BUYER'S RIGHT AND PRODUCT INFORMATION: A STUDY ON DISPLAYING SAR VALUE OF BUDGET SMART PHONES

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Abstract

Being always "connected" by spending vast amount of time on Smartphone is a common perception of this age and the generation. The reports of the PIB and the Time i.e. India has the second-largest mobile phone users and world's second largest smart phone market with over 900 million users in the world (PIB,2012 and Time, 2014). The reports show vast mobile phone penetration in India and if, anyhow, the health risk is associated with the usage of mobile phones will affect the whole country and the users particularly. All mobile phones emit electromagnetic field (EMF), normally non-ionized to connect the mobile phone to the base stations. This exposure to radio frequency (RF) energy is the main concern of many countries as it may cause many health issues. Hence, the Federal Communications Commission (FCC, US) has fixed the limit of Specific Absorption Rate **(SAR)** for mobile phones. But many manufactures avoid this limit and even, perhaps, buyers are unaware about this safety indicator. Over exposure to radio frequency, even if it is non-ionized, is one of the causes of numerous health risks such as Alzheimer, Genotoxic Effects, Ocular Effects, Psychological Effects and Electromagnetic Hypersensitivity. This may also lead to Cancer. Thus, even a small impact on health by mobile usage could have major public health consequences. This paper reviews the presentation approach of online shopping websites regarding SAR value of budget smart phones and also analyses the priorities of publicizing other alluring features of smart phones. This paper aims to answer; do the online shopping websites display the SAR value of budget smart phones sold on it and whether the information of SAR value is conveyed in a proper way? Content analysis of top two online shopping websites in India will be done to come back with.

Keywords: Mobile Radio Frequency, SAR value, Budget Smart Phones and Online Shopping Sites.

Introduction

Knowledge is the power and information is the basic building block of the knowledge. So, information is also considered as link to power. Having knowledge or information is

empowerment. Therefore, Information is the first requirement to have the power wished by individual, group of people or mass. In other words, it is the information that turns into knowledge when someone's mind applied to it and he further takes action to be empowered.

Information is message which is diffused to the intended target with a view to inform, educated and stimulate for the action. Individual or mass have the right to know especially about the goods they are buying. The message or information is share/diffused to make the people aware about the content shared with them. The proper information leads individual or mass towards taking apt decision about the action like using or buying goods and services. Hence, marketing specifically marketing communication is no exception to this. The consumer is considered to be the king. The kingship of the consumer cannot sustain without the right to know about the features, merits and demerits of the products and services while taking the decision about purchasing or using these. Goods and services might have negative impact in terms of its uses. This aspect must be shared with consumer and buyers.

Technological breakthroughs have paved the way for innovation. These innovations have revolutionized the modern society, specifically communication and telecommunication technologies have changed the societies spread over the world. In such innovative technologies, cell or mobile phone is one that has enrooted so deeply in the society that people spend their vast time with it. The smart phone has brought a lot of comforts in the life of common people. But, at the same time it has created new challenges and threats for them. Excessive exposure or uses of the cell phone poses a threat to human health. It may cause several fatal diseases. The biggest threat of the cell or mobile phone is the emission to the radiation as all mobile phones emit electromagnetic field (EMF) to connect the phone to base stations to render desired service like calling, internet etc. on the basis of radio frequency allotted. Exposure to the radiation over a certain limit i.e.1.6 w/kg (limit adopted in India) may cause diseases like cancer etc. to the user. Hence, it becomes pertinent that buyer of the cell phone must know how much radiation is emitting from the phone brand while he is purchasing. The rate of the radiation exposure is measured which is termed as **SAR**. The SAR is Specific Absorption Rate that determines at which rate the radio waves emitted from the cell phone absorbed by the user's body. Therefore, it is necessary for the producers/makers of the mobile phones and POS (point of sale) places to share the SAR with buyers. The sharing of the message/information regarding SAR must be transparent and noticeable manner whether it is a user manual, display of mobile features or advertisements.

This paper tries to find out whether the SAR information is shared with the consumer or buyer as POS and whether the information of SAR value is conveyed in a proper way? This is an exploratory research and the study is based on secondary data. The content analysis method has been applied to analyze the data.

Review of Literature

i- Rule to sell mobile phones in Belgium is 'As from 1 March 2014, the radiation value (SAR value) of all types of mobile phones (ordinary mobile phones and smart phones) must be indicated by the seller: a. at the point of sale and for distance sales, through the internet; b. in advertising materials, if other technical specifications are included also**.' (Guide selling mobile phones Version 6, 2014).** It is clearly mentioned that seller has to provide SAR information.

ii-Monika Dubey, 2013 advocates about the information of SAR values should be provided at the point of sale and all mobile handsets sold in India should be checked for compliance of the SAR limit.

iii-National Cancer Institute, Bethesda, MD states three concerns that how mobile phone is associated with health risk- Parts of the human body nearest to the antenna (brain) can absorb radio frequency emitted by mobile phone, Mobile phone penetration and time spent on it is increasing rapidly and increasing number of base stations.

iv-Recent research on EMF and Health risk, 2014 tries to answer thatit is unresolved or not clear thatextremely low frequency magnetic field have any influence on causing leukemia and alzimers. As direct influences are not very clear hence it is too early to draw firm conclusion that extremely low frequency has adverse impact on humans.

v-The cell phone problem, EHHI,2012- this report says that rather than talking and messaging the smart phones are used for many other activities like gaming, downloading and using internet based mobile application, which leads to spend higher time in radio frequency radiation. Even gamers spend longer time on mobile than other users. The report shows that having close proximity of mobile phone to human head has a concern of brain tumor and has Adverse impact on memory retention, reproduction, genotoxic effect/ cell damage, ocular effect (effect on retina), psychological effect as user get addicted with mobile phones, electromagnetic hypersensitivity

The report recommends "A person who is text messaging, accessing the internet, or using a "hands-free" device will have lower exposure to RF energy than someone holding the phone against his or her head. Non-ionizing radiation, with long wavelength and low frequency, does not break chemical bonds, but has sufficient energy to move electrons and heat body tissue, leading to biological effects at certain doses." It also recommends that there is need for low cost RF Measurement devices which can monitor the presence of intensity of RF.

vi-Michael H. Repacholi, 2001 argues that rapid growth of mobile phone and reduction in fixed-lines phones has raised the concern across the world that RF from mobile phones may

affect people's health and as the penetration of mobile phones and base stations are increasing at rapid rate in the world so adverse effect on health may raise the worldwide concern.

vii-Varshney, Malhotra, Sharma and Aggarwal, 2018 advocate that awareness about SAR of mobile phones to the consumers is need of the hour and the information of SAR value should be available on manufacturer's website, in the mobile manual and at the POS (point of sale). As per their survey study the awareness about the SAR value among mobile users are very less, only 1.63% of respondents were aware about SAR and only 1.22% respondents knew the SAR value of their mobile phone they are using. The total respondents were 738.

viii-Office memorandum, Ministry of Communication & IT, 2012 notifies the revised SAR value 1.6 W/kg in India to comply with ICNIRP norms w.e.f 01 September, 2012. As per this notification- i) SAR value is to be displayed on handset. ii) all the mobile phones shall support handsfree operation. iii) mobile phones sold in India or imported from other country shall be checked for compliance of SAR limits. iv) handset manual shall contain handset safety precautions.

Methodology

The aim of the study is to check whether, SAR value of budget smart phones sold on online shopping sites is displayed?, and whether the information of SAR value is conveyed in a same way as other features of the phones are displayed? To achieve the goal, content analysis method is found suitable; therefore, this method is selected for the investigation. Secondary data have been used in the research and the data collected by the researchers marked in references. To achieve the objectives, researchers observed some news channels' programmes like cell guru (NDTV), Tech Guru (CNBC Awaz) and gadgets magazines like Tech Radar, Stuff, T3 etc. to know about budget smart phones. Thereafter, the range of budget is derived as Rs. 10K to 20K to define budget Smartphone. Focusing on the study two online selling websites on ranking basis of top ten were chosen, the Flipkart and the Amazon are found top two online selling websites in India.[1] [,2] [,3] Therefore, universe of the study is budget smart phones selling on online by Flipkart and Amazon.

Top ten mobile phones' information available on these websites were selected for the analysis. This is the sample size of study. The variables of the study i.e. the features/specifications of smart phones were registered in a tabular form for further analysis. Units of analysis are camera(MP)rear, front; processor; battery(mAh); connectivity; price;

[1] (abroad, 2019)
[2] (brands, 2018)
[3] (Foundation, 2019)

SAR value;(W/kg); sensor; weight; simslot; screen display and others. To get the sample, firstly, mobile section was clicked from the menu on both the websites, secondly Rs. 10,000 to 20,000 are selected in price range option to get the budget phones only, thereafter new and popular filter were applied from filter section of the websites. A large number of phones have been appeared on the screen. Subsequently, it was started from the first page which shows 24 items on the screen of both the websites. The selection has been started from the first page and only the mobile phones having more than 4 stars are chosen to have the more buyer centric data. Many mobile phones are listed with same model number, which are repeated on the basis of colour and RAM, thus, the repeated mobiles of same model numbers have been left out; subsequently, the gathered data have been presented in a Tabular form to perform the data analysis. Percentages method has been used to analyze the data.

Tabulation

On the basis of methodology, the following ten mobile phones have been selected and categorized in a Table. The main features which are displayed by the Flipkart and the Amazon to sell the product have been chosen for categorization, these are price, memory, camera, display, battery, processor, connectivity, other features and SAR value.

Table

Sr	Model name of the mobile	Website (Flipkart &Amazon)	Camera(MP)Rear, Front	Display (Inch)	Memory (Ram, Rom)	Processor	Battery (mAh)	Conne-ctivity	Price Rs.	Others	SAR value (W/kg)
1.	A	B	C	D	E	F	G	H	I	J	K
	Samsung Galaxy M30s	Both	R 48+8+5 F 16	6.4 Super amoled	4,64 gb	Exynos 9611, octa core	6000	4G LTE	13999	Os, sensor, weight etc	NO
2.	Redmi Note 8 Pro	Both	R 64 F 20	6.53 inc HD	6, 128 gb	Media Tek G90 T	4500	4G LTE	15999	Os, sensors etc	NO
3.	Vivo U20	Both	R 16 F 8	6.53 inc IPC LCD	4,64 gb	Qualcom Snapdragon 675 AIE	5000	4G LTE	10990	Os, sensor, weight,simslot,etc	NO
4.	Xiaomi Mi A3	Amazon	R 48AI F 32 AI	6.09 inc	4,64	Qualcom	4030	4G LTE	12499	Os, sensor,	H 0.527 B 0.722

				Amoled		m Snapdragon 665				weight,simslot,etc	(in questions from manufacturer, not on display)
5.	OPPO A9 2020	Both	R 48+8+2 + 2 F16	6.5 TFT LCD	8,128	Qualcomm SM6125 octa core	5000	4G LTE	18490	Os, sensor, weight,simslot,etc	NO
6.	Nokia 7.2	Flipkart	R48+5+8 F20	6.3 HD+	4,64	Qualcomm Snapdragon 660 octa core	3500	4GVo LTE	16599	Os,sensor,weight,simslot,etc	1.190
7.	Vivo S1	Both	R16+8+2 F32	6.38 sAmoled	6,64	Helio P65 (MT6768) Octa core	4500	4GVo LTE	F-17290 A-17990	Os, sensor, weight,simslot,etc	Head - 0.756 Body - 0.335 on Flipkart
8.	OPPO F11	Both	R48+5 F16	6.5 TFT LTPS	6,128	MTK MT6771V (P70) octa core	4020	4GVo LTE	16990	Os, sensor, weight,simslot,etc	NO
9.	Samsung Galaxy A30s	Flipkart	R25+5+8 F16	6.4 sAmoled	4,64	Exynos 7904	4000	4GVo LTE	15999	Os, sensor, weight,simslot,etc	NO
10	Honor 20i	Amozon	R28+8+2 F32	6.2 IPS LCD	4,128	Kirin 710F	3400	4GVo LTE	10990	Os, sensor, weight,simslot,etc	NO

(Data retrieved on 2nd December 2019)

Analysis and interpretation

While going through the simple analysis process of table -1, it is found that all the specifications even some more technical information are being displayed by flipkart and amazon. To allure the buyers these information are presented in many ways like push information pattern, comparative chart, best seller tags, user ratings, discounts etc. price and memory (ram & rom) are found most focused information used by both the websites. The features mentioned in table-1 from A to J get more priority to be displayed while K which refers to SAR value is the neglected one. Out of ten handsets the SAR value of only 2 handsets i.e. serial number 6 & 7 are presented on the websites. It is also noticed that out of two websites Flipkart and Amazon the SAR information is shown only on flipkart, for serial number 4 SAR information is available on amazon but not as display it was available in FAQs hence, it is not considered as displayed information as per the adopted methodology. **Result:** The data analysis clearly shows that the SAR information is found for 2 smart phones out of 10. The result is derived that 80% online selling websites do not show the SAR value of budget smart phones.

Conclusion and discussion

WHO, FCC and many more organizations are taking concern of public exposure to radio frequency emitted by mobile phones and its base stations. Subsequently, this exposure is measured in SAR (specific absorption rate) and the limit of emission is fixed to 1.6 w/kg and 2.0 w/kg in US and Europe separately. Studies show the adverse relation between mobile RF exposure and human health. Capping the SAR limit also reveals that higher the RF exposure the higher the heath risk. India has also adopted the SAR limit of 1.6 w/kg and by notification of Ministry of Communication and & IT, it is made mandatory to display SAR value on handset and to contain safety precautions in the manual. Government of Belgium also made it mandatory to display SAR value at POS (point of sale)[4].

India is one of the largest in terms of mobile users whereas budget segment has large share in the market and lack of proper information will lead to unawareness about this issue. This study shows that online shopping sites put more focus on mobile features like price, camera, display screen, battery, memory etc. to persuade the prospective buyers and the information about SAR value is highly neglected. As per the sample size only 20% information about SAR is available at POS. In other words, out of the 10 products only 2 display the SAR value.

Further, it was also found that only indicative information regarding SAR was presented. It lacks information note like “safety rating” the term is used with cars after NCAP testing.

[4] (Service, 2019)

Furthermore, it was also found that the information of the SAR was not highlighted with the brand names and their features.

In addendum an empirical research on buyers' awareness about health issues by RF exposure and dissemination of research results to the public is advocated by the researchers of the study. The empirical study will throw broad light on the issue specifically on the buyers cognitive and awareness pattern. As Indian buyers are less aware of SAR limit and health risk[5], displaying only SAR will not convey the whole message.

Further, it is also proposed that such cost effective devices should be developed to measure the amount RF exposure in a certain environment and also provide the safe limit option like device of measuring air quality index. The forthcoming 5G service for mobile phones will have higher frequency range which will not only affect the humans but other creatures like birds too, this issue has been raised in 2.0 a Hindi film. Therefore, it is also proposed to have a safety rating for mobiles just like NCAP rating for vehicles.

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