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Technology Adoption with respect to various Brands of Smart Phones

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Abstract: ***The new technology has led the development of the economic growth of the nation. The creators of the new technology keep in mind the need of the people and comes out with most reliable and feasible technology which is mostly diffused and used by the new technology adopters. The technology developed are innovative and user-friendly in the smart phone industry. Every aspect that is considered to build and develop a smart phone are through the research and development. This study focuses on the audience who adopt to use the new technology with respect to the smartphones. There are few studies to show the technology adoption life cycle and its types of adopters. Various smartphone brands keep updating the technology to give its users the best features, the technology adopters also keep up with the updated technology to adopt to the new developments. The smartphones not only develop the hardware but also keep updating their software as well. This study also concentrates and brings out the views about brands and technology adoption. The data collection for this study was conducted in Chennai city. The sampling technique used was judgmental sampling. The questionnaire was distributed to nearly 123 respondents. The study reveals that how the various technology adopters have to be targeted and to market the brand strategically, so the consumers can purchase the smartphones as per their requirement and social status.***

Keywords: Brand, Innovation, Technology Adoption, Marketing strategies, Smartphones, Brand Preference.

I. INTRODUCTION

Indian telecommunication industry is growing very fast and is rapidly increasing the economy of the country. The technology and trend in the field of the smartphone is growing day by day because of which the it has led to the growth and expansion of the research and development of the smart phone industry. Smartphones with its advanced features are increased the people's attention towards smartphones. The Smartphone industry research and study the people needs, desires, what motivated them to buy the smartphones and what influences them to purchase the smartphones. There are many demographic and personal factors that are to be considered while purchasing the smartphones. The smartphone market has less costly phones to most expensive smartphones. The purchase of the smartphones is also based technology and the features that the phone is built up with. Price, features, stability and style are very keen looked upon when it comes to purchase the smartphone in India.

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The Indian Smart phone industry has Indian Brand and Multinational Brands. The preference to purchase a smartphone is totally depends upon the how-to people adapt to the new technologies in the smartphones, so that it makes their day to day work easy.

E.M. Rogers (1962) came up with the theory of "Diffusion of Innovation".

It was proposed for the marketers and the business community to understand the people regarding their adaption to new technology. It is a 'bell-shaped' curve. The theory was based on the group of consumers who adopt to new technology over the period of time. The group of consumers are classified as: -

1. Innovators (2.5%) – Innovators are also known as the Technology Enthusiasts. These individuals keep looking out for latest technology in the market. They love to experiment with the new technology and features. They also compare it with the existing technology and features. These individuals are risk-takers when it comes to new technology. They give the reviews and feedback to the next segment of the consumers.
2. Early Adopters (13.5%) – Early Adopters are also known as the Visionaries. These individuals love new technology and they procure and the use the technology before it in the hands of many. They appreciate, embrace and accept the solution for the problem that existed in the earlier technology. They can envision the impact and makes efforts for the technology to work.
3. Early Majority (34%) – Early Majority are also known as Pragmatists. These individuals use the new technology when most people they know do. They are methodical and they look for safe purchase. They mostly depend upon the data and the proven facts of the technology. They first see the technology and research about the new technology and then make the decision to use them.
4. Late Majority (34%) – Late Majority are also known as Conservatives. They are individual who adopt the new technology just because others, so that they are not left behind. They are usually price – sensitive and demanding when adopting to the new technology.
5. Laggards (16%) – Laggards are also known as Skeptics. These individuals are usually old-fashioned and criticize about new technology in a negative way. They prefer the old technology and they never tend to adopt to the new technology. They are usually the last one to use the new technology.

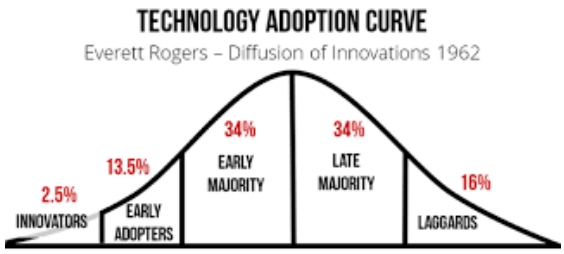

Figure – I – Techonology Adoption Curve

So based the group of consumers how they adopt the new technology. It is very much necessary to understand how they have to be marketed. This study will give suggestion about the marketing strategies that should to considered to market these various types of consumers.

II. LITERATURE REVIEW

Harter et al., 2007 in their study focus on the buying decision making process for the smartphones are usually based upon the price, services providers, smartphones features, quality and size. Purchasing a smartphone may also be based upon the location where it is available to purchase.

Karialuoto et al., 2005 in their study prove that the phones are purchased by the user without having a full knowledge about the product features and properties with respect to Finnish city.

Venkatesh et al., 2003 proposed the Unified Theory of Acceptance and Use of Technology (UTAUT) model which indicate that the performance expectancy, effort expectancy and social influence which are determinants of intention to use. Intention and Facilitating conditions are determinants of actual use.

Bhattacherjee, 2004 in his study, purchase of the smartphones are usually include the external factors and interpersonal factors. The factors are considered to be vital for the purchase of the smartphones.

Verkasalo's, 2010 in his research study defines social influence as the degree to which individuals consider the opinion of the social influencers instead of taking into consideration about the external factors and the interpersonal factors. Lopez-Nicolas et al., 2008 in their study reveals that the social networking sites are also considered before the purchase of the smartphones.

Verkasalo, 2010, Kim, 2009 – suggest in them regarding the social influence while buying the smartphones.

Shin,2010 in the study indicates that social influence has a positive influence on the attitude towards buying behaviour of the consumer of Smartphones.

Brand is considered to be the most valuable asset. It is like a goodwill to the firm while marketing their product in the market under a particular brand name. Brand is more than just the symbol or logo. The brand will be like wire to connect the firm and its consumers. (Kotler and Armstrong, 2010).

In the communication services, the telecommunication sector plays a significant role. The Department of Telecommunication bears the responsibility of managing the communication services. The Ministry of Communications in Government of India is found responsible for managing and controlling the system and the control process is not only mentioned by the government but also by the Telecom Regulatory Authority. Telecommunication plays an incremental role in the multi-dimensional development activities. A well-functioning telecommunication network is an essential component of economic infrastructure. In recent scenario, smart phones and people are inseparable. In the past decade. Smart phones have increased a lot due to their excellent features. In the past, phones were only for communication. Today smarts phones are used as substitute for the computer and laptops The smart phones sectors is witnessing a huge revolution with the invention of smartphone which has replaced many other electronic devices. Now it is not only used as an device to communicate. Many brands are producing smartphones with varying and innovative features and capabilities. At present there are numerous smart phones. Currently, based on the performance of these smartphone which is incredible and they're because of their outstanding performance they are being called the flagship smartphones. The year 2013 is called the "The year of Smartphones" with higher sales. The sales of smart phones in 2013 was accounted for 53.6% of the overall smart phone sales. The top brands of Smartphones are Samsung, Apple, LG, Huawei, Sony, Motorola and Xiaomi.

III. RESEARCH METHODOLOGY

This is an empirical study. The method adopted for data collection is survey. The scope of this study is confined to the respondents both male and female in the group 18 to 40 years, residing in Chennai who own a smartphone of various brand. The primary data was collected through structures questionnaire and secondary data was obtained from relevant books, journals, newspapers and websites. The questionnaire consists of 37 questions including 5 demographic questions. The questionnaire consists of multiple-choice questions, five-point Likert-Type scale. The sample size is 100.

OBJECTIVE OF THE STUDY

1. To find the frequencies of the technology adopters
2. To find the relationship between the technology adopters and their opinion about the technology growth
3. To find out if there is a relationship between Technology Adopters and Level of Switching to another brand with additional features
4. To find out if there is a relationship between Technology Adopters and Preference to buy the same brand that they are using currently.
5. To find out the relationship between Technology Adopters and the preference of manufactures/brands

LIMITATIONS OF THE STUDY

1. The study focuses only on smartphones not considering the other branded electronic products.
2. The study was conducted only in Chennai Metropolitan.

Table – I: Profile Of Sample

SAMPLE PROFILE	GENDER		TOTAL %
	MALE	FEMALE	
	25	75	100
AGE			

18 – 21 years	0	45	45
22 – 25 years	10	10	20
26 – 30 years	15	10	25
31 – 40 years	0	10	10
Total			100

RELIABILITY ANALYSIS

The reliability test was conducted for the questionnaire. The Cronbach's Alpha is measured to be 0.779 and it is acceptable questionnaire and table II shows the reliability statistics.

Table – Ii Reliability Table

Reliability Statistics	
Cronbach's Alpha	N of Items
.779	37

IV. ANALYSIS AND INTERPRETATION

The statistical tool used for the analysis is Correlation and Percentage Analysis. After analysing using the SPPS, the analysis is interpreted accordingly.

TABLE – III – Frequency of the Technology Adopters

Technology Adopters	
	Frequency
Innovators	15
Early adopters	10
Early Majority	40
Late Majority	20
Laggards	15
Total	100

rom the above table III, it shows that the 40% of the respondents are Early Majority. 20% of the respondents are Late Majority. 15% of the respondents are Innovators and 15% of the respondents are Laggards. 10% of the respondents are Early Adopters.

CORRELATION BETWEEN TECHNOLOGY ADOPTERS AND THEIR OPINION ABOUT THE TECHNOLOGICAL GROWTH

H_{0a} – There is no significant relationship between the Technology Adopters and their Opinion about the Technological Growth

H_{1a} - There is no significant relationship between the Technology Adopters and their Opinion about the Technological Growth

TABLE – IV – CORRELATION

		Opinion about Technological Growth
Technology Adopters	Pearson Correlation	-.235*
	Sig. (2-tailed)	.019
	N	100

*. Correlation is significant at the 0.05 level (2-tailed).

From the above table IV, it is seen that there is negative correlation between the technology adopters and their opinion about technological growth (-0.235*). The correlation score indicates that, there is relationship and significant at 5% level. Thus, the alternate hypothesis (H_{1a}) is accepted.

CORRELATION BETWEEN TECHNOLOGY ADOPTERS AND SWITCHING TO ANOTHER BRAND WITH ADDITIONAL FEATURES.

H_{0b} – There is no significant relationship between the Technology Adopters and switching to another brand with additional features.

H_{1b} - There is no significant relationship between the Technology Adopters and switching to another brand with additional features.

TABLE – V – CORRELATION

		Respondents Switching to Another Brand with Additional features
Technology Adopters	Pearson Correlation	-.336**
	Sig. (2-tailed)	0.001
	N	100

**. Correlation is significant at the 0.01 level (2-tailed).

From the above table V, it is seen that there is negative correlation between the technology adopters and switching to another brand with additional features (-0.336**). The correlation scores indicate that, there is relationship and significant at 1% level. Thus, the alternate hypothesis (H_{1b}) is accepted.

CORRELATION BETWEEN TECHNOLOGY ADOPTERS AND LEVEL OF SWITCHING TO ANOTHER BRAND

H_{0c} – There is no significant relationship between the Technology Adopters and Level of switching to another brand.

H_{1c} - There is no significant relationship between the Technology Adopters and Level of switching to another brand.

TABLE – VI – CORRELATION

		Level of Switching to another brand
Technology Adopters	Pearson Correlation	-.246*
	Sig. (2-tailed)	.014
	N	100

*. Correlation is significant at the 0.05 level (2-tailed).

From the above table VI, it is seen that there is negative correlation between the technology adopters and level of switching to another brand (-0.246*).

The correlation score indicates that, there is relationship and significant at 5% level. Thus, the alternate hypothesis (H_{1c}) is accepted.

CORRELATION BETWEEN TECHNOLOGY ADOPTERS AND WILLINGNESS TO PURCHASE THE SAME BRAND

H_{0d} – There is no significant relationship between the Technology Adopters and Willingness to purchase the same brand.

H_{1d} - There is no significant relationship between the Technology Adopters and Willingness to purchase the same brand.

TABLE – VII – CORRELATION

		Willingness to Purchase the same Brand
Technology Adopters	Pearson Correlation	.335**
	Sig. (2-tailed)	.001
	N	100

**. Correlation is significant at the 0.01 level (2-tailed).

From the above table VII, it is seen that there is positive correlation between the technology adopters and Willingness to purchase the same brand (0.335**). The correlation score indicates that, there is relationship and significant at 1% level. Thus, the alternate hypothesis (H1d) is accepted.

CORRELATION BETWEEN TECHNOLOGY ADOPTERS AND PREFERENCE OF BRAND

H_{0d} – There is no significant relationship between the Technology Adopters and Preference of Brand

H_{1d} - There is no significant relationship between the Technology Adopters and Preference of Brand

TABLE – VIII – CORRELATION

		Preference of Brand
Technology Adopters	Pearson Correlation	.321**
	Sig. (2-tailed)	.001
	N	100

**. Correlation is significant at the 0.01 level (2-tailed).

From the above table VIII, it is seen that there is positive correlation between the technology adopters and Preference of Brand (0.321**). The correlation score indicates that, there is relationship and significant at 1% level. Thus, the alternate hypothesis (H1d) is accepted.

V. CONCLUSION

The creators of technology create and develop an innovative technology to enable the users to use it easily without difficulty. Each type of technology adopters has to be focused and targeted accordingly.

The marketing strategy used for the innovators is through being genuine and providing them with clear information. Innovators need access to the creators with knowledge to answer their queries. Innovators can be easily reached through their Direct Mail, Provide them with free demo about the new technology or the product.

Early Adopters are individual who usually are targeted with the high-tech end products/technology. The enthusiasm that the Early Adopters have in acquiring a new technology in the market is through the Higher-level of Marketing/Sales team to often contact them regarding the launch about the product and also inform them often about the updated technology. Early Adopters are hard to convince but once convinced they will buy the product because they are not very price-sensitive.

Early Majority are individuals who buy the product to use the product or the technology for long time. They do a lot of ground work before they would buy the product or the technology. These individuals can be marketed through the trade shows, making them attend conference to enlighten the features, pros and cons of the product. They buy the product from the market leaders and not from any one in the market. These individuals have patience when it comes to buying the new product through full knowledge about the product. They also look out for the feedback and reviews about the product in the magazines and in the social media sites.

Late Majority individuals are usually very last person to procure and use the product. They try to buy the product late because it will be very cheap and some time, they might get the product in discount rate. They are just individual who just buy the product in order to keep up with the technology.

Laggards are individual who are very tough and the hardest individual to market the product. They prefer the old-school way. They usually give a negative comment about the product and they stand as an obstacle for others to purchase the product. So, in order to keep their mouth, shut, the marketer must live up to the highest standards and don't have any fall back for the laggards to comment upon the new product. So that other will not be affected by their comment and sales will be good.

FUTURE SCOPE FOR RESEARCH

This study was done in reference to the smartphones. Other electronic devices and technology innovative products can be considered to study in future, in turn it will help the marketers to under the consumers, consumer's decision making and the purchasing attitudes.

REFERENCES

1. BHATTACHERJEE, A. and PREMKUMAR, G., 2004. Understanding changes in belief and attitude toward information technology usage: a theoretical model and longitudinal test. MIS Quarterly, 28(2), pp. 229-254.
2. Flipkart.com, (2014). Mobiles Store Online - Buy Mobiles Products Online at Best Price in India - Flipkart.com. [online] Available at: http://www.flipkart.com/mobiles?otracker=hp_nmenu_sub_electronics_0_Mobiles [Accessed 18 May. 2014].
3. Karjaluoto, H., Karvonen, J., Kesti, M., Koivum˜Aki, T., Manninen, M., Pakola, J., Ristola, A., & Salo, J. (2005). Factors affecting consumer choice of mobile phones: Two studies from Finland. Journal of Euro marketing 14(3) (2005).
4. Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. Journal of Marketing, 57 (January), 1-22.
5. Kim, E., Lin, J.-S., & Sung, Y. (2013). To App or Not to App: Engaging Consumers via Branded Mobile Apps. Journal of Interactive Advertising, 13(1), 53-65
6. Kotler and Armstrong, 2010. Principle of marketing. 3th Edn., Pearson Education
7. Kotler, P. and Keller, K. (2009). Marketing management. 1st ed. Upper Saddle River, N.J.: Pearson Prentice Hall.

8. López-Nicolás, C., Molina-Castello, F. J. & Bouwman, H. (2008). An assessment of advanced mobile services acceptance: Contributions from TAM and diffusion theory models. Information & Management 45(2008), 359-364.
9. Rogers, A., 2013. What is the difference? A new critique of adult learning and teaching, Leicester. s.l.:NIACE
10. Rogers, A., 2013. What is the difference? A new critique of adult learning and teaching, Leicester. s.l.:NIACE
11. Verkasalo, H. L., "Analysis of users and non-users of smartphone applications", Telematics and Informatics, Vol. 27, No. 3, November, 2010, pp. 242-255
12. VENKATESH, V., MORRIS, M.G., DAVIS, G.B., and DAVIS, F.D., 2003. User acceptance of information technology: toward a unified view. MIS Quarterly 27(3), pp. 425-478

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