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Students buying pattern of modern electronic (e)-gadgets

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ABSTRACT: The modern e-gadgets like smart phones, laptops and TVs are used invariably by all and they become part of day to day life. The younger generation especially the students are using these gadgets most widely for academic and entertainment purposes. This study is conducted to understand the students buying pattern of e-gadgets based on various parameters. The demographic details are used to identify the parameters affecting the buying pattern of students. The descriptive statistics is used to summarise the sample data collected. The ranking on reasons to buy gadgets by students are analysed along with percentage analysis. The correlation coefficients among variables are calculated to identify the strength of associations.

KEYWORDS: gadgets, buying pattern, students, correlation

I. INTRODUCTION

A modern electronic gadget (e-gadget) may be a small tool like a machine that features a particular function, but is usually thought of as a novelty. The e-gadgets make our work easy and form an integral part of our lifestyle. They're essentially small machines intended to perform specific function. With the evolution of recent age more and more e-gadgets are being invented which not only makes our lives easier but also makes a method and fashion in this world. In today's life it's impossible to accomplish our daily tasks and work efficiently without the utilization of recent e-gadgets. It is a challenge to imagine life without e-gadgets like laptop, smart phones, cell phones, notebooks, microwaves and so on. The e-gadgets are essential for communication, knowledge acquisition, financial transactions and entertainment. Many e-gadgets are used for various purposes both in professional and private life. The e-gadgets also play major role in maintaining physical health of individuals as a diagnostic tools like measuring pressure and sugar level. The e-gadgets also can help in saving lot of space like replacing telephone with smart phones, and embedded in systems with the Internet Of Things (IOT) connectivity. They are often also used as memory tools for GPS tracking, CCTV camera and surveillance devices. Nowadays it's essential to understand about buying behaviour of individuals for not only for marketing purpose and for also understanding socio economical status of individuals to form policy decisions. It's a study of how individuals make decision to spend their available resources (time, money and effort) on consumption of related e-gadgets. This study also covers sources of availability of e-gadgets and timing for purchase of latest products. It's possible due to increase in income of individuals, the usage of products and easy availability in various modes. Most of e-gadgets which are available to buyers have variety of suppliers and substitute products are also available to consumers, who make decision to purchase products. The study is conducted to find out about students buying pattern of modern e-gadgets in Anna Nagar, Chennai. Also, to understand about the level of preference given by them in various aspects like price, brand, usage, mode of purchase and merchandise features while buying modern e-gadgets. This study helps to understand about their purchase intentions, positive and negative aspects towards modern gadgets. The ranking and percentage analysis on sample data show the buying pattern of students towards modern e-gadgets. The descriptive statistics provides summary of sample data collected. The Pearson correlation coefficient is calculated to know about the strength of associations between variables.

II. LITERATURE REVIEW

Normally, buying is characterized by a deliberate, thoughtful search and careful evaluation of the merchandise that leads to rational and better decisions. The impulse buying may be a spontaneous and instantaneous purchase, where the buyer isn't actively involved in search of a product and has no proper pre-mindset to get. The impulse buy is more

emotional than rational [1]. The buying pattern refers to the buying behaviour of ultimate consumers, both individuals and households, who buy goods and services for private consumption [2]. A consumer buys the products or services so as to satisfy the individual needs. Many factors are influencing the consumer's attitude and his/her preferences for buying a product. [3]. There's clear evidence of a growing segment of students that represents a big demand group on e-gadgets market. The knowledge of their consumer habits is certainly beneficial for companies regarding their competitive advantage and reaching higher incomes from the products offered [4]. Bona [5] concluded that the students spending pattern is greatly influenced by their family background. The parent plays a key role in shaping not only the attitudes about the financial management but also life attitudes of their children. The results of the study [6] suggest that college students aren't brand loyal consumers and that there is not any gender differences with reference to overall brand loyalty. Their buying pattern has not been greatly suffering from the economic recession. The survey analysis of Venugopal et.al [7] found that the majority of students have an interest and in practice of buying second user products. They assume longevity of products and buy them for a short term use. Whenever they uninterested with the products they switch to a different model or brand. Because, the students aren't earners and depend much on their parents' income and might not be able to afford on par with trends and fast pace of changes in their lifestyles. So, they're contented with the least priced product with maximum possible features. Now, the consumers are educated, smart and exposed to different platforms where they will get necessary information on products in a fraction of seconds [8]. With the advancement of technology today, all are using e-gadgets irrespective of ages. The use of these gadgets affects cognitive, affective and behavioural to all or any and thus the impact is difficult to trace since technology today requires e-gadgets to know current issues [9]. This research has attempted to get some relationships between the demographic constraints and online shopping habits alongside understanding the explanations for the preference of shopping online [10]. The digital devices such as mobile phones, computers, tablets and other digital devices are more likely used by the students to collect information regarding products they desire to get [11]. The most motivating factor seen during the research was the delivery time, convenience and customer service which drive the people to online shopping. As a result today they're buying airline and railway tickets, books, home appliances, e-gadgets, movie tickets, etc by logging on to an internet site rather than driving up to a store [12]. The review shows some gap available in ranking and correlation analysis on students buying behaviour of e-gadgets. In this study an attempt has been made to fill such gap to some extent.

III. METHODOLOGY

The descriptive type of research is carried out on buying pattern of e-gadgets by the students of Chennai. The data collected for the study was both primary and secondary in nature in which primary data were collected through questionnaire from students of different age groups. The secondary data were collected from reports, surveys, research papers, internet, journals, books, and theses. The sample size is 50 in number which is distributed among the students who reside in Anna Nagar, Chennai. The students were asked to rank the specifications of e-gadgets and various brands they use. In order to collect data convenience, the random sampling technique was used. The study was carried out in a short span of time (8 Weeks) and limited to students only. Some of the respondents were reluctant to share their experience accurately.

Table 1. Distribution of sample data

S.No	Sample variables	Number of respondents	Percentage
1	Gender		
	Male	42	84
	Female	8	16
2	Age		
	below 19	2	4
	19-21	9	18
	22-24	20	40
	25-27	14	28
	above 27	5	10
3	Educational qualification		
	SSLC	1	2
	HSC	2	4
	UG	20	40

		PG	26	52
		Others	1	2
4	Parent occupation			
		Business	12	24
		Government employee	9	18
		Private	7	14
		Agriculture	11	22
		Others	11	22
5	Family income level			
		Up to Rs.15000	13	26
		Rs.15001-30000	20	40
		Rs.30001-45000	3	6
		Rs.45001-60000	6	12
		More than 60000	8	16
6	How often respondents change their gadget			
		< 6 months	1	2
		6 months-1year	6	12
		1-2 year	22	44
		2-3 year	11	22
		> 3yrs	10	20
7	Frequency in using gadget			
		Below 2 hours	2	4
		2-3 hours	10	20
		3-4 hours	9	18
		4-5 hours	12	24
		Anytime	17	34
8	Continuous use of gadget will have negative impact on health			
		Agree	31	62
		Neutral	15	30
		Disagree	4	8
9	Positive aspect on using gadget			
		Faster communication	12	24
		Transfer of information	29	58
		Internet	8	16
		Others	1	2
10	Preference on brand of gadget			
		Indian brand	14	28
		Korean brand	6	12
		China brand	7	14
		Japan brand	4	8
		Others	19	38
11	Opinion on owning a modern gadget			
		Necessity	41	82
		Luxury	9	18
12	Who bought the gadget for respondents			
		Father	40	80
		Mother	6	12
		Relative	3	6
		Friends	1	2
13	Where the respondents purchase gadget			
		Online stores	24	48
		Exclusive branded shops	21	42
		Duty free shops	1	2
		Retail chain stores	2	4



	Others	2	4
14	Media to know about modern gadgets		
	Internet	20	40
	Advertisements	22	44
	Word of mouth	4	8
	News paper	1	2
	Others	3	6
15	Modern Gadgets owned by the respondents		
	Laptop	37	74
	Smartphone	48	96
	iPod	3	4
	Tablet	10	20
	Digital camera	8	16
	Smart watch	5	10
	Webcam	8	16
	Bluetooth	5	10
	Gaming console	5	10

The table 1 shows the demographics of the sample data considered for the study. It is found that 84% of the respondents are male and remaining 16% are female. This indicates that male students are using various types of e-gadgets for personal uses. 40% of the respondents are in the age group of 22-24, 28% of the respondents are in the age group of 25-27, 18% of the respondents are in the age group of 19-21, 10% of the respondents are in the age group of above 27, 4% of the respondents are in the age group of below 19. It has become essential for college students to possess e-gadgets for attending online classes and reference works related to subjects. From the above table it is found that 52% of the respondents have PG qualification, 40% of the respondents have UG qualification, 4% of the respondents are HSC and remaining 2% are SSLC and others. Nearly, 24% of respondents father are doing business, 22% of respondents father are doing agriculture and others, 18% of the respondents father are government employee and remaining 14% of the respondents father are working in private concerns. It is evident that fathers' income level does not influence the purchase of gadgets. The e-gadgets are changed within 2 years by 56% of students due to up gradation with additional features both in hardware and software. 34% of respondents use their e-gadgets at any time and remaining 66% use between 1 to 5 hours. From the table 1, it's found that 62% of the respondents have been agreed to continuous usage of gadget will affect their health, 8% of the respondents have been disagreed and remaining 30% are neutral. Most of the students are using gadgets with the positive intention. The internet connectivity of gadgets enables them to connect worldwide. The branding of e-gadgets is important for students' consumption. The owning of gadgets has become necessity for 82% of the respondents. For 80% of the respondents the gadget own by them is bought by their father who reflects Indian culture. The online stores and branded show rooms are the purchase destinations for 90% of the students. 84% of the students come to know about the gadgets through internet and advertisements. The smart phone has become indispensable among gadgets for the students. The laptop becomes essential tool for online and off line modes of present day education. The rank and percentage analysis are carried away to estimate the buying pattern of students.

IV. RESULTS AND DISCUSSION

The ranking analysis is carried on 5 parameters to look into the buying habits of students. These 5 parameters are selected to bring out their preferences over purchasing gadgets. The respondents are requested to award ranks against the parameters based on their choices.

Table 2. Reasons to change gadgets

S.No	Particulars	Respondents									
		Rank 1	%	Rank 2	%	Rank 3	%	Rank 4	%	Rank 5	%
1	Update	17	34%	7	14%	2	4%	5	10%	19	38%
2	Problem with gadget	9	18%	13	26%	11	22%	12	24%	5	10%
3	More features and specifications	5	10%	14	28%	9	18%	16	32%	6	12%
4	Trendy	11	22%	5	10%	11	22%	12	24%	11	22%
5	Status symbol	8	16%	11	22%	17	34%	5	10%	9	18%

The table 2 shows the reasons available before the students to change their gadgets. The update is the main reason for 38% which is ranked 5 to make a change. 26% choose to change because of the problems with gadgets with rank 2. They change for more features and specifications available in new at 32% but it ranks 4. The trendy and status symbol are the parameters chosen by the students to change at 24% and 34% with ranks 4 and 3 respectively.

The table 3 illustrates the buying behaviour of students with particular reasons to own a gadget. It is evident that 30% of students emotionally blackmailing their parents to have gadget which scores 1st rank. The communication and self esteem are the choices of 34% of respondents which have scores of 5th rank. 40% of the respondents prefer gadgets for reference which is also placed with 5th rank. The peer pressure is also important for 22% of students. The students are always comparing their gadgets with others in terms of configuration, price, brands and scope of usage.

Table 3. Reasons to own a gadget

S.No	Particulars	Respondents									
		Rank 1	%	Rank 2	%	Rank 3	%	Rank 4	%	Rank 5	%
1	Communication	10	20%	8	16%	7	14%	8	16%	17	34%
2	Peer pressure	8	16%	11	22%	16	32%	8	16%	7	14%
3	Reference	4	8%	9	18%	12	24%	20	40%	5	10%
4	Emotional blackmail	15	30%	15	30%	8	16%	8	16%	4	8%
5	Self esteem	13	26%	7	14%	7	14%	6	12%	17	34%

As most of the gadgets are sold through online stores, it is essential to know about the problems faced by the respondents during purchase. Digital payment failure happens due to server and connectivity issues which are the choice for 24% of students and 30% of them express doubts about originality of the product. The lack of security and unclear return policy are concern for 36% of respondents.

Table 4. Problems faced in online purchase

S.No	Particulars	Respondents									
		Rank 1	%	Rank 2	%	Rank 3	%	Rank 4	%	Rank 5	%
1	Quality issues	11	22%	13	26%	5	10%	10	20%	11	22%
2	Doubt in originality	10	20%	15	30%	7	14%	6	12%	12	24%
3	Digital payment failure	12	24%	8	16%	17	34%	7	14%	6	12%
4	Unclear return and	9	18%	6	12%	14	28%	18	36%	3	6%
5	Lack of security	8	16%	8	16%	7	14%	9	18%	18	36%

Table 5. Reasons for purchasing branded gadget

S.No	Particulars	Respondents											
		Rank	%	Rank 2	%	Rank 3	%	Rank 4	%	Rank 5	%	Rank 6	%
1	Product features	7	14%	3	6%	6	12%	12	24%	11	22%	11	22%
2	Easy EMI	11	22%	7	14%	11	22%	6	12%	7	14%	8	16%
3	Durability	6	12%	8	16%	6	12%	13	26%	7	14%	10	20%
4	Service quality	5	10%	9	18%	10	20%	9	18%	8	16%	9	18%
5	Free accessories	9	18%	13	26%	7	14%	5	10%	12	24%	4	8%
6	Warranty	12	24%	10	20%	10	20%	5	10%	5	10%	8	16%

The easy EMI schemes on branded gadgets scores 1st rank with 22% and followed by free accessories of 26%. Another 26% of respondents mark 4th rank for durability. Now extended warranty is being offered to all types of products with lesser premium value. Nearly 24% of the respondents are expressed their choice on this criteria.

Table 6. Purpose of gadget

S.No	Particulars	Respondents									
		Rank 1	%	Rank 2	%	Rank 3	%	Rank 4	%	Rank 5	%
1	Education	7	14%	7	14%	13	26%	6	12%	17	34%
2	Entertainment	11	22%	9	18%	9	18%	15	30%	6	12%

3	Habit	15	30%	12	24%	12	24%	6	12%	5	10%
4	Communication	4	8%	13	26%	9	18%	12	24%	12	24%
5	Hobby	13	26%	9	18%	7	12%	11	24%	10	20%

The entertainment and habit are the real reasons for 30% of the respondents to purchase gadgets. 34% are using gadgets for educational purpose and 26% for communication. Hobby becomes very important for 26% of the respondents.

The descriptive statistics provides summary of data of sample collected from a population. The measure central tendency namely mean shows the overall view of the sample data. It is the average of data collected. The dispersion shows how data spread around the mean value. The standard deviation describes how data are varied from mean. A low standard deviation shows how data are nearer to mean value. The table 7 shows descriptive statistics of sample data with mean and standard deviation. More features and specifications have low SD value of 1.22624. The respondents are using gadgets for reference which is shown by low SD value. The service quality has low SD value of 1.62393 among the reasons for purchasing branded gadget.

Table 7. Descriptive statistics of sample data

Particulars	Mean	Standard deviation(SD)
Reasons to change gadgets		
Update	2.9000	1.31320
Problem with gadget	3.1400	1.45700
More features and specifications	3.0800	1.22624
Trendy	2.8200	1.27279
Status symbol	3.0400	1.78383
Reasons to own gadgets		
Communication	2.7200	1.56544
Peer pressure	3.1000	1.26572
Reference	2.7400	1.12141
Emotional black mail	3.5800	1.29505
Self esteem	2.8600	1.64143
Reasons for purchasing branded gadget		
Product	3.0000	1.66599
Easy EMI	3.7000	1.76416
Durability	3.2600	1.66366
Service quality	3.3400	1.62393
Free accessories	3.8000	1.66599
Warranty	3.9000	1.77569

The correlation is a method to find out relationship or association between variables. The Pearson correlation coefficient (r) is used to measure the strength of association between variables. The value r ranges from -1 to +1 and - indicates negative, + for positive and 0 for no correlations. The table 8 shows the guiding values for Pearson correlation coefficient to identify the strength of associations among variables.

Table 8. Pearson correlation coefficient

Strength of association	Coefficient (r)	
	Positive(+)	Negative(-)
Small	.1 to .3	-.1 to -.3
Medium	.3 to .5	-.3 to -.5
Large	.5 to 1	-.5 to 1

Table 9. Calculated Pearson correlation coefficient for reasons to change gadgets

Particulars	Update	Problem with gadget	More features and specifications	Trendy	Status symbol
Update	1	-.003	-.033	-.255	-.521
Problem with gadget	-.003	1	.233	-.591	-.560
More features and	-.033	.233	1	-.474	-.533

specifications					
Trendy	-.255	-.591	-.474	1	.300
Status symbol	-.521	-.560	-.533	.300	1

Table 10. Calculated Pearson correlation coefficient for reasons to own gadgets

Particulars	Communication	Peer pressure	Reference	Emotional black mail	Self esteem
Communication	1	-.109	.144	-.492	-.579
Peer pressure	-.109	1	-.211	-.161	-.396
Reference	.144	-.211	1	-.428	-.320
Emotional black mail	-.492	-.161	-.428	1	.097
Self esteem	-.579	-.396	-.320	.097	1

The calculated r values for reasons to change gadgets are shown in table 9. The update and status symbol have large negative association value of -.521. The problem with gadget has small positive association with more features and specifications. The trendy and status symbol are having medium positive association with r value of .300.

The table 10 displays Pearson correlation coefficients for reasons to own gadgets. The communication and reference have small positive association. The peer pressure and self esteem have large negative association value of -.339. The emotional blackmail and communication have large negative association.

Table 11. Calculated Pearson correlation coefficient for reasons to purchase branded gadget

Particulars	Product features	Easy EMI	Durability	Service quality	Free accessories	Warranty
Product features	1	-.396	.177	.038	-.537	-.241
Easy EMI	-.396	1	-.195	-.241	.083	-.296
Durability	.177	-.195	1	-.139	-.430	-.378
Service quality	.038	-.241	-.139	1	-.299	-.299
Free accessories	-.537	.083	-.430	-.299	1	.159
Warranty	-.241	-.296	-.378	-.299	.159	1

The table 11 shows the calculated Pearson correlation coefficient for reasons to purchase branded gadget. The product features has small positive association with durability while purchasing gadgets. The easy EMI and warranty are having low negative association value of -.296. The free accessories and product features are having large negative association.

V.CONCLUSION

The buying pattern of students is similar despite their basic characteristics particularly in the aspects like quality, preference and decision making. However, it is evident that the present approaches to draw the attention of students are not adequate. The students are particular about the appropriate supply chain system of distribution of gadgets. The students feel comfortable in purchasing gadgets through online stores. It may not be always correct to say that students behave in the same way as it much depends on type, quality and price of the products. The percentage analysis on demographics data was conducted by considering 15 parameters. Nearly 96% of students prefer modern smart phones because of its lot of facilities to meet the present day tasks both in personal and professional life. The ranking analysis brought out salient features of buying pattern of students based on 5 parameters. The descriptive statistics reveal the summary of sample data collected. The mean and standard deviation are used to understand the variance of sample data. The Pearson correlation coefficients are calculated among variables based on 3 reasons to buy new gadgets. The coefficient values show the strength of associations between variables. This study may be extended by considering the other parameters like students income and usage of gadgets in their academic curriculum.

REFERENCES

- [1] Yogesh Mainali, Anamika Shakya and Preeti Pandey (2016), Impulse Buying Behavior of College Student in Kathmandu Valley, Advances in Economics and Business Management (AEBM) p-ISSN: 2394-1545; e-ISSN: 2394-1553; Volume 3, Issue 6; July-September, 2016, pp. 608-611.
- [2] Kumar P (2010), Marketing of Hospitality & Tourism Services, Tata McGraw-Hill Education
- [3] Besanko D. A., Braeutigam R. A. and Rockett K (2015), Microeconomics, (Vol. 5), NJ: Wiley.
- [4] Horáková M (2015), Consumer Behavior of College Students in the Czech Republic. Journal of Competitiveness, 7 (4), 68-85 <https://doi.org/10.7441/joc.2015.04.05>



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- [5] J. T. C. Bona (2018), Factors affecting the spending behavior of college students, Journal of Fundamental and Applied Science, 10(3S), 142-152.
- [6] Sandeep Kumar Machavolu and Srinivasa Narayana M (2016), Smart Millennials and their Changing Shopping Trends: A Case of Millennial Students in Nellore, International Journal for Modern Trends in Science and Technology, Volume: 2, Issue: 08, ISSN: 2455-3778, pp. 68-74.
- [7] Venugopal K , Abebe Worku Hassen and Haimanote Belay Alemayehu (2014), Second hand: a hand in hand for Indian customers – a study on the customer priorities on different used products, International Journal of Innovative Research and Practices Vol.2, Issue 12, December 2014 ISSN 2321-2926, pp. 1-7.
- [8] Gaurav, K and Suraj Ray, A (2020), Impact of Social Media Advertising on Consumer Buying Behavior in Indian E-commerce Industry. Sumedha Journal of Management, 9(1), 41. doi:10.46454/sumedha/9.1.2020.3
- [9] Mariam F, Kamal M.Y, Lukman Z.M, Azlini C, Normala R (2018), The Effect in Cognitive, Affective, and Behavior of Using Electronic Gadget among University Students, International Journal of Research and Innovation in Social Science (IJRISS), Volume II, Issue XII, December ISSN 2454-6186, pp. 409-412.
- [10] Greeta Mary J and Christopher P (2018), Online Shopping Habits among College Students in Nagercoil Town, International Journal of Emerging Technologies in Engineering Research (IJETER) Volume 6, Special Issue 1, April (2018), pp. 42 -45.
- [11] Sadiya Sarvath M (2019), Online shopping behavior Among under graduate Students of arts and science College for women in Vaniyambadi, Journal of the Gujarat Research Society, ISSN: 0374-8588, Volume 21, Issue 16s, pp.214 – 222.
- [12] Balamurali S and Gurumoorthy S (2018), A Study on Consumers Behaviour towards Online Shopping With Special Reference to Chennai City, AE International Journal of Multidisciplinary Research Vol 6, Issue 04, April 2018 ISSN - 2348 – 6724, pp. 1-6.