

*BIDS-REF Study Series No. 22-01*

**SOCIAL CONDITIONS OF THE  
INNOVATIVE USE OF SMARTPHONE: A  
QUALITATIVE INVESTIGATION AMONG  
YOUNG USERS IN DHAKA**

Mohammad Golam Nabi Mozumder



**Bangladesh Institute of Development Studies (BIDS)**

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## Abstract

Concerns about the adverse impacts of using smartphones are common in the literature. However, there is insufficient research on whether users make innovative use of devices. If they do, what is the nature of the creative use of smartphones? What social conditions facilitate the innovative use of smart devices? This study seeks to answer these questions by investigating the use of smartphones among teenagers in Dhaka. The respondents of this research are purposively selected from secondary schools located in five different areas of Dhaka city. Snowballing technique was used to identify the forty-four avid users. Findings of the study show that respondents employ innovative strategies of escaping supervision: Installing software, e.g., AppsLock, Gallery Lock, and CM Security; using a password; blocking parents and relatives on social media—“totally black-listed.” They also read books using Gutenberg Apps and go online to learn how to wear hijab “smartly.” Advanced users heavily use smartphones to learn software programming, prepare science projects, and do photography for presenting at art exhibitions. I argue that the common concern about the extensive use of smartphones is misplaced. Teens immersing themselves in using the service is not always a matter of concern; instead, the concern should be about what they do with the phone. Most importantly, the study identified three important conditions for developing creative skills among young Smartphone users: Friends, events, and parents. These conditions constitute an ecosystem that facilitates the innovative dispositions of the young users of smartphones.



# CHAPTER 1

## INTRODUCTION

Technology is no magic; users can make magical use of the device, especially when given freedom. Consider the experiment conducted by the One Laptop Per Child (OLPC) organization on illiterate Ethiopian kids who were given tablet laptops. This is what happened:

Earlier this year, OLPC workers dropped off closed boxes containing the tablets, taped shut, with no instruction. “I thought the kids would play with the boxes. Within four minutes, one kid not only opened the box but also found the on-off switch ... powered it up. Within five days, they were using 47 apps per child per day. Within two weeks, they were singing ABC songs in the village, and within five months, they had hacked Android,” Negroponte said. “Some idiot in our organisation or the Media Lab had disabled the camera, and they figured out the camera and had hacked Android” (Talbot, 2012).

Allowing young minds to explore digital devices freely proves to be crucial in realising their creative potential. Smartphones are portable digital devices that can be used with considerable freedom. Previous studies examined the impact of smartphone usage on social capital (Park, Han, & Kaid, 2012), the digital divide (Park, 2014), and social isolation (Bian & Leung, 2014). Researchers also investigated how teenagers become creative in using smartphones as an important tool, in particular, to negotiate freedom and autonomy both within and outside the family (Ling, 2005).

Previous studies examined the impact of smartphone usage on social capital (Park, Han, & Kaid, 2012), the digital divide (Park, 2014), and social isolation (Bian & Leung, 2014). Researchers also investigated how teenagers use smartphones to negotiate freedom and autonomy both within and outside the family (Ling, 2005, Williams & Williams, 2005). Social networking sites, especially Facebook, were found to be heavily used by medical students and professionals for learning purposes (Pimmer, Linxen, & Gröhbiel, 2012). Mobile phones are an effective tool for “mLearning” in Asia (Valk, Rashid & Elder, 2010). But the processes in which the learning takes place have remained understudied, especially in the context of South Asia. So have the diverse forms of informal experimentation and innovative learning endeavours of the young users of smartphones. Moreover, expressions of creativity using digital devices, such as smartphones, have yet to be studied extensively (Misra & Misra, 2006, p. 446). This paper, based on a qualitative study, contributes to addressing an important gap: Studying the innovative practices of the young users of smartphones (Hoffman, Ivcevic, & Brackett, 2016, p. 149).

This paper elucidates how teens in Dhaka city use smartphones, especially when they are free from the supervision of parents, family members, teachers, or relatives. We



focused on teens mainly because they are expected to use the device in unconventional and diverse ways. Specific attention has been given to documenting the innovative use of smartphones among teens. The study finds that there are examples of using the device for innovative purposes among teens. Although that tendency may not be dominant among the majority of users, those who insist on pursuing that creative goal end up doing interesting works that deserve appreciation. This paper identifies the social conditions of the innovative use of the device among teens. The process of using the device in unleashing the innovative potentials of the young users is examined first by identifying the creative users of smartphones and then analysing their ways of using the device.

Limitations of the study need to be noted at the outset. This study devoted its attention exclusively to exploring the innovative use of the device and, in doing so, paid minimal attention to the following crucial issues 1) whether the heavy use of the device negatively impacts the academic grades of students, 2) whether the extensive use of the phone adversely impacts the users' mental and physical health, and 3) whether the tendency to have more screen time impacts the practices of sociability of the users in the real world. Future studies should make systematic efforts to investigate these critical issues in Bangladesh.

## **CHAPTER 2**

### **METHODOLOGY**

Respondents were selected from five main areas of Dhaka city. In total, 44 respondents were identified from these areas: Gulshan (6), Khilgaon (10), Mohammadpur (10), Old Dhaka (8), and Uttara (10). Almost 50 per cent of the respondents (20) are girls. Respondents were identified in two phases. In the first phase, we used personal networks to find out the respondents from well-known schools in the respective areas. Once we found an interviewee, we asked that person to inform us about other potential respondents. We then contacted that person and talked about selecting her as a potential interviewee. We tried to find out heavy users who are famous among their friends as experts, who use diverse apps, or who are famous for solving technological problems. Although the target was to interview 50 students, due to the lack of time and resources, we ended up limiting the focus to 44 respondents. We also found a smaller number of girls avid users of smartphones; for this, we could not fulfil the target of interviewing 50 per cent of girl users.

With the condition of anonymity, respondents kindly consented to record the interviews. The recorded interviews were transcribed and translated into English. Follow-up interviews were conducted to dig deeper into relevant issues. In total, we have about one thousand pages of interviews. A profile of each respondent was prepared based on the collected information. In addition, we collected relevant evidence, for example, browsing history, samples of works such as photos, and social media posts. The generalizability of the findings needs to be tested by conducting more studies among similar groups living in other settings.



# CHAPTER 3

## FINDINGS

### 3.1 Common Activities

Common activities of the teens are watching videos on YouTube, using social media, playing games, listening to music, graphic designing, photography, collecting study materials online, and reading newspapers. Some of the popular applications (apps) are Facebook, Messenger, WhatsApp, Twitter, Viber, imo, and SHAREit. Facebook is the most popular app among users, Messenger (a component of Facebook) the 2<sup>nd</sup> most popular, Instagram the 3<sup>rd</sup>, and Viber the 4<sup>th</sup>. A word search from the transcripts of the interviews shows that Facebook was discussed 1,056 times, Messenger 411 times, Instagram 175, WhatsApp 93, and Viber 67. Teens regularly share messages/images on Messenger.

**Table 3.1: Technology Diary of a 16-Year-Old Girl (G4)**

Time	Activity
10:00	Woke up, checked messages and notifications
12:30	Breakfast
1:00	Watched movies on TV
2:00	Lunch
3:30	Read books on the phone and Messenger
5.30	Prepared snacks
6.00-10.00	Watched television, Instagram, and Facebook, and chatted with friends
10:30-11:30	Messenger, Facebook, watch Bengali drama on the phone
11:30-1:00	Read a book
1.00	Went to sleep

Sending or receiving messages, also known as texting, appeared 349 times in the discussion, which makes it the most common activity on a smartphone. Gaming is a popular activity that was discussed 251 times. Considering the number of mentions, it is the second most popular activity on a smartphone among teenagers. Some of the popular games are Mini Militia, Angry Birds, and Temple Run. They also spend a lot of time watching pranks, videos, funny and roasting videos.

Respondents use Pinterest, Tumblr, Shukran, and Snapchat. Tango (live video and gaming together) is also known to the respondents (K8). Shukran, an uncommon social media app, is specially designed to cater to the preferences of Muslims (K1<sup>1</sup>). They use various apps to share and edit images and videos. Some of the common apps are SHAREit, Video merger, Apex Video, Video Editor, and SnapSeed (image editing software). Other popular apps include Dubsmash, Moviemaker, and Musical.ly (now TikTok). Image editing apps are also hugely popular among teens in Dhaka. They use

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<sup>1</sup> Each respondent is identified with an anonymous ID beginning with a letter representing the name of the respective area. K1 represents respondent number 1 from Khilgaon. Similarly, G2 refers to respondent number 2 from Gulshan.

PicsArt, AirBrush, RIB photo cam, BeautyCam, YouCam, and WpsApp to edit the images according to their preferences. Girls heavily use these apps for decorating themselves (G2).

### **3.2 Diverse Use**

Teens in Dhaka use smartphones to learn the rules of performing religious rituals and access entertainment items online, especially the ones produced in foreign countries. A 17-year-old girl, an O-level student, regularly used the device for listening to the Quran (M1). A 15-year-old girl recites from the Quran using a smartphone almost every morning (U4). A 14-year-old girl accesses the Bukhari and Muslim hadith (U2) using The Muslim Pro app. The app can be used to find daily prayer times, listen to the call for prayer (Azan), and also to find out the direction to the Qibla (the Mecca). Girl users also listen to online stars who discuss Islamic rituals for women, e.g., Mufti Menk's video. Girls watch his videos to learn about smartly wearing Islamic veils. A 17-year-old girl remarked, "I wasn't used to wearing hijab smartly at first" (M1); she learned that by watching Mufti Menk's videos. Smartphone becomes an important tool for Muslim girls to incorporate religion into the folds of modern life. The girl users also watch TV serials produced in both Bangladesh and foreign countries, especially Hindi movies and cartoons (such as Doraemon—a Japanese Manga series). "I like melodramatic Hindi dramas. I watch Chinese, Korean and Thai dramas. I saw two Korean dramas" (M1), a 17-year-old girl mentioned. Girl users of smartphones also learned the techniques of making bangles and earrings online (U4), a 10<sup>th</sup> grader girl reported. These examples show that smartphones cater to the already existing needs of the users, be they religious, cultural, or intellectual.

### **3.3 Deviant Activities**

Hacking accounts, creating fake accounts on social media, watching adult content, smoking weed, and drinking alcohol are notable deviant activities mentioned by the respondents. The smartphone was the medium by which information on the techniques of hacking was collected. They learned the techniques of hacking by watching videos on Facebook and browsing the Internet (K3). Two important things are to note about hacking here. First, they did the hacking for fun, mostly with friends, not for any organised criminal groups. Second, they regret doing immature acts of hacking. They stopped hacking as it no longer makes sense: "I now realise that it's not worth it; there is no benefit of hacking. I now know that hacking Google ID or Facebook ID is not really possible" (K8). They understood that the stories of hacking were often exaggerated.

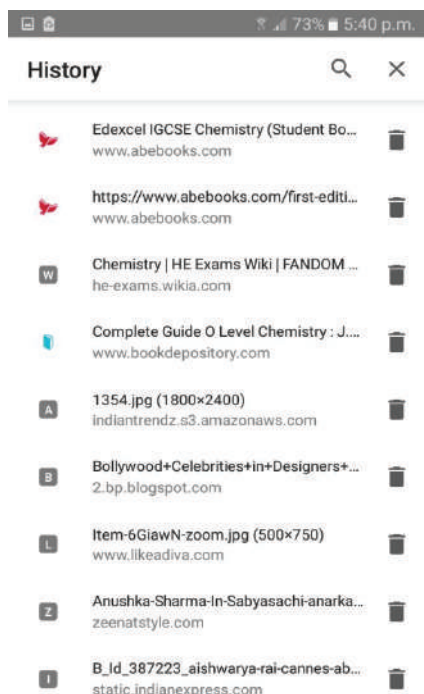
Watching adult content on porn sites was reported. On special occasions, they drink alcohol. They rarely smoke weed. The use of Yaba, an illegal drug, was also mentioned by a few students. Smartphones played a role in spreading Yaba among the students. A friend "sent a picture on Messenger; that one was actually of Yaba. They said if anyone takes it the night before the exam, then it will keep him/her awake. Or it will provide energy, for that he/she will be able to [study hard and] do well in the exam, he/she will not feel sleepy but will be fit without any problem; he told me that one day" (M3). Few students reported the use of Yaba. Important to note that hardly a few students fell into the trap. Most of the students successfully avoided the danger.

## CHAPTER 4

### LEARNING

Parents worry about teens' use of smartphones because they, in particular, are often unaware that teens may use the device for learning and innovating. Teens learn a lot using smartphones. They do not only learn about how to use the device efficiently and in diverse ways, but they also use it extensively for educational purposes. They learn new software, language, photography, and the techniques of making handicrafts. Sixty-four per cent of the people in OECD countries opined that Internet connection positively impacts education (Poushter, Bell, & Oates, 2015). Teens in Dhaka also heavily use the device for educational purposes, such as doing homework or preparing for assignments. To learn English, a 17-year-old girl O-level student from Mohammadpur watches the YouTube channel named "English with Lucy" (M1). To understand the basics of physics, chemistry and math, a 10<sup>th</sup> grader from Mohammadpur (M5) uses BYJU's app and its YouTube channel. Others get help from Khan Academy's website, reported a 16-year-old from Old Dhaka (OD 6). A boy from Gulshan uses the "all math calculations" app to learn mathematics (G1); a 15-year-old girl from Uttara learns Math from Zakaria KKD's YouTube channel (U4). A 10<sup>th</sup> grader girl from Mohammadpur reported that she regularly visits a YouTube channel that her Biology teacher opened.

A 17-year-old girl from Mohammadpur learns language by watching tutorials on her phone (M1). She learned English, Hindi, and Tamil. A 10<sup>th</sup> grader from Khilgaon learns Spanish by watching videos on YouTube (K10). A girl from Gulshan loves playing word games on her phone (G5); instead of searching in a dictionary, she installed a dictionary app on her phone. A 16-year-old girl from Gulshan learns grammar and math formulas by watching videos provided by Ten Minute School prepared by Ayman Sadiq on YouTube (G2). The snapshot of the browsing history of a girl (Image 1) shows that she used the phone to learn about chemistry on Edexcel as part of her preparation for the exam. She also browsed a Wiki website named Home-Ed Exams to learn about chemistry lessons. They learn about animation, e.g., Manga—Japanese comic animation—and teach friends about it. A 15-year-old girl wrote a script for a Manga story using her smartphone (M9). Another popular one is Cosplay or Costume Play. "Cosplay is an animation, [--] like a movie, [you] buy a wig, do makeup then get into that character," a 15-year-old girl from Mohammadpur elaborated (M10). A 15-year-old girl from Old Dhaka reported using movie maker apps; she got help from a friend about the use of the app (O3). The 10<sup>th</sup> grader girl found the animation app online and used it: "Yes, then I searched on YouTube saying 'how to make animation videos with photos'. Then they gave me an app named "S Movie Maker." So, I downloaded it from the play store and used it." A 10<sup>th</sup> grader girl from Uttara learned to play Guitar and Piano on her phone (U4). A 17-year-old boy from Uttara watches music tutorials to come up with tunes (U6); a 15-year-old girl from Gulshan learned to make butterflies and flowers and decorate stuff by watching videos on her smartphone (G5).

**Image 1: Browsing History of a Teen Girl User (M1)**

The teens use the Gutenberg app to read books; they visit Coursera and Udemy sites to get answers to the random questions that come to mind (K1). Students use smartphones to collaborate, especially to do assignments. A girl from Gulshan used a smartphone to do homework; “so, whoever finished those already sent the pic, then I copied that easily” (G4). A 10<sup>th</sup> grader from Gulshan claimed to have overcome the “problem” of asking questions to his teachers by learning about Internet browsing on his smartphone: “I used to feel nervous asking anything to my teacher; I couldn’t do it before. Now I have my phone, so, if I don’t understand anything, I can go to YouTube and see tutorials about my studies” (G1). A 10<sup>th</sup> grader girl from Khilgaon searches YouTube on her phone to get help regarding “practical [experiments] for home economics subject, making a vase, carpet, flower with paper, and home decors” (K6). Some of them use Endomondo, a fitness app. “When I do cycling, I open this app. I could calculate the timing, how far I went and how many calories I burnt, with that app” (M5).

By learning about apps, animation, manga, programming, graphics and numerous other things related to the digital world, teens are able to enrich their skills and capabilities to a great extent. However, those digital skills often remain under-appreciated. In some cases, when they get the opportunity to make use of those digital skills, the young users show why they deserve commendation and encouragement.

# CHAPTER 5

## INNOVATIVE USE

Instances of innovative use of smartphones among teens include preparing science projects, writing science fiction, doing award-winning photography, earning money online by freelancing, writing animation scripts, and running a YouTube channel. Below is a brief description of important innovative works. A select few examples are analysed to see how teens use digital devices to perform creative works that often remain underappreciated or outright ignored. The goal is to highlight the innovative use of the device. Reasonable concerns about the unexpected consequences of using the device should not undermine the productive use of smartphones.

### 5.1 Automatic Equipment Control System

A sixteen-year-old girl, a 10<sup>th</sup>-grade student at Uttara High School, self-identified herself as a member of a middle-class family. Her father is a public employee, and her mother is a housewife. She has two other siblings. Her parents bought her a phone as sometimes she had to return home alone from school in the evening. Her mother had to stay home to take care of her younger sister. Her mother is on her social media. She had loved making things with batteries and magnets since her childhood years. She also liked similar things on Facebook or YouTube. She was not a top grader; she loved playing a lot of games (such as candy crush and clash of clans) during her childhood. She and her friends extensively used smartphones to prepare projects for participating in science fairs. She also reportedly came to know about science fairs on social media. She extensively used her phone to browse the Internet while preparing the project. She also took help from a friend—a student of BUET (Bangladesh University of Engineering and Technology). They managed to prepare a project and participated in a national competition held at a college in Dhaka. The respondent specified that their project was selected from the 32,000 projects nominated from the entire country; about 37 projects were selected, and theirs was one. The girl remarked: “It was a big competition. “I went there twice. I got three awards. I got the first award at BAF Shaheen” (U1). She provided a non-technical description of the project: “I mean, you can control your AC, fan, heater, light by a remote.”

### 5.2 Science Fiction

A 10<sup>th</sup> grade student at Residential Model is known to his friends as an avid user of smartphones, which, at some point in his life, were “the only companion” with uninterrupted access to the Internet. His father is a businessman, and his mother is a nurse. He used to read Jafor Iqbal (a popular science-fiction writer in Bangladesh) a lot. He reportedly loved to stay alone and immerse in his favourite virtual world, watching Towhid Afridi's Vlog, for example. He was used to instantly responding to messages. He



claimed to not hide anything from his parents or others about his activities on his smartphone. He briefly talked about the second science fiction that he had written:

Actually, it is totally fictional writing. There is a character; it's me, and another is my friend. I named him "Ripon." Here Ripon is a robotic scientist and an inventor whom I saw thinking about something for many days and making something. Suddenly he called me one day. He told me to go to his place, and he would show me something; then I saw it was a robot. He opened the robot and said that it was afternoon. Then the robot said, "Good noon Mr. Ripon." Then, he asked about my health and shook hands with me. Then I ask Ripon if he made it or brought it from somewhere! Then he told me that it's a learning-type robot. It can say everything. I wrote all these. (M5)

It seems to be a reflection of his wishes. He imagines himself to be a Robotic scientist. Instead of imagining a third person as an inventor, he loves to think of himself in that position. During the interview, he repeatedly insisted that he did all the creative activities by himself. He also insisted that he was not influenced by his friends or others. Instead, he influenced his peers to participate in creative activities and study hard; he claimed to be successful on some occasions.

### **5.3 Award-Winning Photography**

A 16-year-old boy, a 10th grader at Khilgaon High School often used his phone to complete school assignments, do practical experiments, and learn Spanish. His mother (who has an undergraduate degree) supported him a lot; his father is a businessman who is not highly educated. With friends, at times, he hacked Wi-Fi passwords. First, after buying a smartphone, in the beginning, he was obsessed with games (K10). Nowadays, he mostly uses Facebook, Messenger, WhatsApp, Instagram, and YouTube. He loves doing mobile photography using his mobile phone. He consults an online friend—an expert photographer—before posting the pictures on Instagram. He learned the techniques of photography from a school friend. One of his photographs was awarded 1<sup>st</sup> prize at two photo exhibitions (K10). His photographer friend gave him the primary lesson and then he started browsing online to learn the advanced technique by himself.

### **5.4 Freelancing Online**

A 10<sup>th</sup>--grade student at Khilgaon Government High School first got addicted to playing games using his smartphone. Initially, he did not have a personal computer, so he started browsing on his phone. He found interest in diverse things online. He used to read books on the phone and reviews relating to different versions of Android. Later he started writing his own reviews. Also, he started writing articles on IT and health issues and posted them on Reddit. He loves randomly searching online. The 18-year-old boy became a regular, registered freelancer. He claimed to have learned about programming on his

phone: “I downloaded programming software on my phone.” He has installed the Khan Academy app on his phone. From that app, he learned a lot about programming. He is also a member of the Stack Overflow community, where programmers from all over the globe share their ideas.

### **5.5 Practical Experiment**

A 16-year-old-boy from Khilgaon, whose mom and dad are full-time professionals with an MPH degree, extensively uses his smartphone to complete the practical assignments for his school. He claimed to produce electricity from vegetables (K3). Reading such stories in newspapers, he searched online using his phone and thus experimented. He loves using his phone to browse the Internet and solve practical problems. However, he does not like to copy everything. He loves doing the same exercise in a different way. For example, “They showed [on the Internet] that they used robots. The parts of the robot can be seen from the outside. But my work is to cover that up from the outside and to [see] what it will be if I add a few extra things?” He also reported that he could produce electricity from potatoes and lemon. He only needs pins, nails, wires and tapes. “With these, I can make a 20-watt bulb,” he claimed. Also, he claimed to have done a lot of practical assignments at home with the help of a smartphone. He claimed: “You will be able to turn off your lights and fans in your house with a phone. But you will need a phone at home. Nobody will have to receive it. You will be able to do that by pressing [a button].” He went on to say: “If you use the chip of a remote control in the phone, with a normal gaming phone, you will be able to control that car.” He also mentioned another experiment that he did for his chemistry class. During the vacation, his Chemistry teacher wanted them to light a bulb. He put salt in the normal water to turn on a bulb. The same thing can also be done with lemon, he claimed.

### **5.6 Animation and Smart Street**

A 10<sup>th</sup>-grade student, 15-year-old, currently in Mohammadpur, learned the techniques of creating animation using her smartphone. She wrote an animation script and wished to create a panel on Manga (Japanese comics). She learned video editing techniques by watching the editing tutorials on YouTube. Her friends play “Cosplay” or costume play. It is like a movie; the girl from Mohammadpur recollected: “You buy a wig, do makeup, then get into that character” (M10). She likes to play Spiderman. A 15-year-old girl, a student of Ahmed Baunia High School, Old Dhaka, wrote an animation script. She did the script by herself and taught friends about it (OD3). She searched on YouTube about the techniques of making animation videos with photos. She found an app named “movie maker” and downloaded it from the play store.

The technology diary of a girl—a 10<sup>th</sup>-grade student at Mohammadpur Model High School & College (M9)—shows that she browsed the Internet to watch Stephen Hawking’s lifestyle series and to learn about a blue moon, red moon, space, and crafting.

To avoid unwanted conversations, she uses only Messenger (instead of Facebook) to communicate and collaborate with her friends. She consults his father about problems with her phone. She, at times, helps her mom find tips on cooking by searching YouTube and relevant websites. She and her friends also search online to make suitable gifts for friends and to learn about grafting. She often goes online to collect suitable images and uses Adobe Illustrator to prepare suitable presentations. She and her friends used the skill to develop a science project on crafting a “smart street.” They initially thought about a project on automatic street lighting. Their project included a road plan for easing traffic jams.

# CHAPTER 6

## SOCIAL CONDITIONS OF THE INNOVATIVE USE OF SMARTPHONE

All humans are born with creative potential, but not everyone learns to realise their precious potential. Those who do usually go through certain processes to become creative in their lifetime. Social conditions play crucial roles in facilitating creative dispositions among young, inquisitive minds. The findings underscore three conditions for nurturing creativity among young smartphone users: Friends, parents, and events.

### 6.1 Friends

Teens usually do not work alone. They need friends to go about their daily lives. Smartphone plays a crucial role in finding friends and cultivating friendships. They make friends at school and within the family. Findings of the study show that the youngsters prepare science fair projects with friends, learn photography, get expert opinions from friends online, and communicate and collaborate with friends using a smartphone. Having a smartphone facilitates creative conversation among inquisitive minds. The digital device with access to the Internet works as a gateway to the creative world. Important to remember that friends are crucial in deciding how they want to utilise their access and opportunity. Those who become friends with diverse interests tend to engage in creative activities. The award-winning teen user of smartphones explained: “I think interest is the main thing. I did not know about the science fair. My friends used to talk about science fairs a lot. Hearing that, I also became interested, and then I went and saw experiments. I enjoyed it a lot” (U1). The girl user became interested in doing science projects mainly by interacting with friends who loved talking about science. She then became actively engaged, did her own project and earned recognition—the first prize.

Creative minds tend to be comfortable befriending people with diverse interests. They may not be comfortable mingling with a wide variety of people, as they prefer to exchange ideas with other provocative thinkers. They also know the benefit of being in close association with inquisitive peers. Teen who wrote a science fiction elaborated on why carefully choosing friends is important:

My friend circle is small. Some of my friends are *in music*. *Some are good in tech, some in art*. I tell my friends to read; sometimes we study together. I encourage my friends, but only two to three of them study hard. [...] If they do well in this line, it will be good for me too. That will be good for both of us. At the same time, I would not be involved in any other [unexpected] things; they also do the same. I have just three to four friends; all of them are more or less in my category. We study together, so we have almost similar interests. (M5)

Teens are greatly influenced by friends. They influence each other to study and work hard and collaborate in preparing innovative projects. A smartphone facilitates them to stay in touch, learn from each other, and contribute to creative work. A teen learned coding from friends: “I asked people who knew; they told me, and I made use of the knowledge. I ask people who learned to programming, and they guide us” (K8).

Smartphone plays a big role in finding friends, cultivating friendship, and, more importantly, influencing the activities of friends; the phone does not replace friends. The smartphone works as the medium through which friends across time, space, and culture stay connected. This connectivity may not always be virtuous in nature. The device can also be used to encourage dangerous habits, such as hacking, taking drugs, and searching adult sites. Parents and social institutions play crucial roles in realising the positive potential of digital devices.

## **6.2 Events**

Teens, who do creative works with their smartphones, tend to actively participate in extracurricular activities, such as science fairs, photo exhibitions and theatre. A science fair is an important type of event where teens realise their creative potential. They often browse the Internet on their phone to find out ideas about suitable science projects. Science fairs are annual occasions when school students try to bridge the gap between theoretical learning and practical accomplishments. They search YouTube to develop science project ideas (G4). They collaborate among themselves using their phone to find out an idea and implement it. Parents and teachers reportedly encourage students to participate, especially when the students earn awards. While preparing for the festivals, students brainstorm potential ideas. They experience both excitement and obstacles in preparing for the events. Sometimes parents and teachers discourage them from spending a lot of time working on the project. However, once they understand the importance of the work, especially when they hear about the awards and recognition, parents start appreciating and sometimes actively cooperating with the teens. Science fairs are exciting as they come to know and meet their peers from various parts of the country. These fairs are also important occasions for the students to develop networks and make friends who have creative potential.

Smartphones work as an important tool for teens who like to participate in art and theatre. They come to know about art competitions or photo exhibitions on social media (M5). They develop an online community to learn the crafts, peer-review the outputs, and disseminate their artistic works, often on social media, especially Facebook. A girl member of a theatre group in Uttara reported that her friends run a YouTube channel (U7). They shoot videos for the channel with their phone. They find important tips on making videos and post them online for the wider public. The phone works as a vital medium for realising the teen’s artistic potential; the digital device helps them reach their desired audience online. Previous studies also found that participation in theatre groups helps school students nourish their creative potential (Rao, 1996; Sharma & Misra, 2004).

### 6.3 Parents

Young smartphone users who do creative work with their phones have a friendly relationship with their parents, especially their mothers. They are not afraid that their parents would be upset knowing about the extensive use of the device. Instead, they often get the necessary support and encouragement from their parents in completing the assignments. The teens feel reassured that their works are deemed necessary and worthy by their parents. They, particularly girls, keep their mothers on their social media. The award-winning girl remarked: “My mother helped a lot. I could not do anything without her support. Ammu always said: *“Just do whatever you would like to do; do the best”* (U1). Teens desire to have parents who like to stay informed about their children’s own ambitions and concerns. And when parents actually do that, the young minds opt to go forward with their dreams and ambitions. Having that support works as a key to unleashing the young minds’ creative potential. The award-winning mobile photographer testified: “My mother supports me a lot, appreciates that. I sometimes talk to my father, but he often complains why I spend a lot of time sitting with the phone” (K10). Fathers usually spend less time with their children as they often stay busy with their regular work. It is one of the reasons teens end up having a less-friendly relationship with their fathers. However, they do not always complain: “My father is a teacher. He probably knows what happens when I do something. Probably that’s why he does not discourage me” (K8). Having a friendly relationship with parents is also crucial to prevent teens from getting involved in dangerous activities. Failure to have a friendly relationship might generate misunderstanding and unexpected distance between parents and children. The girl member of a theatre group, and an avid user of smartphones, confessed: “Like my relationship with my parents is going bad due to the phone because they think that I am misusing my phone, but, according to my personal understanding, I am not misusing my phone” (U7). The girl usually stays alone at home as both of her parents are full-time employees, and she does not have any siblings. Her father even broke his phone to prevent her from spending a lot of time on the phone. Despite all the obstacles, she keeps using the phone in her preferred way. Parents understandably remain concerned. The lack of understanding regarding phone use keeps the parents anxious and a young, intelligent mind under-appreciated. Minimising the gap turns out to be hugely beneficial simultaneously for parents, children, and the nation.



## CHAPTER 7

### CREATIVE ECOSYSTEM, NOT ECHO-CHAMBER

The way a person uses a smartphone does not depend only on the user or the device. The surrounding conditions in which users (inter)act and live play a significant role in influencing the nature of the use of a device. The socio-cultural conditions play a vital role in facilitating the creative use of digital devices among young users. It is the combination of curious friends, understanding family members and participation in intriguing events (such as science fairs) that facilitates the nourishing of creative dispositions among young users of smartphones. A respondent calls it “the ecosystem” (K8); I prefer to identify it as “creative ecosystem” (Babič & Gašpar, 2018) or “creative synergy” (Bown & McCormack, 2010, p. 225). The ecosystem comprises three essential components—curious friends, friendly parents, and intriguing events—working in coordination with each other. Only an understanding family, simply befriending intelligent peers, or participating in the events solely would not constitute sufficient conditions for nurturing creative dispositions among young children. Furthermore, meeting all these three conditions does not guarantee the expected outcome—realised creative dispositions. The combination of all these three conditions proves to be critical in generating sincere interest in innovative works among teens. Smartphone proves to be important in nurturing creativity among young active members of art communities. For example, the 15-year-old girl (U7) was already active in a theatre group. The interest and experience in theatrical performances fulfilled made it possible for the user of smartphones to make videos.

“Power, curiosity, intellectual evolution, and hunger for new experiences” are keys to unleashing the creative potentials, argued Rubin (2012), corroborating Franken (1994) and Magyiari-Beck (1996). Complementing the previous studies, we find that curiosity, joy, and freedom are three key constituents of the innovative spirit of teens. And the sources of those constituents are friends, events, and parents, respectively. The device is the juncture where these three keys converge. Smartphone provides an easily accessible virtual site where creative minds interact, the transformation of the curiosities into reality occurs, and a sense of joy in the fulfilment of the curiosity is generated. Freedom of the users is instrumental in making that happen. The freelancer programmer (K8) enjoyed learning programming by himself on his phone: “I just randomly tried something, did something intuitively, and that’s how I fixed things. I am still not sure how I did those things. I was only playing with them.” Freedom begets joy; he loved playing with things online for fun. “If you do not find pleasure, it is not possible to learn anything. I failed almost 20 times while trying to learn Coding,” he added. The phone worked as a catalyst in both satiating and generating the young boy’s thirst for curiosity and creativity.



Thinking beyond conventional goals is essential to flourishing creativity (Freedman, 2010, p. 12). Smartphones with access to the Internet are a blessing for young students who love doing things differently and creatively (K3). Creativity is nothing but going beyond a given objective (Magyari-Beck, 1996, p. 411). Creative smartphone users changed the purpose of using a smartphone. While traditionally, it has been considered a tool for communication, tech-friendly teens have made it a seminal tool for learning, socialising and collaborating, and also critically reflecting on contemporary issues related to everyday life (M5). The smartphone brings opportunities for teens to engage in diverse and globally recognised forms of creative activities, such as Manga and Cosplay (M9, M10). Creativity is simultaneously an individual and a social activity. Smartphone facilitates unleashing creative potential by making the socialising process more convenient (but less familiar) for tech-savvy teens. Smartphone also allows them to enjoy other necessary arrangements for fostering creativity, i.e., to become “auto-didactic” and to be passionate, obsessive, and immersed in a topic of their interest (Freedman, 2010, p. 12). Being more comfortable in the digital world, smartphone users sometimes find it difficult to comply with the conventional norms of sociality and civility. This unease is both expected and necessary in realising the creative potentials of digital device users as “creativity often thrives on turmoil, marginality and other aspects of disorganization” (Kaplan, 1963, p. 6). The necessary turmoil of creativity is needed to break boundaries and cross-pollinate ideas (Mishra, 2012, p. 16), and a smartphone is an effective tool for making that happen.

## CHAPTER 8

### CONCLUSIONS

Teens use smartphones for innovative work besides entertainment, deviant activities, and socialisation. The findings of the study underscore that young users love performing creative works freely, without supervision or instruction. They enjoy exploring the (digital) world on their own terms. The smartphone is popular because the mobile device is one of the few means teens can use to live their life as they wish to. This digital device earns them recognition, especially from their desired group of people—peers living near and far. The portable device allows them the freedom they crave but are deprived of. However, freedom is no panacea. A good balance between freedom and persuasion is needed to reap the most benefits of the device. Parents need to know more about digital devices, especially their possible productive use, and young users need to be more aware of the potential dangers. Both parents and children benefit immensely by learning about digital devices from each other. Concerns about the adverse impacts of using the device are often valid, but that should not forestall the possibilities of creative endeavours of the inquisitive minds. A better understanding of the use of the device among the elder and younger generations is both beneficial and warranted. Voices of the teenagers must be heard: “Force does not work” (M5). Instead, being attentive to their needs, aspirations, and anxieties is needed. That would make the relationship between parents and children friendlier. More studies need to examine the less appreciated (but important) innovative use of smartphones among other groups, especially students in non-formal settings. Not only do learning and innovation find a new meaning in the era of the smartphone, but they also have a new medium: Smartphone. What is already known and well-recognised is that innovation is hard to imagine without freedom. Freedom is not free; it comes with a cost. Denial of that freedom is far costlier!



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