

ANALYSIS OF FACTORS DRIVING USAGE OF SMART PHONES BY POST GRADUATE STUDENTS IN THE CITY OF UDAIPUR AND AN ASSESSMENT OF ITS IMPACT ON THEIR PRODUCTIVITY

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ABSTRACT

The usage of smartphones has skyrocketed over the last two decades, largely on account of the enhanced connectivity they offer and emergence of new use cases by the day. So, what was a luxury item in India two decades back has become a necessity among Indians. However, like all good things, excessive usage can be a bane and can have an adverse impact on the productivity of youngsters, especially students. The study was carried out to understand extent of usage, factors driving present usage and its impact on productivity. Purposive sampling was employed to collect data through a structure questionnaire that was administered on post graduate (PG) students and the data collected was statistically analysed. The study found that smartphones are likely to adversely impact productivity, largely on account of the hours spent on smartphones. The adverse impact is further amplified by a gradual rise in smartphone use, a trend that is likely to continue given the increasing application of smartphones. Further, since the usage is already around four hours usage/day, it is important for users to balance their usage so as to minimize the ill effects of use without losing out on its innumerable benefits.

Key Words: Smartphone, Generation Z, iGen, OTT,

INTRODUCTION

Look around and we will see a mobile phone in every hand. Mobile phones are not only a communication device but also a necessary social accessory [1]. It is an integral part of daily life, simplifying it in many ways. Loaded with smart features and technology, it is very attractive for people of all ages making it a necessity as well as a luxury. A world bank report says that we now have 108 mobile cell subscriptions per 100 people globally [2]. Though the mobile phones find its use in every hand, the youth and particularly the young adults are more prone to it.

The graduate and post graduate students of these days are the gen z youngsters (Generation Z or iGen (Born 1997–2010), who were born in the world where they always witnessed their parents using mobile phones and at a very early age had access to their personal mobile phones as well. The covid era exposed this generation to online studies and excessive use of OTT platforms and online gaming. The trend of online studies and excessive use of OTT Platforms, social media platforms and online gaming continues in the post pandemic era. As this age group students are more techno savvy and at the same time more susceptible to changes in fashion trends and look forward to build a career, they are more attracted to this dynamic technology.

The easy access to the smart devices and the plethora of daily innovations in this technological segment is in a way having multiple impact on the life and lifestyles of this young generation. Considerable number of surveys and research has been conducted on youths worldwide and it has been established that they consider mobiles phones as an integral part of survival. The better use of mobile phones by this z gen can bring amazing outputs in terms of learning, analysing and application of knowledge. They can attend online lectures and online coaching, connect to friends through social media, share digital notes, learn and play new games with distant friends, develop skills through various free and

paid online courses, search for better job opportunities, share new business ideas, and the list continues depending on the creativity of the young innovative minds.

The flip side of the coin is the excessive use of mobile for various uses or following the unsocial sites and tips which lead to a stressful life, waste of time, drifting away from focussed thinking, failing in achievements of goals and targets, strained eyes, obesity issues and other health issues. Time and again on various platforms awareness campaigns has been lodged in schools and among children and parents to make them aware of the drawbacks of overuse and misuse of mobile phones. All these efforts have brought and our personal observation in class and with the young generation says that this gen z is aware of the outcomes of the excessive use of mobile phones. The cause of concern here is that, in spite of awareness, these adolescents or the very young adult students are the most affected (ill affected) by the over use of mobile phones. A lot of research confirms that there is an increasing problem of stress and health issues in these young adults and a lot of work is being done to correlate these issues with the excessive use of mobile phone.

This generation is the most affected by behavioural addictions mostly due to peer pressures and also due to lack of experience and lack of self-control. In addition to these, mobile addiction can be attributed to change in lifestyles and academic stress. This can lead to increased level of stress and health issues. It is estimated that the prevalence rate of smartphone dependence is more than 30% among adolescents [3], and this rate is still experiencing rapid growth.

This alarming scenario makes it necessary to ponder deeper in this regard. Thus, use of mobile phones is no less than a double-edged sword. This situation helps only if one knows how to use it. This use becomes effective if what is gained is used in productive work and becomes waste if it results in any kind of stress or action which is detrimental to the society at large.

LITERATURE REVIEW

Mobile phones are probably the best and the worst invention of our times [1]. Every individual has a big list of the advantages he or she derives from it and at the same time a big list of ill effects that it has on a daily basis.

Among the college going student community, the smart phones are a means to help students get closer to their dreams. The use of the phones within and outside the class room facilitates student teacher communication, broaden academic horizons by providing updated study material and help them with better preparations of exams [4] and this improves the academic performance of the undergraduates [5] and post graduate students. Smart phones can prove to be safe and smart if only both students and faculties and other facilitators understand their responsibilities and limit the use to the extent required. [4]. Excessive use (misuse) leads to problematic use of phones. Problematic use of mobile phones is described as “an inability to regulate one’s use of the mobile phone, which eventually involves negative consequences in daily life” [6]

A positive correlation was found between problematic use of smart phone in direction of entertainment and obesity [3]. Strong evidences have also been gathered that points out the links between smartphone use and mental health and academic dysfunction [6]. Among the students, use of smart phone during exam preparations end up with distractions and waste of time. The smart phones equipped with video cameras are also used for bullying [4]. A research suggested that prolonged exposure to electromagnetic radiation emitted by mobile devices damages the visual system and sensitive parts of the ear, cause frequent headaches, lethargy and depression and not to forget the risk of exposure to brain tumours [7]. The high frequency of smart phone can have negative effects on mental health among youngsters. Thus, excessive use of smartphone is associated with psychiatric, cognitive, emotional, medical and brain changes effects in adolescents and young adults [8].

In another survey it was established that young adults (college going students age group) who used phones for more than 5 hours a day were exposed to 43% increased risk of obesity. This was because these students were more likely to drink more sugary foods, eat more fast foods and sweets and have decreased physical activities [9]. On the same lines, it was established that increase in neck and back pain, eye strain, gain in weight

along with changes in mood and feeling depressed is directly related to HCPU (High cell phone users) [10]. Excessive mobile phone use can also be associated with headaches, fatigue, impaired concentration, memory disturbances, and poor sleeping patterns [11]. It can also be associated with frustration and psychological distress [12], sleep disturbances, restlessness, redness of eyes, irritability, dizziness, thumb pain and pimples [13]. The ill effects of problematic use of mobile phones is more disturbing in teenagers. In an study of 450 Indian children under 15 years of age in the paediatric department at the teaching for tertiary care that more than one third of them (35.7%) were suffering from eye symptoms including eye strain and eye watering [14].

In a research in 2020, an association between smartphone use and occurrence of ocular manifestations [15]. 90.84% of people are depending on mobile for one or the other purpose, people start using smart phones from an early age of 12-14 years and average daily duration of smart phone usage is 4-6 hours. Moreover, ocular pain and/or dryness after prolonged time spent on smartphone use were more among smartphone users (39.7%). Alarmingly, most of the students (66.0%) had one or more ocular problems after smartphone use [16]

Thus, Health education programs on smartphone use and its ocular hazards are highly recommended [15] educational institutions and parents must develop awareness programmes and ensure its practical applications. Indian government should establish policies to raise awareness on this issue for a better future of youth as a priority action [17]. However, there is a silver lining in the cloud. A positive trend in the time spent on the phone among the optimal users of smartphones suggests that smartphones are used as a coping mechanism to gain momentary satisfaction. [12].

RESEARCH METHODOLOGY

Data for this study was collected through a structured questionnaire that was developed based on detailed discussions and improved through a pilot survey. The focus was on collecting quantitative data for statistical analysis and qualitative inputs for acquiring added insights on mobile usage and its effects. Purposive sampling was employed for data collection and a total of 89 responses were received. No inducements were offered to the respondents for participating in the study though they were assured confidentiality of their response. The following hypotheses were tested as part of this study:

H₀₁: Post graduate students use smart phone sparingly (i.e. less than 2 hours/day)

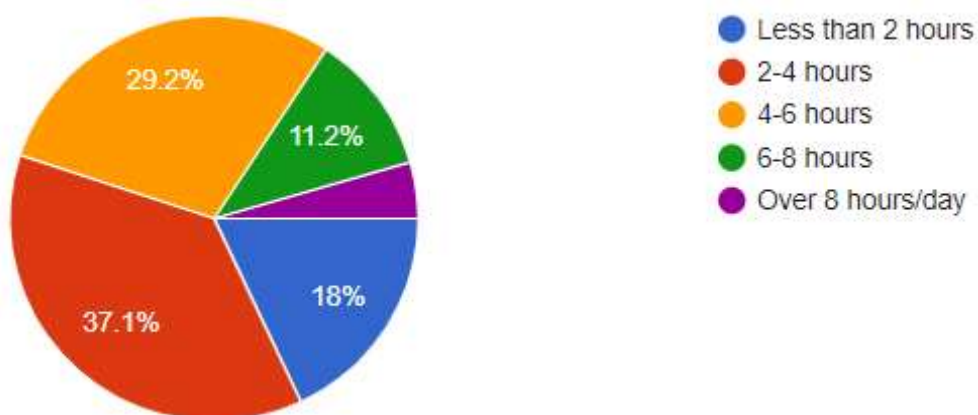
H₀₂: Smartphone use among PG students is high because of a few specific reasons/purposes

H₀₃: Majority of PG students have increased their smartphone usage over the last one year.

H₀₄: Majority of respondents believe that smart phone use does not lower their productivity

ANALYSIS OF DATA

Fig. 1: Duration of Smartphone Usage: Breakup



With the percentage of mobile usage under two hours being 18 percent, the p value for:

H_{01} : Post graduate students use smart phone sparingly (i.e. less than 2 hours/day) is close to 0 leading to the decision to reject the null hypotheses. One can, therefore, say that smartphones are very much a part of the daily routine of post graduate students and the extent of smartphone usage goes well beyond being used sparingly.

Fig. 2(a): Usage of Smartphone: Purpose

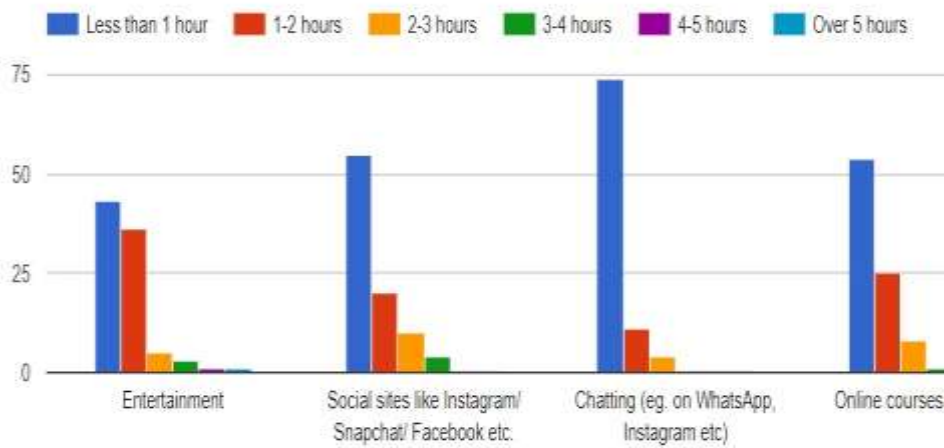
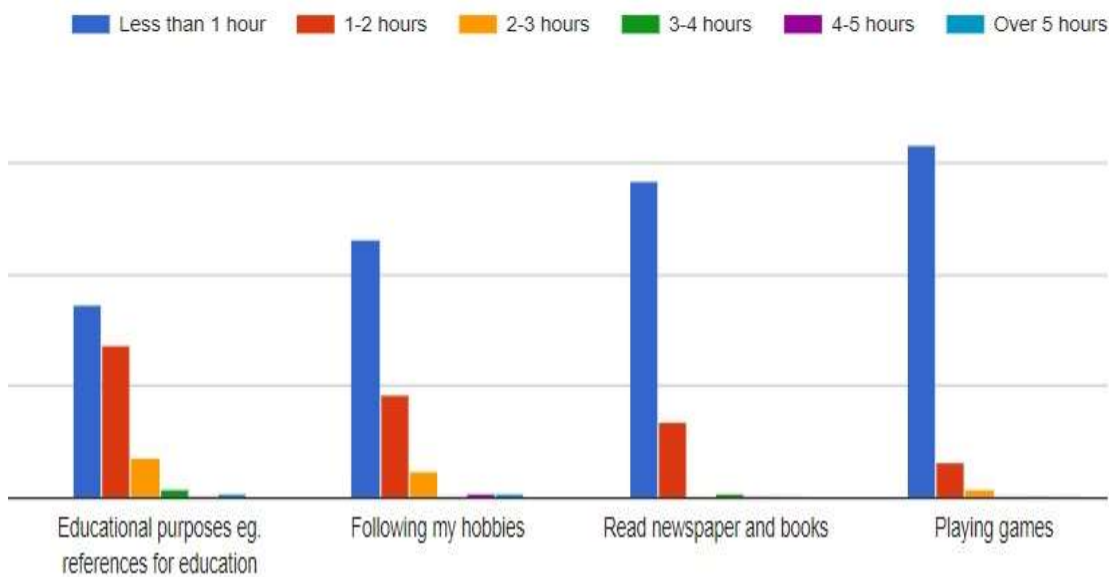


Fig. 2(b): Usage of Smartphone: Purpose



Percentage of smartphone users whose use for a given purpose is less than two hours is given below:

Table 1: Assessing areas of Smartphone Usage

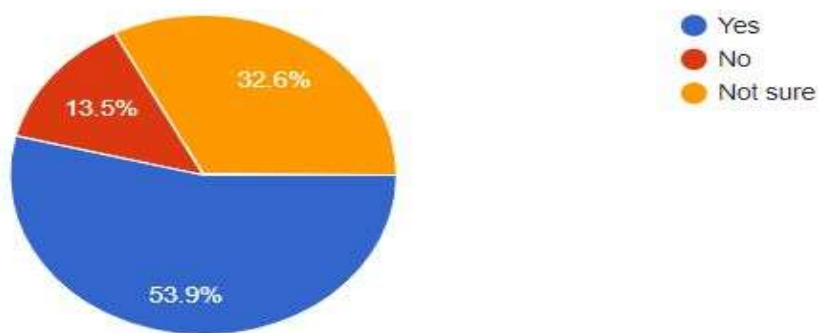
Purpose: Specific Smartphone Use (Purpose)	Percentage of respondents Less than 2 hours/day
Entertainment	79
Social Networking	75
Chatting (WhatsApp, Instagram etc.)	85
Online Courses/Tuitions	79
Educational purposes like reference books etc	77
Hobbies	81
Reading newspapers	88

It is seen that all the categories included, namely, entertainment, chatting and networking on social networking sites, online courses and other educational purposes or hobbies take up less than two hours each for most respondents. To test the second hypotheses an assumption was made that a specific factor being responsible for high usage would be measured by the prevalence of a single factor that engages a user for over two hours. The p value for the hypotheses:

H₀₂: Smartphone use among PG students is high because of a few specific reasons/purposes is close to zero resulting in rejection of the hypotheses. This suggests that it is the proliferation of areas where smartphone can be used that is at the root of high usage and not any specific application of the smart phone. Since uses and application areas for smartphones are increasing by the day, it can be inferred that other factors remaining the same, smartphone use will only increase in the days to come. That raises an inevitable query whether this increase will be gradual or rapid and how can companies as well as users better plan for increased usage.

H₀₃: Majority of PG students have increased their smartphone usage over the last one year. The percentage of respondents who reported increased usage of smartphones over the last one year is 42.7 giving a p value that is close to zero leading to rejection of the hypotheses. This while usage of smartphones This increase is more likely to see gradual increase rather than a sudden surge given the fact that less than half the users reported increased smartphone use in the last one year with a comparable percentage reporting that their usage of smartphones had not increased in the last one year (40.4 percent). The rather evenly balanced distribution of those whose usage increased and those who did not invites questions on the reasons why some have increased their smartphone usage while others did not. The question posed allowed customers to state if reduced usage would enhance their productivity.

Fig. 3: Will reduced smartphone usage improve productivity?



With about 53.9 respondents saying that reduced smartphone use would improve productivity, the p value for **H₀₄:** Majority of respondents believe that smart phone use does not lower their productivity is close to zero leading to rejection of the hypotheses. This finding points to the possibility of smartphone usage being a drain on effective use of time and begs an answer to why some users do not consider reducing smartphone use. The key reasons, in descending order of importance, are:

Table 2: Key Factors that prevent decreasing smartphone usage despite its benefits

Factor	Percentage Response
Fear of not staying updated with current affairs	43.8
Fear of losing out on entertainment	34.8
Fear of online courses/studies suffering	32.6
Fear of adverse impact on growth	27.0

Educational institutions or other entities wishing to reduce smartphone usage among post graduate students would need to address these concerns if they wish to succeed.

CONCLUSIONS AND RECOMMENDATIONS

Based on statistical analysis of quantifiable data, the following conclusions can be drawn about usage of smartphones:

Table 3: Summary of Statistical Analysis on various Hypotheses

Hypotheses	Accepted/Rejected	Conclusion
H01: Post graduate students use smart phone sparingly (i.e. less than 2 hours/day)	Rejected	Smartphones are a part of the daily routine of post graduate students
H02: Smartphone use among PG students is high because of a few specific reasons/purposes	Rejected	There is no single usage or purpose responsible for increased use of smartphones.
H03: Majority of PG students have increased their smartphone usage over the last one year.	Rejected	The increase in smartphone use is gradual and happens in phases.
H04: Majority of respondents believe that their smart phone use does not lower their productivity	Rejected	Increased smartphone use is perceived to be a contributing factor for lower productivity.

Smartphone are an enormous comfort and allow communication like never before. However, there are concerns about its adverse impact on productivity, largely on account of the time users of smartphones spend with these devices. These concerns are further amplified by a gradual increase in smartphone use by post graduate students, a trend that is likely to continue given the increasing application of smartphones. Further, since the usage is already rather high (weighted average approaching four hours usage/day), it is important for users to balance their usage so as to minimize the ill effects of use without losing out on its benefits.

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