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## A STUDY ON MARKET POTENTIAL FOR SMART AUTOMATION PRODUCTS WITH REFERENCE TO CHEMIN C & I PVT LIMITED – PUDUCHERRY

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### Abstract

*The purpose of this research is to investigate the market potential for smart automation products with special reference to chemin C&I pvt. Ltd, A company which sells B2B products. Automation product are taken for our study. Questionnaire was prepared for automation product customer in order to given the whole analysis a practical touch. This study will show in detail, how a company can forecast the market demand and how the smart automation products influence the buying behaviour of the consumers.*

*This study belongs to Descriptive research and sampling technique come under non probability convenient sampling. The survey of sample size is 125. This research analysis and the findings indicate the factors like awareness, perception, challenges and customer attitude towards the buying behaviour of smart automation products. Major research findings most of customer interest to buy smart automation products, based on the findings it is forecasted that demand for smart automation products will increase in future.*

**Key words:** Market potential, Smart Automation, Home automation and Market Analysis

be worth \$5,000,000 in sales each year. On the other hand, the market potential for motorcycles may be 500,000 units each year, which is a measure of sales volume rather than sales value. Keep in mind that market potential is just a snapshot in time. It's a fluid number that changes with the economic environment. For example, rising and falling interest rates will affect the demand for products that are typically financed, like cars and houses.

### Analysis of Market Potential

Determining the market potential of a product is part of a successful marketing process and requires marketing research. You'll need to examine at least three factors that will determine whether the market potential of your product is worth the investment. You need to analyze your potential customer base, analyze your competition and analyze the current environmental conditions that may affect market potential.

### Analyzing Potential Customer Base

You need to determine the size and demographic characteristics of your potential consumers. Important information to obtain includes the population size of your target market, their product preferences and their median annual household income. This will tell you the number of potential customers and whether they can actually afford the product.

## 1. INTRODUCTION

### Definition of Market Potential

Market potential is the entire size of the market for a product at a specific time. It represents the upper limits of the market for a product. Market potential is usually measured either by sales value or sales volume. For example, the market potential for ten speed bicycles may

You can assess your product's potential customer base by analyzing secondary data, or data that already exists, such as demographic data collected by the United States Census Bureau on household demographics in each state.

You may also decide to collect primary data, which is data you collect specifically to analyze the market potential of a product. Typical means of collecting primary data include telephone surveys using a random sample of households drawn that you believe match your target market.

## 1.1 OBJECTIVES OF THE STUDY

### Primary objectives

- To ascertain the factors influencing the buying behaviour of smart automation products.

### Secondary Objectives

- To find the awareness of smart automation products.
- To find the perception of customer towards smart automation products.
- To Identify the competitive advantage in smart automation products.
- To identify the challenges of smart automation products.
- To find the customer attitude towards smart automation products.

## 1.2 LIMITATION OF THE STUDY

A study on Market Potential for smart automation product a survey in Pondicherry city has few Limitations.

- The study has been restricted to Pondicherry city.
- The study is only for the limited sample and not to the whole population.
- This survey is limited only for the showrooms and Jewellery shop in Pondicherry.
- It is based on the expressed opinion by the respondent.
- The information collected & extracted shall be valid for 6 months only.

## 1.3 SCOPE FOR FURTHER STUDY

- The study can be further extended to other cities to determine the market potential of the products.
- The study can be further enlarged by increase the sample size.
- The study will be useful for the researcher who carry out the research in the same filed.
- The study will be use full for the new product development in the market.
- The study will be used to identify the needs of customer in the market and there by to increase the market potential in future.

## 2. REVIEW OF LITERATURE

**Ahmed (2011)** in their paper entitled "Implementing computerized and Digitally mobile Home automation system towards Electric Appliance control and security system" addressed on the importance of home automation system as compared to the old and traditional living system. They showed the concept towards the practical implementation of a home automation and security system. They designed hardware and software

architectures which then implemented in the form a real time prototype application i.e, smart house. They concluded that people were happy and they proposed a new approach that is smart house. They said that their proposed approach and implemented software and hardware system can add some good values to the filed of Automation system design and development.

**Ahmed (2009)** in paper entitled "Home Automation" briefly discusses the importance of home automation system. It talked about the auto electrical house. How home Automation is booming these days in country. It is very important for security. It talks about various devices that can be used as automation and how these devices can be controlled even if you are far away from your place.

**Dr Syeda Gauhar Fatima (2019)** In this paper the aim is on developing Home Automation System with the backbone of IoT and WSN (Wireless Sensor Network) for monitoring and controlling the home electronic devices by using the flexible HAS Android Application. A varied range of sensors are used to capture the readings of temperature, gas and flame sensing devices forming it an effective system for security, controlling and monitoring. With the specification of the system and simplicity of implementation leads for large scale development. This system can be very helpful for old aged homes, senior citizens and physically challenged people.

**The Importance of Proper Level Automation, Heetae Yang, Wonji Lee, and Hwansoo Lee (2018)** This study empirically examined important factors for the adoption and spread of smart home services. Research results show that interconnectivity and reliability are required along with the right level of automation. Furthermore, because there are differences in preference factors according to the characteristics of users, it has been confirmed that the service design that considers these characteristics is necessary. If these factors are taken into consideration, smart home services that have not been activated in the past will spread and the market will grow.

**Arun Cyril Jose and Reza Malekian (2015)** The work focuses on the security aspect of the existing home automation system and points out its flaws. It shows how the concept of security and meaning of the word "intruder" has changed in modern homes. The paper points out the shortcomings of existing home automation systems in identifying and preventing sophisticated intruders in a home environment. For future work in the field of home automation security, they encourage the researchers to consider a home automation system as a whole and develop behavior prediction and advanced sensing parameters that can help to identify and prevent skilled and sophisticated intruders. Security is vital for the proper implementation and development of the home automation systems. Moreover, it provides a sense of security to a home's inhabitants and puts their minds at ease.

**Owen R (2020)** The paper explores the changing working practices among leading market researchers seeking to take advantage of digital technology. The paper has extensive research about the use of the latest technology by the marketing researchers. It presents an analysis of semi-structured, key-informant interviews (N = 44) with design, digital, branding, and marketing researchers in London, UK. Respondents were asked to describe their perception of and experiences using digital technology and to highlight the challenges and concerns they face when using both primary and secondary forms of digital data.

**Tanish Sehgal, Shubham (2017)** The paper talks about the need for home automation and presents an idea for home automation using voice recognition through a mobile app. Controlling your household appliances with the help of mobile app is quite simple, all you need is that your smartphone should be connected with internet. It is easy to control and monitor. They have used Arduino mega 2560 micro controller which is quite flexible to use. The mobile app that is created, contains all the commands like switching on/off the AC, Fan, Washing machine, etc.

**Peter D. DeVries and James Allred (2020)** The paper discusses the challenges faced in the adoption of home automation and the reluctance of customers about this new technology. It calls for business to adapt a standardized system of communication among not only their product offerings, but among other manufacturers' products within the marketplace. They need to create awareness for the technology. The researchers have suggested two ways for businesses to encourage change. One is to make the product as simple and easy to use as possible and other is to change the way consumers interact with their products.

### 3. RESEARCH METHODOLOGY

#### 3.1 RESEARCH DESIGN:

This study is descriptive in nature. Descriptive research is an exploration of certain existing phenomenon. It is mostly done when a researcher wants to gain a better understanding of the topic. Primary data is collected through a survey. The survey is carried out by the means of self-administered, structured questionnaire and secondary data is collected from articles, research papers of various journals.

#### 3.2 COLLECTION OF DATA

##### PRIMARY DATA:

Primary data collection methods are different ways in which primary data can be collected. It explains the tools used in the collecting primary data, sum of which are highlighted below:

1. Interviews
2. Survey & Questionnaires
3. Observation
4. Focus groups
5. Experiments

##### SECONDARY DATA:

Secondary data is the data that has already been collected through primary sources and made readily available for researchers to use for their own research. It is a type of data that has already been collected in the past.

1. Books
2. Published source
3. Journal

#### 3.3 POPULATION

Population of the study consist of all the showrooms and Jewellery shop in Pondicherry.

#### 3.4 SAMPLE SIZE

The sample size of the study is 125. A structured questionnaire with 25 questions was distributed and the response are collected for analysis.

#### 3.4 SAMPLING TECHIQUE:

The study comes under non-probability convenient sampling. This sampling allows the researcher to carry out his research based on his convenience and respondents availability.

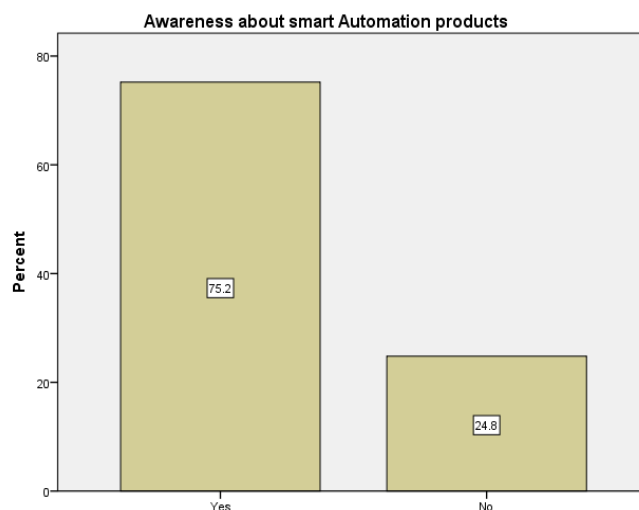
This research sampling studies every respondent's response according to time, place, and situation.

### 4. DATA ANALYSIS AND INTERPRETATIONS

Table.1. Showing the frequency analysis of awareness of smart automation products

	Frequency	Percent	Valid Percent	Cumulati ve Percent
Valid Yes	94	75.2	75.2	75.2
No	31	24.8	24.8	100.0
Total	125	100.0	100.0	

Chart 1: Showing the frequency analysis of awareness of smart automation products



**INFERENCE**

From the above table, it is inferred that 75.2% of the respondent are aware about the product and 24.8% of the respondent are not aware about the product.

Table 2. Showing the rank analysis of aware about the type of smart automation product available in market

	Rank points	Rank
Product Type	317	2
Sensor type	305	1
Temperature	320	3
Manual	348	5
Apps control	338	4

**INFERENCE:**

From the above table it is inferred that ranking of the respondent are video Sensor Type (305), Product type (317), Temperature (320), Apps control (338) and Manual (348) ranking based in Rank points.

Table 3. Showing the rank analysis of benefits of smart automation products

	Rank points	Rank
Save Time	291	1
Save Money	297	2
Provide Safety	338	3
Provide comfort makes things effortless	354	4
Easy workflow	365	5

**INFERENCE:**

From the above table it is inferred that ranking of the respondent are Save Time (291), Save Money (297), Provide Safety (338), Provide comfort makes things effortless (354) and Easy work flow (365) ranking based in Rank points.

Table 4. Showing the chi square test

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.179 <sup>a</sup>	4	.382
Likelihood Ratio	4.670	4	.323
Linear-by-Linear Association	.000	1	.983
N of Valid Cases	125		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is .30.

**INFERENCE**

Here the calculated value (0.382) is greater than the table value (0.05) which leads to acceptance of alternate hypothesis.

There is association between how came to about product and willing to purchase of product

**5.1 FINDINGS**

75.2% of the respondent are aware about the smart Automation product.

36% of the respondent are using of smart automation product in our shop/ showroom.

64% of the respondent are not using of smart automation product in our shop/ showroom.

48% of the respondent are came to know about smart Automation products in Social media.

69.6% of the respondent are Willing to purchase of Smart automation product

36.8% of the respondent are agree with smart Automation product would make shop secure

53.6% of the respondent are ready to spend range of 1 Lakhs to 3 Lakhs in automation products.

33.6% of the respondent are Interest to buy Automation product in After 1 year

37.6% respondent are agree with Brand is important to Purchase of smart automation products.

36% respondent are agree with quality playing a major role to purchase of smart automation products

75.2% of the respondent are said Price of smart Automation product comparative less in another Brand

42.4% respondent are said reason to buy smart automation products in Reduce Electricity wastage

79.2% of the respondent are said to automation products in compared to other branded product

82.4% of the respondent are recommend automation product to others

69.6% respondent are said Customization can influence to buy the automation products

70.4% of the respondent are Awareness about various model availability of market in this product

38.4% of the respondent are said to expect to complete the installation work in 11 to 20 days

69.6% respondent are expecting to online customer services portal

42.4% respondent are agree with Services center availability will induce the purchase of automation products

43.2% respondent are said to expect the services of complaints can be resolved

within 5 days.



## 5.2 SUGGESTIONS

- The majority of respondents are aware of smart automation products and are willing to purchase them, indicating a growing market demand.
- Respondents cited reduced electricity wastage and improved security as reasons for purchasing smart automation products, suggesting that businesses can highlight these benefits in their marketing.
- Customization is a significant factor in influencing purchases, indicating that businesses should offer a range of options and features to meet diverse customer needs.
- The majority of respondents are aware of various models available in the market, indicating that businesses should focus on product differentiation and innovation to stand out from competitors.
- Respondents are willing to pay yearly subscription fees for services and expect fast and efficient customer service, indicating that businesses should prioritize after-sales support to maintain customer satisfaction and loyalty.
- Social media is an effective channel for promoting and advertising smart automation products, with almost half of respondents coming to know about them through this platform.
- Almost 70% of respondents saying that customization can influence their purchase decision, businesses should consider offering customization options to cater to the specific needs and preferences of customers.
- 70% of respondents interested in paying yearly subscriptions for services, businesses could consider offering subscription-based models to provide ongoing support and services to customers while generating recurring revenue.
- As over 40% of respondents said that reducing electricity wastage is a reason to buy smart automation products, businesses could emphasize the energy-saving benefits of their products to attract environmentally conscious customers.

## 5.3 Conclusion

The survey results show that there is a growing market demand for smart automation products in shops and showrooms. Respondents are aware of the various models available in the market and are willing to spend between 1 to 3 Lakhs to purchase them. The benefits of reduced electricity wastage and improved security are cited as reasons for purchasing smart automation products, and customization is a significant factor in influencing purchases. Social media is an effective channel for promoting and advertising smart automation products, and businesses should prioritize after-sales support to maintain customer satisfaction and loyalty. Businesses can consider offering subscription-based models to provide ongoing support and services to customers while generating recurring revenue. Overall, businesses should focus on product differentiation and innovation to stand from competitors and highlight the energy-saving benefits of their products to attract environmentally conscious customers.

From the study, the researcher concludes that majority customer willing to buy smart automation product for technological influence, Human conveniences, reduce electricity wastage and security purpose. Further researcher suggestions may be considered for improving sales in future.

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