford it .So affordable prices are a game changing one.
- ✓ RO water purifiers consume a lot of electricity. purifiers with low electricity consumption will increase the demand of it.
- ✓ Most of the respondents have pointed the health safety as the main reason for buying water purifier. So the water purifier machine should contain TDS [Total Dissolved Solids] meters is must.

**CONCLUSION**

This study aimed to investigate Consumer perception towards RO water purification in Tirupur city, exploring the factors that influence their attitudes, awareness and usage of RO water purification systems. The study on consumer perceptions towards RO water purification in Tirupur City highlights several key insights into the growing importance of clean and safe drinking water among the residents and industries of the region. The increasing awareness about water contamination, coupled with the rising demand for high-quality water for both domestic and industrial purposes, has made RO technology a widely adopted solution in the city. Consumers in Tirupur, especially in urban areas, express a clear preference for RO water purifiers due to their perceived effectiveness in removing harmful contaminants such as bacteria, heavy metals, and chemicals. This