



Importance of communications & Information Technology in particular Cell Phone:

Dr. MV Chalapathi Rao, Reader in statistics, Jawahar Bharathi Degree College, Kavali, SPSR Nellore Dt.

Abstract: *The value of cell phones has augmented the competition in the wireless service, the production of cell phones avail at a very reasonably priced and very easy to utilize. The Cell phones has converted roughly as a symbol in accumulation to the expediency and safety. The implication of cell phones goes beyond the aptitude to make or accept phone calls. The users can also instantly send important data to the anywhere and can also store photos which can be effortlessly transfer to a PC or laptop computer.*

Key words: *cell phones, Communications and Computers, digital revolution*

Introduction

Now days Communications and Computers are becoming integral parts of our lives. The Information Technology or IT is revolutionizing the way, in which we live and work. It is challenging all aspects of our life and life style. The digital revolution has given mankind the ability to treat information with mathematical precision, to transmit it at very high accuracy and to manipulate it at will. These capabilities are bringing into being a whole world within and around the physical world. The amount of calculational power that is available to mankind is increasing at an exponential rate. A few decades back communications used to be between people, one person to another. But now inanimate objects are getting into the act, books can tell the cash registers how much they cost, identity cards can tell the door lock whether to open or not, automated guided vehicles can tell the post computer where they are in the shop floor and what they are carrying and when they will be free, missiles can compare the landscape with their own map and hit the target with pin point precision. On the internet

people engage in lively chats and discussions, shopping, play games even if they are physically into different continents.

Importance of cell phones:

Basically cell phones are electronics devices that's comparable to that of a radios, it commune to the worldwide by broadcasting and receiving tone of voice all the way through cell towers setup throughout the area. Cell phones in these modern world becomes more popular and also a most desirable things for humans beings for the reason that it has the capability to keeps in touch with family and friends from far of places, these days due to the development of advanced technologies cell phones are not accomplished only for receiving and talking phone calls, but can also stores important data, takings cameras, stores songs etc. Cell phones are the amazing way to reside related with others, in the emergency occasion, having a cell phone can helps a persons to knows quickly and allow him to reach distant places quickly and might saves lives. Moreover the moderns cell phones are capable of internets access, savings datas and files,



Cell phone response have become dependable and of high quality due to the expansions of the advanced growth in technologies, The development of the wireless service gives cell phone user a great option and the increased opposition has caused the decreased in prices of cell phone service.

Cell phone radiation- the hidden danger

Every day, we're swimming in a sea of electromagnetic radiation (EMR) produced by electrical appliances, power lines, wiring in buildings, and a slew of other technologies that are part of modern life. From the dishwasher and microwave oven in the kitchen and the clock radio next to your bed, to the cellular phone you hold to your ear—sometimes for hours each day—exposure to EMR is growing and becoming a serious health threat.

George Carlo, PhD, JD, is an epidemiologist and medical scientist who, from 1993 to 1999, headed the first telecommunications industry-backed studies into the dangers of cell phone use. That program remains the largest in the history of the issue. But he ran afoul of the very industry that hired him when his work revealed preventable health hazards associated with cell phone use. In this article, we look at why cell phones are dangerous; Dr. Carlo's years-long battle to bring the truth about cell phone dangers to the public; the industry's campaign to discredit him and other scientists in the field; and what you can do to protect yourself now.

Cell Phones Reach the Market without Safety Testing:

The cellular phone industry was born in the early 1980s, when

communications technology that had been developed for the Department of Defense was put into commerce by companies focusing on profits. This group, with big ideas but limited resources, pressured government regulatory agencies—particularly the Food and Drug Administration (FDA)—to allow cell phones to be sold without pre-market testing. The rationale, known as the "low power exclusion," distinguished cell phones from dangerous microwave ovens based on the amount of power used to push the microwaves. At that time, the only health effect seen from microwaves involved high power strong enough to heat human tissue. The pressure worked, and cell phones were exempted from any type of regulatory oversight, an exemption that continues today. An eager public grabbed up the cell phones, but according to Dr. George Carlo, "Those phones were slowly prompting a host of health problems."

Today there are more than two billion cell phone users being exposed every day to the dangers of electromagnetic radiation (EMR)—dangers government regulators and the cell phone industry refuse to admit exist. Included are: genetic damage, brain dysfunction, brain tumors, and other conditions such as sleep disorders and headaches.¹⁻⁹ The amount of time spent on the phone is irrelevant, according to Dr. Carlo, as the danger mechanism is triggered within seconds. Researchers say if there is a safe level of exposure to EMR, it's so low that we can't detect it.

The cell phone industry is fully aware of the dangers. In fact, enough scientific evidence exists that some companies' service contracts prohibit suing the cell phone manufacturer or service provider, or joining a class action



lawsuit. Still, the public is largely ignorant of the dangers, while the media regularly trumpets new studies showing cell phones are completely safe to use. Yet, Dr. Carlo points out, "None of those studies can prove safety, no matter how well they're conducted or who's conducting them."

Cell phone misuse- some facts:

Cell phone, an excellent electronic device is misusing when it is popular. There is no electronics content in this article, still it is related to an electronic device. Mobile Phone is a Real Friend but inconsiderate, annoying, discourteous in public places if it is misused.

1. Inability to concentrate on what you are doing
2. Mild or severe irritability or annoyance
3. Sensitivity to stupid ring tones (pop songs or loud music)
4. Initially thinking that the cell phone user is actually talking to you
5. Wishing the user would finish the call
6. Wishing the user would leave the place
7. Wishing that the battery of that cell phone would die

Here are some Social Problems related to Cell phone misuse

Mobile Phone misuse in public places creates social problems like

1. In attention blindness
2. Caller Hegemony
3. Cognitive load
4. Accidents

Inattention blindness

- Cell phone use in social situations may result in overload – both physical and mental.
- Local interaction with the surroundings and remote interaction with the other person demands certain attention-

E.g. When you talk in a bus stand or crossing the road Cell phone use in public places makes the user blind to local cues due to cognitive overload.

E.g. When you use cell phone while walking through the road, you may not see a vehicle coming close to you.

- Cell phone use in public places increases the reaction time to events around the user. E.g. You will not get time to move away from a danger.
- Reduced attention to local situation may disturb others since the user is not attending the social situation.

E.g. Your conversation and body language may be annoying to others.

- Use of Mobile phones in gatherings, meetings, entertainment places etc disturb others through inattention blindness

Caller Hegemony

- Caller Hegemony is the asymmetric relationship between the caller and answerer.
- The alarming ring tone may demand higher attention to the phone rather than the local settings. If you use cell phones in busy areas, trains or buses, the sudden ring tone may alter your attention or the message from the caller may cause a disturbed feeling. This will leads to inattention blindness. This will not be the condition, if you use a land phone.



Cognitive load

- Mobile phone use in public places makes the user overloaded and become unaware of the details of communicative behavior of co-located individuals as well as other relevant features of the social situation. It is advised that do not use cell phones while driving a vehicle or operating a machinery or crossing the road.

Accidents

- Mobile phone use while driving may cause accidents due to inattention blindness and cognitive load
- Cell phone conversation distracts the driver's attention, increase reaction time, and reduce visual field

Other social problems:

E-Waste: Obsolete cell phones are becoming one of the important sources of electronic waste. Due to the fast development of mobile technology, new versions of mobile phones are coming and people buy them and discard the old one. The discarded cell phones become a source of environmental pollution if they are not recycled. There are toxic chemicals like, lead, zinc, mercury etc in the electronic components of mobile phones. The brominated flame retardants used in computers and mobile phones are toxic if enters into the body. If these toxic chemicals accumulate, they leach into the water bodies and finally get into the body of animals including human beings through drinking water. Prevention of e-waste and promotion of Green electronics is a new challenge in the field of electronics.

Cybercrime: With the increased use of camera phones and Multimedia facilities

and blue tooth technology, mobile phone related cyber crime incidents are increasing. Cybercrime includes traditional activities such as fraud, theft or forgery, whenever a telecommunication system is involved. The word Cyber is derived from the Greek word Kubernetes meaning Steersman .It is used in the terms cybersex, cybernetics, cyberspace, cyberpunk, cyber homes and cyber hate etc. It is used in the computer or electronic context to denote control of the thing represented by the word it precedes

Psychological problems: Over use of Cell phones may cause two New generation Psychological problems.

No-Mo phobia (NoMobile phobia): When we run out of credit or battery, lose of phone or are in an area with no reception, being phoneless can bring a panic symptom referred to as NoMo Phobia or No Mobile phobia. To overcome NoMo phobia, two methods are suggested. One is to keep the battery in top condition and the credit sufficient. Another method is, deliberately avoid mobile phone for few hours and then few days. Then you will feel that it is not an important thing.

Ringxiety- Ringtone anxiety: This is an anxiety symptom related to the over use of mobile phone, a form of addiction. Ringxiety refers to the sensation and false belief that the mobile phone is ringing or vibrating. The term is also used to explain the condition in which a person frequently takes the cell phone to see whether there is any a mis call or messages. Cell phone abuse is a worldwide epidemic which is now affecting millions of men, women and children especially teen age students



**CELL TOWERS: Harmful to humans
- a threat on human health:**

Cell phone towers have become part of the landscape, but a new report says the radiation coming from them poses a threat to human health. (Dick Whipple/Associated Press) "The bottom line is that these very chronic low-level intensities are not biologically inert," study author Blake Levitt, a medical and science journalist, has been studying radio frequency exposures since the 1970s, and has written two books on the subject. Her latest article appeared online Friday in Environmental Reviews, a Canadian journal that publishes peer-reviewed papers summarizing previous scientific studies on environmental topics. Levitt says the exponential growth of wireless use and the accompanying low-level signals are a concern. The paper notes there are now 5.5 billion cell phones in use worldwide.

DUE TO Information Technology (IT) and new electronic devices, distances are reducing day-by-day but these things are affecting the health of human beings. The 'transmission towers' pose a serious threat to human health. Newer technologies are making human life much easier and fast. Almost every electronic device, mobile phones, radios, microwaves, computers pose serious threat to human health. But there is a more serious threat on human health by 'transmission towers', which emit invisible electro magnetic radiations (EMR).

The EMR not only causes death, damage DNA, tumors and skin cancer but is also very dangerous for pregnant women and their unborn babies. Radio-frequency radiations have started showing its ill-effects on humans,

animals, medical investigatory equipments and also on food products. It produces EMR pollution, which is also called RF Radiation Pollution. Because of mobile communication, television transmission, FM radio towers have increased in numbers, which in turn is increasing EMR pollution. To satisfy the requirement of consumers, cell phone companies are installing tower almost at every place in small towns, villages and in rural areas also.

Along with communication services, cell phone companies also provide facilities like GPRS, GSM, CDMA services for Internet users, which gives maximum radio frequencies to users 24 x 7 and that is leading to a dangerous impact on human health and behaviour. It is also affecting the stamina and thinking power of humans as these radiations directly attack the brain. The telecom companies continue to install towers, which have a radiation power level of 7260 microwatt/m², despite the specified level being just 600 microwatt/m², which is a great matter of concern.

300 per cent cases of cancer are reported from people who have been living within a distance upto 400 km from mobile towers for decades compared to those who live far away from these towers. Breast cancer tops the list. Even birds avoid these towers. Towers are like deadly weapons for all living beings.

Objectives of the Present Study

Here an attempt has been made to study the views on utilization of Cell phones. So the study entitled "utilization of cell phones – a case study" has been under taken. The main objectives of the present study are as follows



- ❖ To study the views of Cell phone subscribers regarding Cell phone usage
- ❖ To compare the views among different sections of people
- ❖ To suggest the ethics and precautions of using a Cell phone

Methodology

The present research study focuses on the merits and demerits of Cell phone utilization. It also deals with various statistical results, comparisons, conclusions.

The field work was undertaken in Kavali mandal in Nellore district of Andhra Pradesh. For the purpose of study we met different sections of people in the society like Employees, Businessmen, Farmers, Students, Coolies and Others. I have selected a sample of Cell phone subscribers of size 200 using stratified random sampling technique. I have selected the sample randomly from different section of people as mentioned above including Male, Female, Rural, Urban people.

For the present study I prepared a questionnaire comprising of 23 questions by which we can assess the maximum information on utilization of Cell phones.

Statistical Tools: We used statistical tools like diagrams, Tests of hypotheses, Analysis of Variance, Correlation etc., to analyze and present the information and results.

ANALYSIS

We have collected the data from the sample of size 200 by random sampling method in which 46(23%) are Employees, 36(18%) are Businessmen, 32(16%) are Farmers, 38(19%) are Students, 32(16%) are Coolies and 16(8%) are Others includes housewives, political people etc., They are all having different age, Education status, Residential area and different Income groups. Out of 200 Cell phone subscribers 16 people also having land phone. Almost 95% of subscribers opined that having a cell phone is a must today.

OCCUPATION- FREQUENCY TABLE

Table-2

	FREQUENCY	PERCENTAGE
EMPLOYEE	46	23%
BUSINESS	36	18%
FARMER	32	16%
COOLIE	32	16%
STUDENT	38	19%
OTHERS	16	8%
TOTAL	200	100%



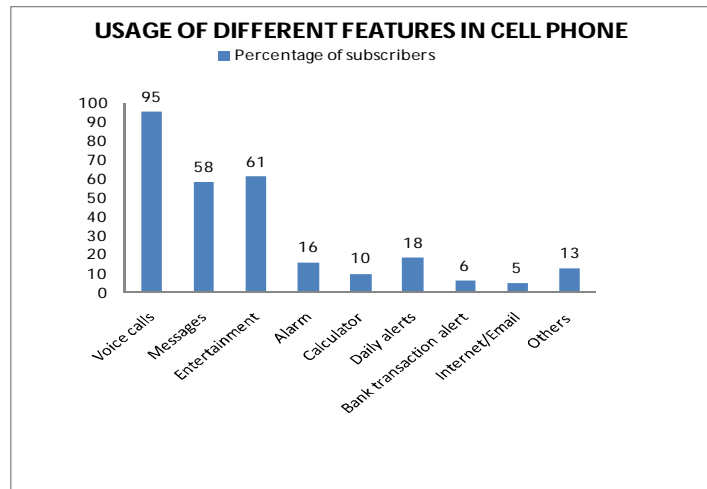
The summary statistics of the data obtained in the survey is mentioned below

- The average time that a subscriber having cellphone is 56 months
- The average time spending with cell phone per day both for talking and other purposes (Games, Entertainment etc.) is 115 minutes
- The average cost of the cell phone they are having is Rs.3175/-
- The average numbers of cell phones in a family is 2.3.It means every ten families is having 23 cell phones on an average
- The average number of persons having dual sim phones is 42%
- The average number of cell phones changed by a person is 4
- The main reason to change SIM frequently is low call rates for 42% of people and wider coverage area for 40 % of people
- The average recharge cost on cell phone is Rs.250/-
- 73.5 % of people expressed their unhappiness over company messages
- 84% of people welcome the number portability

STATISTICS ON USAGE OF DIFFERENT FEATURES IN A CELL PHONE

Table-3

Feature	Number of Subscribers using	Percentage
Voice calls	190	95%
Messages	116	58%
Entertainment	122	61%
Alarm	32	16%
Calculator	20	10%
Daily alerts	36	18%
Bank transaction alert	12	6%
Internet/Email	10	5%
Others	26	13.00%



The case summary of different characteristics by different sections of cell phone subscribers is mentioned below.

Table-4

OCCUPATION	MONTHLY INCOME	CELL USAGE IN MINUTES PERDAY	NO. OF SIMS CHANGED	TOTAL CELLS IN FAMILY	COST OF PRESENT CELL
	MEAN	MEAN	MEAN	MEAN	MEAN
EMPLOYEE	9050	123	3	3	4500
BUSINESS	8900	150	4	2.25	4150
FARMER	3850	89	3	1.5	2500
COOLIE	3100	78	3	2	2350
STUDENT	0	140	6	2.75	2750
OTHERS	2500	109	4	2.5	2800
	4567	115	4	2.3	3175



ANOVA
CELL PHONE USAGE IN MINUTES PER DAY

Table-5

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4066.141	5	1355.380	12.702	.000
Within Groups	20915.139	196	106.710		
Total	24981.280	199			

* Significant

There is significant difference in the usage time of cellphone among different sections of people in the society.

From the Table-3 we can say that Businessmen are using cell phone for an average of 150 minutes per day which is more than any other group in the society, where as the total average usage time is 115 minutes per day. Here students are in the second position.

From the table-3 we can say that students have changed 6 SIMs on average where as the total average SIM usage is 4. Here Business men are in the second position.

The correlation coefficient between monthly Income and Cost of Recharge per month is 0.171 and it is not significant. That means the Cell phone subscribers expend on cell phone recharge irrespective of their Income status

Similarly the correlation coefficient between monthly Income and their Cell phone Cost is 0.136 and it is also not significant. That means the Cell phone subscribers expend on purchasing a cell phone irrespective of their Income status.

About 82% of Cell phone subscribers felt that they are feeling some illness while talking more on cell phone. The illness may be Head ache, Ear problems, Shoulder pain etc.,

About 78% of Cell phone subscribers felt that the Cell towers near the residential areas are causing physical and psychological problems.

CONCLUSIONS

1. There is significant difference in the usage of Cell phones with respect to usage time, number of SIMs change among different sections of Cell phone subscribers
2. The Cell phone subscribers expend on purchasing Cell phone and recharging the Cell phone every month irrespective of their Income status.
3. Most of the people treated Cell phone as Entertainment device next to Voice calls.
4. Most of the people felt that more talking results in different physical and psychological problems



Suggestions

1. The Cell phone conversation must be precise
2. Do not use Cell phone in low signal areas
3. Do not use Cell phone while it is being recharged
4. Do not use Cell phone while driving
5. Follow Cell phone ethics while using in public places
6. Consider Cell phone as a communication device not as an entertainment device or as a status symbol

Referances:

1. Data collected by Jawahar Bharathi Degree College Statistics Students under the guidance of the Dept. of Statistics.
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