

Disposal Behaviour of consumers in Indian mobile phone industry

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ABSTRACT

The main reason behind writing the research paper is to find out the behaviour of consumers towards disposal of mobile phones in Indian mobile phone industry, across various segments of demography. The Research contains the actions taken by the Indian consumers at the time of disposing their mobile phones under different circumstances. The paper also discusses about the E waste generated from the old mobile handsets and contains the study of relation existing between the E waste Management and disposal behavior of the consumers.

Methodology and approach: The information that has been used to present this research paper is taken after the discussions and the documentary evidences obtained from the mobile phone retailers. Exploratory research method has been used. To facilitate this objective, around 200 samples were collected through random sampling technique. Both primary and secondary data sources were used. The demographics were classified according to age, occupation, income and place of residence.

Practical implications: This paper will help to ascertain the reasons for low disposal of mobile phones among Indian citizens. Also, this research will help the mobile phone manufacturing companies and retailers to design their reverse logistics and come up with a supply chain model which will cater to the circular economy of the mobile phone industry.

Originality/ value: This research emphasizes on the attitude of the people towards mobile phone disposal, the shortcomings in the infrastructure and consumers' willingness to pay (WTP). Since this area is still unexplored, this paper is an attempt to focus on the research gaps in this domain.

Paper type: Research Paper

Keywords:

Consumer behaviour, Disposal, Demographics, Circular Economy, Infrastructure, Willingness to Pay (WTP).

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Introduction

Mobile phone devices have had one of the fastest household adoption rates of any technology in the world's modern history. Today, mobile phones have become a very important part of human life. Cellular phones have seen a major shift in design due to technological advancement and rise in consumers' expectations. The product life cycle of mobile phones is as low as a week or two. The market of mobile phones has become highly competitive and the manufacturers are fighting to find additional competitive edge and differentiating factors to influence the customer purchase decision. Because of the huge growth of the mobiles and its consumption a huge volume of electronic wastes of mobiles are also getting generated year after year. The consumers, after switching to a new mobile phone, give away the old mobile phone in the following ways:

1. Exchange with the seller if the mobile is not in the working condition.
2. Sell the mobile phone in online or to scrap dealer if the mobile is not working.

But what happens with those mobile phones is important from the waste management point of view. This research paper is focused on the behavior of the consumers towards disposal of mobile phones. This paper takes into account the intrinsic factors, i.e. age of the consumer, occupation and income and extrinsic factors like the place of residence. This paper discusses about the possible reasons of consumers not making a proper disposal of the mobile phone. The retailers and companies ultimately also are responsible for the disposal of the mobile phones which impact the behaviour of the consumers indirectly. A questionnaire consisting of 20 questions for every segment is formulated and 150 responses are received from the targeted segments.

Objective

This study was an attempt to establish a concrete correlation between various factors namely,

1. The condition of last mobile phone versus the disposal behaviour
2. Spend on mobile phone versus frequency of changing

3. Frequency of changing versus the disposal behaviour
4. Closeness of authorized dealership versus disposal behaviour
5. Occupation of respondents versus disposal behaviour
6. CTC of respondents versus disposal behaviour
7. City of residence of respondents versus disposal behaviour

These above-mentioned factors were captured systematically in a questionnaire consisting of 20 questions targeting a mix of respondents from various demographics across India. A regression analysis was done on the responses and the above-mentioned factors were analyzed.

Literature Review

Disposal of mobile phones is an important pain area in the world of e-waste management because of the high volume of mobile phones in the market. We reviewed more than 10 research papers done in different parts of the world on this topic, especially in China and Europe. We found some interesting facts about the changes in behavior of consumers based on their age, ethnicity, location, financial status etc. We will review the data found in different research papers available on similar topics.

The literature review describes a theoretical foundation on the behavior of various stakeholders like organizations and consumers in the end of life phase of mobile handsets. Markets can be considered as a network which is fruitful both in terms of developing a good understanding of organizational and consumer behavior and of prescribing different ways where the companies might decide on and implement strategy in situations where the ability of an organization depends partly on the interest, capabilities and the conducts of the stakeholders who are the part of the network. (Louise Canning, 2006)

The actual service life of the mobiles are less than 3 years in China and because of the economic development only 47.8 %(approximately) of the consumers are ready to pay for the electronic-waste recycling. The factors which were affecting consumer behavior were region, education level and monthly income. Mobile phone manufacturers should share the responsibility of waste mobile phone recycling, from here the concept of

Extended Producer Responsibility (EPR) comes into the picture, whose responsibility to provide certain incentives to the producers in order to design the products in such a way that it can minimize the waste management cost as they themselves are responsible for this given process financially. Total 5 types of EPR are there till the date and they are financial, physical, compensation, informational responsibility and property rights (Gubanova, O.R. *Electronic Waste: Theory and Practice of Management*, 2014). The improvement in public awareness about the environment is important for consumers to support and follow recycling practices in mobile phone industry. (Jianfeng Yin et al, 2014).

Various policies, rules and regulations have been developed in order to tackle and handle the problem of growing electronic waste. 66% of the global population are being covered by National e-waste management laws (Baldé, C.P.; Forti, V.; Gray, V.; Kuehr, R.; Stegmann, P. *The Global E-Waste Monitor—2017*). European Union legislation has made contribution in production of the mobile handset along with its consumption in a sustainable manner by creating a hierarchy of waste that focuses on the prevention of waste of electronic and electrical products followed by their reuse, recycling. Because the e-waste problem is very large and complex in itself therefore many countries have made various laws in order to mitigate it. For example, if we take China regarding the laws it has made regarding e-waste, they have made 3 laws and they are- Leaner Production Promotion Law, Solid Waste Promotion Law (Yin, J.; Gao, Y.; He, X. *Survey and analysis of consumers' behaviour of waste mobile phone recycling in China*, 2014).

An estimation had found that in the year of 2008, 77 million (approximately) mobile handsets got retired from China compared to the year of 2000 where only 4 million handsets got retired. Out of that only 1 percent of the mobile handsets were recycled with the help of formal recycling channel and rest of them were either stockpiled or went to informal mode of recycling. Only 3 percent of the handsets go for formal recycling which is far lesser than the global average value. There it became very much important to understand the consumers disposal behavior in disposing the mobile handsets in China. Student of Chinese university are usually well educated and have

strong ability of consumption, hence the behavior regarding disposal and the awareness of using the mobiles by the students of Chinese university have been studied in the paper. (Bo Li et al, 2012)

Paper titled “Case study analysis of e-waste management systems in Germany, Switzerland, Japan and India A RADAR chart approach by (Karishma Chaudhary)” conducted a graphical analysis for the comparison of Electronic-waste management system of four countries and found that all the three countries apart of India has a sophisticated or dedicated E- waste Management system where the government, manufacturers, retailers and other stake holders have jointly taken efforts to manage the E-waste generating from different products like mobile, consumer appliances, laptop, tablets etc. A report by Economic Times published in the year of 2016 stated the fact that only 2 % of E waste generated in India gets recycled because of poor infrastructural facilities and the lack of framework and legislation. The research found that in Germany there has a special law governing the E waste management where the Municipal bodies (under the government of Germany) and the producers of the Electronic products play the major role, within every city there is a collection points for the E waste setup where people dump their used material and after that through a dedicated process the E waste are handover to the producers for recycling within their plants. In Switzerland the entire E waste management system is controlled by an ERP based system known as SWICO (Swiss Association for Information, Communication and Organization Technology) and SENS which are 2 Producer Responsibility Organization and stake holders like the Swiss government, producers and retailers are involved in managing the entire Electronic waste management system. In Japan the retailers takes the responsibility of collecting the products that has reached EOL and consumers need to take the effort and the cost which are later on adjusted when the purchase new items and later on the used products are passed on to the manufacturer. Waste collectors are set up by the municipality bodies to collect the E waste from people and then send to the manufacturer. Study finally found that there was a lack of proper infrastructure in India for recycling of the E waste, which was one of the

reasons why India lacked behind the managing the E waste.

Paper titled “Analysing the intention of the households to drop off mobile phones to the collection boxes: empirical study in Malaysia (Rafia Afroz, Mohammad Muhibullah, Puteri Farhana, Mohammad Niaz Morshed)” found that availability of recycling or E waste collection infrastructure is positively correlated with the attitude of people towards recycling the E waste along with the awareness and environmental knowledge. Paper also stated that Malaysian government have worked in setting up of recycling infrastructure in urban areas, but there was no significant work on the rural side as a result of that the impact of their initiative was very small, companies like Nokia and Motorola established several collection points in order to collect the used mobile phones.

A Bangalore based startup named as “Bingbag” which was incubated at NS Raghavan Centre for Entrepreneurial Learning at Indian Institute of Management Bangalore, in the year of 2014 has been working on setting up a proper e waste recycling infrastructure in the city of Bangalore and over a period of time they successfully established few e waste recycling infrastructures within the city. The moto behind their work is ‘Waste is a resource—only when treated the right way; treated wrongly it is an environmental burden’. Bingbag was founded by Mr Achitra Borgohain under his leadership the startup has dealt with all sort of electronic waste as well as the wastes generated from plastic and papers. Awareness, access and assets (physical infrastructure or facilities for recycling) are the 3 pillars on which the business model of the startup is based upon and they are also filling the gaps between the recyclers and the NGO’s of the country.

Nokia in the year of 2008 started to work on E waste Management system. During the 1st phase of their project they set up various drop boxes to collect the used mobiles, across the countries and the mobile handsets, accessories were independent of the brands and were send to Nokia’s Care Centres. After the collection infrastructure set up by Nokia, they entered into the 2nd phase of their project where the public was also involved. On 1st of January 2009 Nokia started a mass campaign in Delhi, Mumbai, Bangalore and Ludhiana. The

discarded handsets were collected at the Nokia care centre and were sent to the authorised recyclers. The phones were sent to the authorised recyclers where they dismantled the mobile phones and the parts of plastic and metals were separated and later on, they were crushed with the help of latest technologies of recycling and from the crushed parts new products were made, and because of that almost hundred percent of the parts of the mobiles were reused and recovered. Nokia got a positive response and they collected 160 tonnes of waste since its launch in the year of 2009 as per the reports given by Nokia.

Currently there are more than 1 billion mobile handset users are there in the world and every year approximately 130 million handsets are discarded in United States and 105 million in Europe (Lean, 2004) and 15 million mobile handsets are disposed by the people of United Kingdom. The major challenge the government is facing that the high rate of new mobile handsets introduction the market and the low resale value of the used mobile handset in the market is creating a trouble in many ways. Government has to tackle a huge volume of the of the used mobile handsets which some of the environmental organization have argued that they should be classified as toxic waste (Lean, 2004), (Louise Canning, 2006).

In the current time mobile has become of the most common electronic gadget and a study found that by the end of 2011 there were around 5.9 billion mobile phone users in the entire world. The latest features and functions with which the new mobile handsets are being introduced in the market in quite a smaller number of years have compelled people to change their mobile quite frequently which leads to the short lifetime of mobile phones and consistently forming generation of retired mobile phones. The used mobiles are kind of WEEE waste with high volume and recovery value along with a fast-replacing frequency, because of the small size they are easily thrown out along the municipal waste without a proper disposal mechanism and also gets stockpiled. Important information for the sustainable management of the used mobile handsets can be obtained from the research on consumers disposal behaviour.

While studying the mobile usage behaviour of the United States students Selian saw that a strong relationship exists between the basic classification

of users that is age and the gender and also other factors regarding the mobile phone usage.

Darby and Obara analysed the relation between the recycling behaviour and the attitude of the people with respect to the disposing of small WEEE which did not included specifically the mobile phones in United Kingdom and concluded that there cannot be a one size fits all approach for the treatment and recycling of WEEE. Nnorom et al. studied the behaviour of the consumer's towards disposed mobile phones, discussed their willingness to contribute in mobile e waste recycling and pay some more amount of money for the mobile devices which are more environment friendly.

Attitude is an important and fundamental concept when it comes to the research of consumer behaviour. The concept present over here refers to the aspects related to the psychological point of view of the consumers and also about the predisposition specifically for the consumers that the way they behave when they see any object (Myers, 2010). The theoretical bodies and the several studies related to the work has been developed to specifically address the attitude of the consumer towards technology is known as technology readiness index (TRI), that was created by Parasuraman (2000), as the predisposition of consumers to accept and use new technologies.

There are four dimensions regarding the attitude of the consumers from the Technology Readiness Index (TRI) which are optimism, innovativeness, discomfort and insecurity. Optimism and innovativeness which are the first two dimensions are the driver of the motivators for the behaviour. Parasuraman (2000) said about optimism that is the positive attitude of the consumer that they have towards any technology and also the results and the benefits offered to the consumers, regarding Innovativeness it can be said that its about the characteristics of the consumers that they always want to be among the first ones who would accept and start using the latest technologies. Discomfort and insecurity the other 2 dimensions are known as inhibitors. According to Parasuraman (2000) discomfort is defined as the feeling of the consumer of being overwhelmed by technology and when the consumer loose his or her control over it, on the other hand insecurity is the consumer's do not trust the technology, along with its consequences and results. Optimism and

innovativeness are important in the literature on consumer behaviour in the use of technology and they also have stronger psychometric properties than the inhibitors, that are complex to measure and also less reliable (Liljander, Gillberg, Gummerus, & van Riel, 2006; Parasuraman & Colby, 2015). Additionally, the prediction capacity of the driver is quite higher than the inhibitors (Cruz-Cardenas et al., 2019).

Hiram Ting, Park Thaichon, Francis Chuah, Sharon Rebecca Tan; 2019 conducted a study on the mobile disposition behavior on students of a Malaysian University and found that compatibility and the attachment for the product are the most dominant factors which influence the decision of disposition. The study also found that the price and brands of the phone does impact their disposition decision. The result from their study founded that the main factor behind the disposition decision is not the physical product itself and the study infers the importance of service quality in taking the decision regarding disposing the mobile phones of the student which was followed by their acquisition and consumption behaviour.

(Conner and Armitage, 1998) found that the difficulties that are found in recycling can impact the responsibilities of the individuals or the moral values which can emerge as a key determinant of human behavior. Even though a person strongly believed that he or she should not behave in one particular manner it may not possible because of the real limitations. (Rathore et al, 2011) adopted an user centric method for understanding the existing market of mobile phones and their usage as well as the expectation and perception of remanufacturing in India and the study exposed the gap in the sustainability of reverse supply chain by finding out that consumers didn't disposed their old mobile phones or exchanged their old hand sets with the new one for discount.

Louise Canning in his paper "Rethinking market connections: mobile phone recovery, reuse, and recycling in UK" found that there exists a series of connected relationships within the market where the actors gets influenced and affected by other parties' behaviour, the similar kind of actions and the reactions happens at the time of exchange with respect to business and the consumers context that is centralised for the coordinated efforts which can help to reduce the impacts on the environment during the production and consumption. The case

study has shown that how the various parties needs to rethink on the relationships that are already existing and the new relationship developed in order to deal with the Electronic waste in order reuse and recycle it. The Mobile phone industry cannot just focus on the selling the new handset or the equipment but they also have to consider the scope of reconditioning and reselling the phones (in various locations) the used handsets and their accessories for their proper disposal and recycling.

Monika Sheoran and Divesh Kumar in their research paper titled "Modelling the enablers of sustainable behavior of the consumer's towards electronic products" discussed the enabling factors that can lead to sustainability in the behaviour of the consumer.

Martinez et al. (2015) said that a consumer's behaviour can be sustainable if he or she is concerned about the effects on the environment because of his consumption of different products on day-to-day basis. Regarding the sustainability of the consumers behaviour Leary et al. (2014) explained that it is a type of behaviour that helps in fulfilling the requirements of the enablers of sustainable consumer behaviour of the generations that are currently existing by not harming the environment to fulfil the future generation's requirement. Researches has also found that the governments of the respective countries play huge role in developing sustainability in the consumers behaviour. Availability of information also plays a major role in inculcating sustainable behavior among people and the information can be obtained by the companies that are promoting green products and also through the government support advertisement. The education level of the consumer also plays a major role in enabling the sustainability of the behaviour of the consumer, rather it becomes easier for the companies and the government to pursue individuals in buying green and sustainable products.

Anu Bask, Merja Halme, Markku Kallio and Markku Kuula in their research paper which was on the effect on the sustainability due to consumer preference and its impact on the Supply Chain Management. The research paper has highlighted 4 significant issues. The first issue is about the life cycle of the mobile phones. The second issue is regarding the durability and the longer life cycle of the handsets and it is related to the effects of upgradation in the features and the characteristics

of the manufacturing and the design of the mobile handsets. The third problem of is about the effects of the improved and the updated characteristics on the sales and distribution channel and the fourth problem is about the social and the environmental aspects in the entire supply chain of the mobile industry. The results from the research paper shows that there are a few groups of consumers who are ready to pay a bit higher price in order to get a more sustainable product and their willingness to pay a bit higher price also has some implications with respect to Supply Chain that can lead to more usage of sustainability maybe more expensive materials required in the mobile phone manufacturing or production. Currently companies are also searching for a consumer segment who are ready to pay a bit more price for the products which are more sustainable, if they get convinced in that particular area that consumers are ready to pay an extra premium then they can start promoting that kind of product.

RESEARCH METHOD

The most apt method for this research was exploratory research method. The secondary data was collected from different sources like electronic media, magazines and articles mostly from published journal. This method helped in getting the knowledge about the past work done in the field and also found research gap which helped in defining the scope of the paper. Primary data was collected from the respondents which consisted of people from various backgrounds and demographics across India. A set of questions were prepared and the answers obtained from the people was used for analyzing the data.

Pre-Test:

A pretesting was conducted at SIOM, Nashik students to examine what the consumer looks for while disposing the mobile phone.

Word association and Sentence completion techniques were implemented to gain information about the preferences and perception about the disposal behaviour in general and the scope for the research. Based on the results of this technique, detailed questionnaire was designed.

Questionnaire Design:

After completing the secondary data collection, the aim was to further continue to collect primary data. For this data, questionnaire was designed to get the conclusive response Questionnaire was structured in different sections which helped to get information about the respondent's basic details, socio-economic background, and available infrastructure. Basic demographics details were also recorded.

Data Analysis:

A total of 150 responses were gathered across India from various colleges and companies so that there were enough entries to perform statistical analysis and derive conclusions from it. The responses were coded as per the code book. Excel regression tool was used to perform statistical analysis.

Hypothesis & Results

Hypothesis 1:

The condition of the last mobile phone is not related to the disposal behaviour.

To analyse the above hypothesis, the condition of the mobile phone (dead, partly dead or perfectly fine) received from the respondents was run through regression analysis to check its linear relationship with the disposal behaviour.

The following result was obtained after regression analysis,

Regression Statistics	Values
Multiple R	0.878218
R Square	0.771267
Adjusted R Square	0.769679
Standard Error	0.226225
Observations	146

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	24.84959	24.84959	485.555	5.61307E-48
Residual	144	7.369589	0.051178		
Total	145	32.21918			

From the above analysis, it can be inferred that there is a fairly strong linear relationship between the condition of the last mobile phone and the

disposal behaviour as evident from the values of *Multiple R* = 0.87, *R square* = 0.77 and *Significance F* < 0.05.

This shows that the null hypothesis is rejected.

People who have their last mobile phone perfect working condition tend to take efforts in getting it reused in a proper way by selling it online or exchange it online with new mobile phone.

Hypothesis 2:

Regression Statistics	Values
Multiple R	0.125958
R Square	0.0158654
Adjusted R Square	0.0090312
Standard Error	0.8029122
Observations	146

From the above analysis, it is very clear that there is no linear relationship between the spending pattern and the disposal behaviour.

Thus, the null hypothesis is not rejected.

Hypothesis 3:

The frequency of changing the old mobile phone does not affect the disposal behaviour

Regression Statistics	Values
Multiple R	0.8309771
R Square	0.6905229
Adjusted R Square	0.6883587
Standard Error	0.2727415
Observations	145

From the above analysis, it is very clear that there is fairly good linear relationship between the buying frequency and the disposal behaviour as evident from the values of *Multiple R* = 0.83, *R square* = 0.69 and *Significance F* < 0.05.

Thus, the null hypothesis is rejected. It is inferred that the people who change their mobile phones frequently in one or two years have high possibility that their mobile phones are in good working condition and people who use it for more than two years have their mobile phones on damaged or dead condition. The former category of people tend to exchange their phones online or sell it online since the mobile phone is mostly in

Spending on mobile phone is not related to the frequency of changing the mobile phone

To analyse the above hypothesis, the spending pattern (less than 10000, between 10000 to 20000, between 20000 to 30000 and above 30000) received from the respondents was run through regression analysis to check its linear relationship with the disposal behaviour.

The following result was obtained after regression analysis,

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	1.496566	1.4965656	2.32145	0.129794048
Residual	144	92.8322	0.6446681		
Total	145	94.32877			

To analyse the above hypothesis, the buying frequency of mobile phones (two times in a year, one time in a year, one time in two years and more than two years) received from the respondents was run through regression analysis to check its linear relationship with the disposal behaviour.

The following result was obtained after regression analysis,

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	23.73494	23.734938	319.07	3.03763E-38
Residual	143	10.63748	0.0743879		
Total	144	34.37241			

working condition. On the contrary, the latter category of people tend to keep the mobile phone with themselves or sell it to scrap dealers since it is mostly in damaged or dead condition.

Hypothesis 4:

The disposal behaviour of mobile phone owner is not affected by the closeness of authorized dealer location.

To analyse the above hypothesis, the distance of the dealer of mobile phones (less than one kilometre, between one and five kilometers and more than five kilometers) received from the respondents was run through regression analysis

to check its linear relationship with the disposal behaviour.

The following result was obtained after regression analysis,

Regression Statistics	Values
Multiple R	0.7576996
R Square	0.5741088
Adjusted R Square	0.5711512
Standard Error	0.2953101
Observations	146

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	16.92834	16.928344	194.114	1.77761E-28
Residual	144	12.55796	0.087208		
Total	145	29.4863			

From the above analysis, it is very clear that there is fairly good linear relationship between the dealership location and the disposal behaviour as evident from the values of *Multiple R* = 0.75, *R square* = 0.57 and *Significance F* < 0.05.

Thus, the null hypothesis is rejected. Due to lack of proper infrastructure, people do not take extra efforts to travel distance and dispose their mobile phones. As evident from the response and backed by analysis, people who have authorised dealers located close within 1 kilometre tend to hand over their old phones and people who have

dealers located more than 5 kilometres tend to keep the mobile phones to themselves.

Hypothesis 5:

Occupation of respondents have no effect on their disposal behaviour.

To analyse the above hypothesis, the occupation, mainly student and working, received from the respondents was run through regression analysis to check its linear relationship with the disposal behaviour.

The following result was obtained after regression analysis,

Regression Statistics	Values
Multiple R	0.0516701
R Square	0.0026698
Adjusted R Square	-0.004256
Standard Error	0.4905624
Observations	146

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	0.092766	0.0927663	0.38548	0.53566651
Residual	144	34.65381	0.2406515		
Total	145	34.74658			

From the above analysis, it is very clear that there is no linear relationship between the dealership location and the disposal behaviour as evident from the values of *Multiple R* = 0.051, *R square* = 0.002 and *Significance F* > 0.05.

Thus, the null hypothesis is not rejected.

Hypothesis 6:

Annual CTC of the respondents does not affect the disposal behaviour.

To analyse the above hypothesis, the annual CTC (less than 10 LPA, between 10 LPA to 20 LPA, between 20 LPA to 30 LPA and above 30 LPA) received from the respondents was run through regression analysis to check its linear relationship with the disposal behaviour.

The following result was obtained after regression analysis,

Regression Statistics	Values
Multiple R	0.0249
R Square	0.00062
Adjusted R Square	-0.0063
Standard Error	0.49107
Observations	146

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	0.02155	0.02155	0.08937	0.765416342
Residual	144	34.725	0.24115		
Total	145	34.7466			

From the above analysis, it is very clear that there is no linear relationship between the dealership location and the disposal behaviour as evident from the values of *Multiple R* = 0.024, *R square* = 0.0006 and *Significance F* > 0.05.

Thus, the null hypothesis is not rejected.

Hypothesis 7:

Regression Statistics	Values
Multiple R	0.69764
R Square	0.48671
Adjusted R Square	0.48314
Standard Error	0.33705
Observations	146

From the above analysis, it is very clear that there is fairly good linear relationship between the city of residence and the disposal behaviour as evident from the values of *Multiple R* = 0.69, *R square* = 0.48 and *Significance F* < 0.05.

Thus, the null hypothesis is rejected.

Respondents living in metro and tier 1 cities tend to be more aware of the disposal of mobile phones. They dispose their mobile phone either by exchanging online or selling to the right disposing authority, as compared to their tier 2 and tier 3 city counterparts. This behaviour can be attributed to the availability of online services, better infrastructure in terms of technology and the awareness about harms caused by the mobile phones to the environment.

CONCLUSION & FUTURE RESEARCH DIRECTIONS

A total of seven hypotheses were analysed out of which four hypotheses were rejected, leading to an inference that those four factors affect the disposal behaviour of the mobile phone owner. Those four factors are,

- 1. Condition of last mobile phone:** This factor strongly affected the disposal behaviour of the owner. Respondents having their last mobile phones in working condition felt that exchanging it for a better deal was a good idea.
- 2. Frequency of changing the old mobile phone:** This factor fairly affected the disposal behaviour of the owner. From the analysis, it was inferred that people who changed their mobiles once or two times in a year largely got a good deal by

The city of residence of respondents does not affect the disposal behaviour.

To analyse the above hypothesis, the city of residence (metro, tier 1, tier 2 and tier 3) received from the respondents was run through regression analysis to check its linear relationship with the disposal behaviour.

The following result was obtained after regression analysis,

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	15.5112	15.5112	136.54	1.32347E-22
Residual	144	16.3586	0.1136		
Total	145	31.8699			

exchanging it online as compared to the respondents who used their mobile phones for more than two years.

3. Reach of authorized dealer shop:

Infrastructure plays an important role in developing consumer behaviour. A proper disposal environment works towards enabling smooth disposal of mobile phones. Respondents having authorized dealers closer within one kilometer were more likely to get their mobile phones disposed.

4. City of residence:

Respondents residing in metro and tier 1 cities are more likely to dispose of mobile phones as compared to tier 2 and tier 3 cities.

The study can be concluded after analysis the above four factors which affect the most on the mobile phone disposal behaviour. Efforts can be taken on these factors to enable a gradual increase in the disposal rate of mobile phones across India.

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