

A Research Paper on Preference of Smart Phones among College Students Using Cluster Analysis in Tiruchirappalli

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Abstract

A smart phone is a mobile phone with an advanced mobile operating system. They typically combine the features of a cell phone with other popular mobile devices, such as media player and Global Positioning System navigation unit. Most smart phones have a touch screen user interface and can run third-party apps, and have camera phones. Smart phones from 2012 onwards also have high-speed mobile broadband. India ahead of the United States is the second-largest country for smart phone use in the world. In India college students check Facebook accounts on smart phones. The researcher has made an attempt to study the factors which affect the choice of smart phones among college students and cluster them on the basis of their choice factors. The study sample of 100 college students is selected using purposive sampling method within the Corporation limit. This study identifies three groups of smart phone users (economy seekers, value seekers and prestige seekers) based on cluster analysis. Each group has been identified though their unique characteristic features to distinguish them.

Keywords: Cluster analysis, Economy seekers, Prestige seekers, Smart phones, Value seekers.

Introduction:

Communication is indispensable. Among the different modes of communication, mobile phone is the most efficient mode to reach from one person to another. This is the prevailing device through which people express themselves, get our work done and share their joys and hurts. With the advent of technology smart phones with internet connections have made things easier. Consumers are increasingly attracted to smart phones with larger screens. Many Smartphone owners have a case of “phablet envy” since “the majority of consumers surveyed indicated that they preferred prototypes that have a larger screen than their current phone.” India will exceed 200 million Smartphone users, topping the US as the world's second largest Smartphone market by 2016, largely on the back of growing penetration of affordable smart mobile devices. "Features and specification are something which can be matched anytime. It is the design, user interface (UI) and the market operating price at which the product can be made available, which will entice the consumer to make a choice," India was the fastest growing Smartphone market in Asia Pacific with a market share growth of 27 percent in Q3 (July to September). With positive consumer sentiments and low levels of inflation, consumers will have more money to spend. Advent of Smartphone fundamentally changed the way people live. More and more people who use mobile phones are no longer satisfied with the appearance, basic calls, and text messaging capabilities, they began to pursue powerful mobile operating system and Central Processing Unit speed. Smartphone has become almost indispensable basic configuration in the 21st century. This study has been designed with intention to identify the factors which affect college students in particular to choose their smart phone. It focuses on probable reasons that they consider to make their purchase decision regarding smart phone.

Review of Literature:

Dr. Pulidindi Venu Gopal, Anjali, Aakanksha, (2013) examine factors affecting consumers' preference of mobile phone in Vellore. The results of the study indicate that the most important attribute behind consumer preference for mobile phones was Quality, followed by function, appearance, brand image, price, service, then advertisement, and finally recommended by friends. This study is restricted only to the Vellore city. So, the results may not be applicable to other areas. This study is based on the prevailing customer's preference. But the customer's satisfaction may change according to time, fashion technology, development, etc. The paper presents findings, which are useful for mobile phone marketers 'marketing strategy and promotional plans. The paper adds to the growing literature on youth consumers by examining their preference of mobile brand. The study reveals several implications for theory and practice relating to the antecedents of mobile marketing acceptance among the youth consumer segment within Vellore.

Dr. Monica Sainy, (2014) in his study on the Buying behavior of Smartphone among B School students explores the different factors of consumer buying behavior in purchasing Smartphone's and their preferences among B school students against the backdrop of demographic variable i.e gender. The present study used a sample of 200 actual consumers who had purchased the Smartphone's within one year of time. The responses were collected through structured likert scale questionnaire. The 5 factors which we find out from the study were- Product Features, Branding, Price, Social influence, Demand of the product. The study helps us to understand the change in the demand pattern, act as a ladder to develop the product & further more. The results also show that no significant difference is observed in b school students on the basis of Gender. It is expected that the findings will provide vital inputs to marketers in framing their marketing strategies. The researcher will further attempt to examine the brand equity among the different brands behavior of consumer for Smartphone's.

Pappu Rajan (2015), in his study on Smartphone User behaviour and Security Awareness analyzes the people's perception and behavior among smart phone users and about the security risk with their Smartphone's with special reference to Tiruchirappalli, Tamil Nadu, and India. The research concludes that many of the Smartphone users are not aware of security and privacy risks. They have their location data embedded into image files, many don't set Bluetooth to "non discoverable mode", don't know about the malware which can attack phone, don't have knowledge about local Wi-Fi(hotspot) that is insecure may result in tracking of phone.

Surendra Malviya, (2015) in his study with regard to the Factors Influencing Consumer's Purchase Decision towards Smart phones in Indore, identifies the key factors which have a dominating effect on the consumers' minds while making a purchase of Smartphone. The study using the confirmatory factor analysis model concluded that people in Indore are buying Smart phones irrespective of its prices. Other features like brand, social image, technology and durability are playing major role in buying decisions of consumers in Indore. It is important to highlight that the results of this paper can provide new marketing dynamics to the leading mobile companies for a market, that is very soon be contributing a major share in the revenue of these companies.

Research objectives:

- To investigate the factors affecting choice of smart phones with reference to college students in Tiruchirappalli Corporation
- To cluster the smart phone users into groups
- To investigate differences among various groups of smart phone users

Research Design:

The study adopted a descriptive survey method to investigate the buying behavior of smart phones with reference to college students in Tiruchirappalli. The study sample of 100 students was selected from various colleges using random sampling, within the Corporation limit. The sample included both undergraduates as well as post graduates. The survey instrument used was a questionnaire consisting of 15 items to understand the buying behavior, in which, there were ten choice criteria's and five demographic factors.

Analysis and Interpretation:

The items were analysed with the help of SPSS package through cluster analysis to group the smart phone users on their basis of their choice criteria. These groups are identified with their unique characteristics and they are named as per their special features.

Cluster analysis:

Cluster analysis is used to classify the respondents who use smart phones into various homogenous groups on the basis of self-reported importance attached to each factor regarding smart phone usage. Agglomerative clustering is used in which objects from separate groups are collected to form bigger clusters. The number of clusters is decided on the basis of the dendrogram. Ward's method is used to group variables by minimizing the within-cluster variance.

Table 1: - Mean values under Wards Method for each cluster

| Ward Method | Price | Brand Image | Operating System | Camera Quality | Speaker Quality | Memory Capacity | Screen Size | Battery life | Easy Operation | Shape And Style |
|--------------------|--------------|--------------------|-------------------------|-----------------------|------------------------|------------------------|--------------------|---------------------|-----------------------|------------------------|
| 1 | 3.45 | 3.64 | 3.60 | 3.45 | 3.05 | 3.90 | 3.12 | 3.52 | 3.74 | 3.64 |
| 2 | 2.72 | 3.85 | 4.15 | 4.70 | 4.30 | 4.63 | 3.65 | 4.52 | 3.78 | 4.24 |
| 3 | 1.00 | 5.00 | 3.00 | 2.00 | 2.00 | 1.00 | 3.00 | 2.00 | 4.00 | 5.00 |
| Total | 2.96 | 3.81 | 3.87 | 4.07 | 3.68 | 4.18 | 3.40 | 4.00 | 3.77 | 4.02 |

Source: Computed from primary data

The mean values under the various choice factors are displayed with regard to each ward. Based on the mean values of the variables they are grouped into clusters. The mean values which tend to be the highest falls under the particular ward. Likewise the clusters are formed with the agglomerated highest mean values. Taking into consideration the characteristics of the variables which fall under each group they are titled according to their group characteristics.

Table 2: - Cluster of respondents

| Cluster 1(42) | Cluster 2 (54) | Cluster 3 (04) |
|------------------------|---|--|
| Economy seekers | Value seekers | Prestige seekers |
| Price | Operating System Camera Quality Speaker Quality Memory Capacity Screen Size Battery life | Brand Image Easy Operation Shape And Style |

Source: Compiled from computed data

It can be inferred from Table No. 2 that Cluster two has the highest number of respondents who are titled as value seekers because they give more priority for battery life, memory capacity, quality of camera and speaker, operating system and screen size before choosing a smart phone. They give more priority for phone specifications and are concerned about the value earned for the money spent for purchasing the smart phone. Cluster one has the next highest number of respondents whose sole priority for selecting a smart phone is attributed to its cost. Therefore they are titled as Economy seekers. They are not concerned about any phone specifications rather they only choose a mobile phone which suits their budget; they are not concerned about brand image or quality aspects. Cluster three consists of the least number of respondents who are titled as Prestige seekers as they give more priority for brand image and shape and style of the phone rather than the quality aspects. They are more concerned about the operational style and appearance of the smart phone. They prefer a stylish, slim and sleek phone which they think represents their status. Their priority for other operational features and cost stand next. They look upon the device as a status symbol while purchasing.

Diagram 1: Smart Phone users cluster

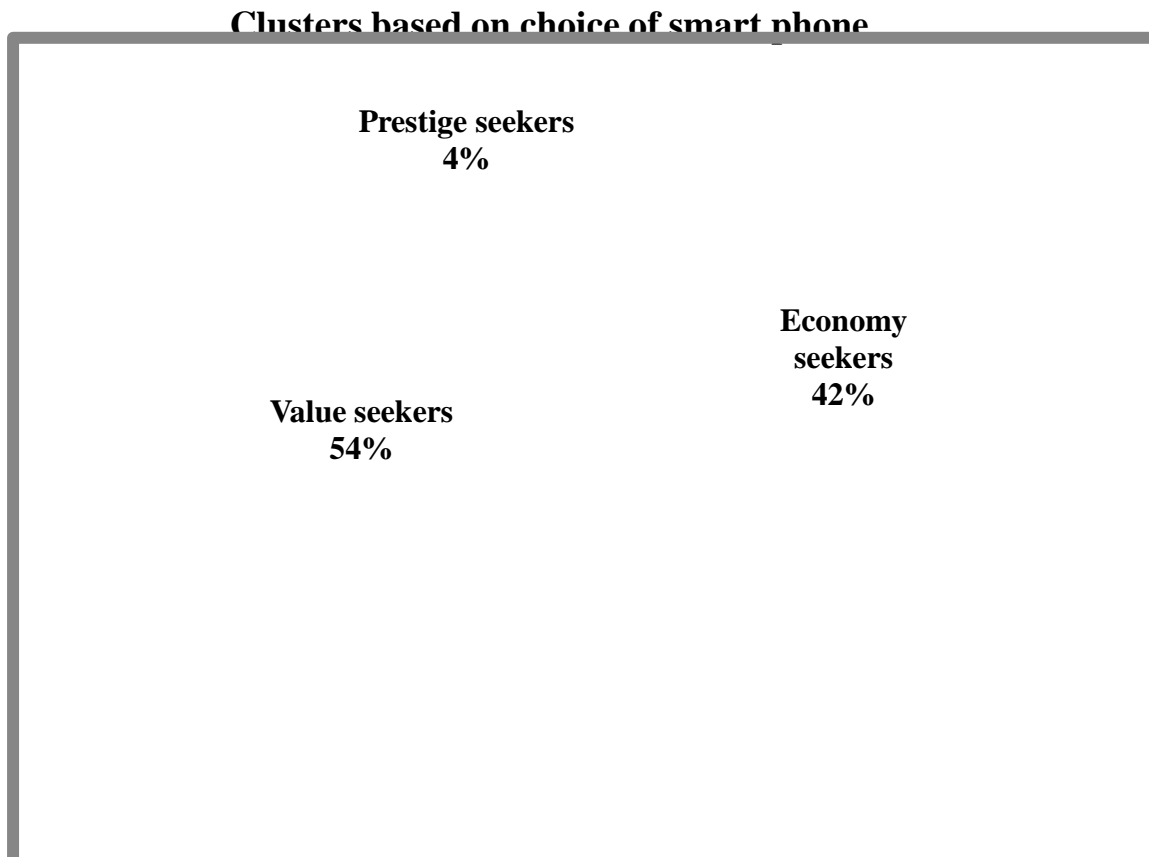


Diagram 1: - Cluster Characteristics regarding monthly income

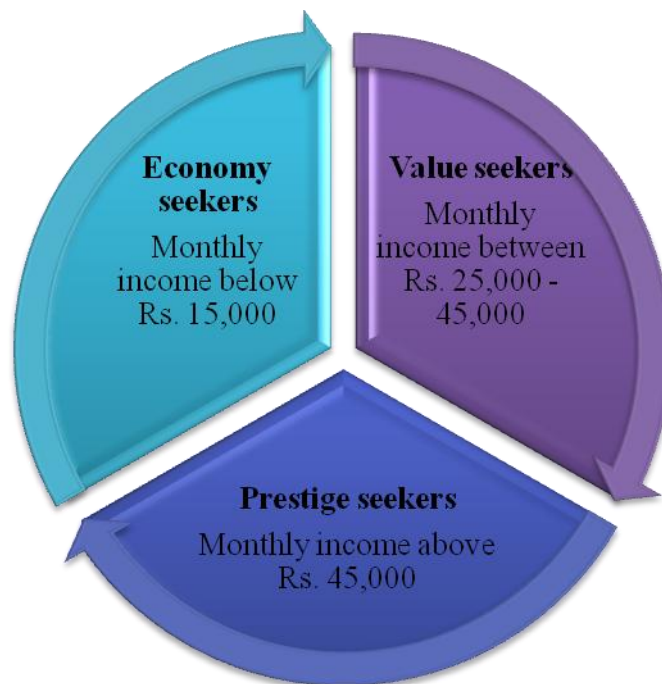
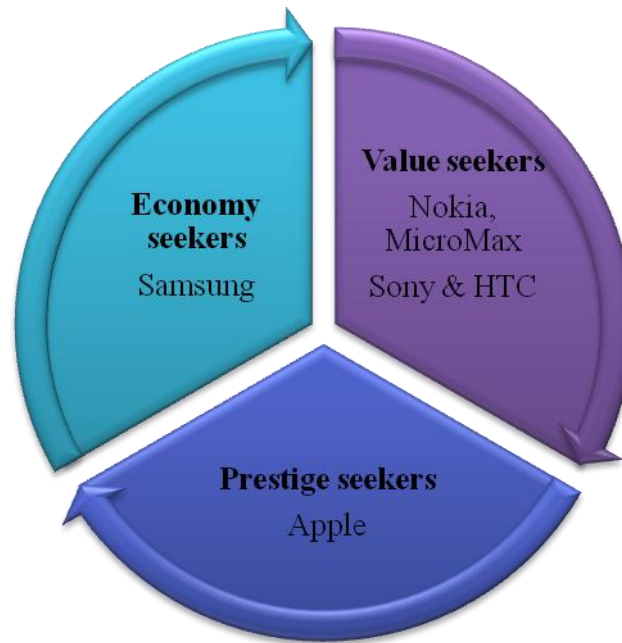


Diagram 2: - Cluster Characteristics regarding brand usage



Findings:

- The college students are grouped into three clusters based on their choice factors as Economy seekers, Value seekers and Prestige seekers.
- Economy seekers basically belong to the income group of below Rs. 15,000
- Value seekers belong to the income group Rs. 25,000 – 45,000
- Prestige seekers belong to the income group of above Rs. 45,000
- Apple brand users basically are found in Prestige seekers cluster.
- Samsung users are found majority in Economy seekers cluster.
- Sony, MicroMax, HTC and Nokia users are found in majority in Value seekers cluster
- There is not much difference in gender characteristics in preferring smart phones.

Conclusion:

A new electronic gadget by the name of Smartphone is rapidly becoming an essential part of the life of new generation users of mobile. The versatility of this instrument is resulting in the exponential rise of its market share. The study using the cluster analysis concludes that the student community in Tiruchirappalli is basically either Economy seekers, Value seekers or Prestige seekers. The brand preferred by each segment was unique based on their choice factors and they were specifically identified under different income categories. It is important to highlight that the results of this paper can provide new marketing dynamics to the mobile companies to identify the market segments and position their products according to the needs of each segment.

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