Uncovering Facebook Photo Tagging Culture and Practices among Digital Natives

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Abstract

Adoption of Social Networking Services (SNS) has gained immense popularity in developing countries like India where digital natives are actively engaging and communicating with these platforms. Understanding the interaction between technology systems and digital natives and proposing guidelines and recommendations for the development of better and good fit systems is highly valuable. Prior research examining users' motivations and actual usage from photo tagging systems is limited and predominately focused on Flickr and adult users while many aspects are completely missing. In order to understand in detail as why, how and with whom, digital natives tag digital photos on Facebook, a qualitative essay based exploratory study is organized with 67 participants in India. The study aims at understanding various gratifications, motivations, experiences and practices around Facebook photo tagging focusing on the technologically savvy Indian digital natives. Our results point out that Facebook photo tagging practices by digital natives substantially vary especially among the gender groups. Facebook photo tagging is popular among Indian boys and they are more willing to embrace and use the photo tagging activity. Meanwhile, the involvement of Indian girls is considerably limited as they tend to avoid Facebook photo tagging mainly due to privacy concerns as well as social norms and pressures.

Keywords: Digital natives, Photo Tagging, Social networking services, Facebook, Human Factors, India

Introduction

Over the years, digital photography has become more viable and common mainly due to the availability of low-cost yet high end digital cameras, enhancement in the inbuilt mobile phone camera and a strong desire to share moments with others online. Online photo sharing services have gained immense popularity in recent years as they offer the users ease of sharing and other innovative opportunities for sharing their photos with other people. Digital photo sharing has been one of the integral part of most of the Social networking services (SNS), especially Facebook. Since the launch of photo sharing feature on Facebook in October 2005, it has been one of the most popular activity as billions of photos have been shared by

its users (Facebook Newsroom, 2013). The integration of photo sharing within SNS has provided the users with unique opportunities such as, communicating, express likings and feelings, and tagging. Photo tagging feature on Facebook allows the users to tag their network friends in their digital photos. The reach and popularity of photo tagging feature can be accessed in a way that within a month of launching this feature, about 85% of the Facebook subscribers got tagged at-least once (Kirkpatrick, 2010). Furthermore, 100 million photos are tagged daily on Facebook (Pesce et al. 2012). Social networking sites (SNS) have gained significant popularity across all regions, age groups, and genders, especially youth. A survey of American youth by the Pew Internet and American Life Project found that 41% of 12–13 year olds and 61% of 14–17 year olds use social networking sites (Lenhart and Madden, 2007). Similarly, another recent study by the same institute observed that adolescents are highly engaged with SNS, as 93% of the American teenagers have a Facebook account (Lenhart et al. 2010). Various activities revolving around digital photos on SNS including sharing, commenting, liking, and tagging has been embraced by teenagers, as every nine out of ten teenagers post their photos on SNS, making it the most popular SNS based activity (Madden et al. 2013). Furthermore, on Facebook which is regarded as one of the most popular and frequently accessed SNS, beside posting on walls, and reading

content, engaging with digital photos including photo sharing and tagging has been one of the popular pastime especially among the adolescents (Bruneel et al. 2013).Even though, mobile phones and ICT use among Indian digital natives have been studied recently (Rangaswamy and Cutrell, 2012; Singh and Goyal, 2009), photo tagging practices among this age group has not been addressed yet. Anecdotal evidences based on our own field studies on the relationship between digital natives and photo tagging practices suggest that this group of users in India actively engage in the photo tagging activity. Despite the popularity and widespread use of Facebook photo tagging feature, little is known about the users' behaviors and motivations behind this activity in the course of everyday life. Why the users practice Facebook photo tagging? What are the associated motivations, gratifications, perceived usefulness, likes and dislikes of digital natives in context of Facebook photo tagging? We argue that getting a deeper understanding of these queries will help the design of improved and effective photo tagging tools and applications aiming at young digital natives as well as SNS users in general.The present study is significantly based on the social media research due to the recent proliferation of photo tagging based mechanisms. To address the gap present in the existing literature on photo tagging and related use behavior, the objective of this study is to examine and determine what factors predict

the use behavior in Facebook tagging activity. The second major gap in the existing literature is that most studies are biased towards understanding digital photographic activities of adults (Klemperer et al. 2012; Weilenmann et al. 2013; Eftekhar et al. 2014), while adolescent users have been rarely studied. This is unfortunate despite the fact that by ratio, adolescents constitute the largest demographic group of internet and SNS users (Lenhart et al. 2010; Madden et al. 2013). To address these problems and fill in this second gap, our study is primarily focused on adolescent photo tagging users on Facebook platform. Therefore, the study results brings insight exclusively on photo tagging use related behavior among adolescents. The aim of this exploratory study is not to give any definite answers to the questions of "how to design photo tagging solutions aimed at digital natives" or "how the futuristic photo tagging systems should look and other similar design considerations. Instead, we want to explore the tagging practices among digital natives in developing countries like India to understand future expectations and inspire further debate and discussion into this research topic. The results based on our rich qualitative data, propose possible new research themes for the development of enhanced photo tagging solutions and even proposes new research avenues for research on digital natives. The rest of the paper is organized as follows. The next section presents background literature covering photo tagging in general followed by photo tagging on SNS and specifically on Facebook. In Section 3, research methodology behind the study is described by discussing research questions, design of qualitative essay, profile of study participants and justification for the choice of research method. Section 4, covers empirical results and findings of our study. Discussion and implications are covered in section 5, and concluding remarks and study limitations are presented in section 6.

Background Literature
Photo Tagging
Tagging is defined as the process of associating a term, label, annotation or simply a "tag" with a piece of information e.g. textual information, document, digital photo, video, blog or bookmark (Nov and Ye, 2010). Tags provide additional information about the content, by adding keywords in the form of metadata (Ames and Naaman, 2007; Angus and Thelwall, 2010). Tagging is useful for large informational content since it enables effective organizing and sharing of large content (Ames and Naaman, 2007; Russo and Nov, 2010). Tagging has been an important feature of number of web services and used in different ways. Web services including Flickr, Last.fm, YouTube, and Delicious enable users to make use of tags for organizing and searching content in own collection as well as publically available pool of content (Ames and Naaman, 2007). Content owners as well as general

users benefit from these social tagging systems to fulfill their information management, memory aid, self-organization, re-discovery, and attention seeking needs (Angus and Thelwall, 2010; Zollers, 2007). Most of the prior research on tagging has focused around developing and evaluating new applications and algorithms (Qin et al. 2014; Malik and Nieminen, 2014; Naaman and Nair, 2008). The aspects of user needs and motivations in relation to tagging has been somewhat confined to collaborative tagging services having limited SNS features for instance, Delicious (Wash and Rader, 2007; Lin and Chen, 2012), and Last.fm (Song et al. 2013; Firan et al. 2007). Similarly, with regard to photo tagging systems, limited research has focused on understanding the actual user needs and motivations of these systems. Most of the prior research examining around the subject is majorly inclined towards collaborative photo tagging and more specifically around Flickr (Ames and Naaman, 2007; Nov et al. 2009; Angus and Thelwall, 2010; Kipp et al. 2014) that offers limited SNS features. It is important to note that the nature and motivations of collaborative tagging is different from tagging on SNS especially on Facebook. The common motivations for performing collaborative photo tagging are easy retrieval of photos, easy to search digital collection, recall any event, person, situation or place from the tagged collection, as well as make contribution towards online community (Ames and Naaman, 2007). However, users carry out Facebook

photo tagging mostly for communication, exposure, commenting, entertainment and affection purposes by engaging with their network contacts (Vasalou et al. 2010; Park et al. 2011). Beside the usage and motivational difference between collaborative and Facebook photo tagging, clear difference can be spotted between the factors affecting the adoption of these two system. In collaborative photo tagging, the users often consider the process as tedious and boring due to which they do not often practice it diligently (Vennelakanti et al. 2011). Additionally, users often lack motivation and will to perform photo tagging on collaborative tagging platforms (Nov et al. 2009; Vennelakanti et al. 2011). On the other hand, privacy, conflicts likelihood and general SNS etiquette and norms are some of the factors that restrict the usage of Facebook photo tagging feature (Damen and Zannone, 2014; McLaughlin and Vitak, 2012).Finally, majority of the preceding research on user behavior and photo tagging has been concentrated on adult users (Russo and Nov, 2010; Malik and Nieminen, 2014; Ames and Naaman, 2007) and digital natives have been mostly ignored. Digital natives refer to pre-teens (aged 11-12 years) and teens (aged 13-18 years) that are born as natives to our digital and technologically savvy world (Vodanovich et al. 2010). Digital natives' understanding and usage of digital technologies is very different from other age groups. This group of internet users have opened their eyes and spent their childhood interacting with online media

environments including SNS, blogs, virtual gaming, and web communities. Social media platforms have been active part of their lives, and they engage actively in generating and consuming content on these services (Bolton et al. 2013). Percentage wise, this group make the highest ratio of internet users as 93% of US teenagers are online and 73% of them use SNS (Lenhart et al. 2010). Hence, it is extremely important to understand various aspects of technology use by this age group that will help in identifying and developing new digital services not only for them but for the whole society.

Photo Tagging on SNS and Facebook

Photo tagging is one of the popular feature of many SNS including Facebook. Facebook uses tags differently from traditional photo tagging as the users can tag digital photos by adding their friends to the photos with a purpose of identifying people in the photo. Adding tags to photos in return informs the tagged users in form of a message alert and their profile gets linked to the tagged photos. In general, photo tagging on Facebook offers limited functionality as compared to full-blown photo tagging or annotation feature, yet the feature is considered novel, entertaining and used widely. Due to its variations from traditional social tagging practice, Facebook photo tagging has different motives and intentions. Tagging photos on SNS increases the visibility of the photos as well as the possibility of further sharing (Besmer and Lipford, 2010). Photos are also tagged for communication,

entertainment, getting feedback and appreciation in the form of comments and likes (Vasalou et al. 2010; Park et al. 2011). Phot tagging on Facebook has emerged as an important aspect of virtual possessions since it enables the users to manage, organize, personalize and share their digital photos (Hampton et al. 2012). The same study found that around 12% of the observed sample of Facebook users tagged any friend in their digital photos in one whole month. Though, only few users are reported that engage actively with tagging but 35% users identified themselves being tagged in the photo of their Facebook friends (Hampton et al. 2012). This shows that at least one-third users are aware about photo tagging practice since they are tagged in the photos shared by others. In another study by Madden (2012), it was found that since many platforms have adopted automated photo tagging, increasing number of users are removing their names from photos that are tagged to identify them. About 37% of the Facebook owners have removed their names from the tagged photos (Madden, 2012). This shows that more than one-third of the users disassociate themselves from the tagged photos. Though the previous research on digital natives and their photo tagging activity is limited, yet the finding are very interesting. For instance, one study observed that teenagers make use of photo tagging function on Facebook to include even those friends who are not present in a specific shared digital photo (Odom et al. 2011). Additionally, new value is

created when the tagger tags and shares a photo online, documenting a special event or experience with a group of friends. This tagged digital photo supports reconstruction as well as re-visitation of the shared past experiences with friends and family (Odom et al. 2011). Photo tagging also creates additional value as the activity is often used for gifting purposes, similar to music sharing among teenagers (Mendelson and Papacharissi, 2010).Prior research has also shown significant gender differences in digital photowork practices. Females are more likely to view, share, comment, and tag digital photos in comparison to males (Junco, 2013; Mendelson and Papacharissi, 2010). Interestingly, females are more often tagged by others in their photos, resulting in more active engagement and effort in un-tagging themselves as compared to males (Pempek et al. 2009). Females consider displeasure with appearance in photos as one of the main reason for un-tagging themselves (Pempek et al. 2009). Privacy is another important factor that leads the users to adopt un-tagging strategies (Klemperer, et al. 2012; Besmer and Lipford 2010; Pesce et al. 2012) e.g. requesting the tagger to remove photo or un-tag manually (Rui and Stefanone, 2013). As females tend to be more concerned than male counterparts about online privacy, they also engage more with un-tagging practices on Facebook (Junco 2013; Pempek et al. 2009).

Despite the popularity of photo sharing on SNS, minimal research has been conducted on the relevant issues, specifically photo tagging in SNS context (Besmer and Lipford, 2010). To date, studies on Facebook photo tagging are quite sparse and have mostly addressed the phenomena scantily (Tosun, 2012; Paradise, 2012), while some research has evaluated privacy issues in relation to photo tagging on Facebook (Klemperer et al. 2012, Pesce et al. 2012, Besmer and Lipford 2010). Limited amount of research has explicitly addressed the users' attitude, behaviors, and adoption of Facebook photo tagging feature. We argue that most of the studies in the domain have focused on social tagging practices on platforms such as Flickr, and almost ignoring Facebook photo tagging. Secondly, majority of the work has been conducted around adult users or analyzing various social tagging data sets. To best of our knowledge, this study is first qualitative research based inquiry that aims at building new knowledge by addressing the Facebook tagging practices, experiences, and motivations specifically targeted towards teenagers of a developing country.

Research Methodology

The current section introduces the research questions, the methodology adopted for the study, general information about the study participants and details about the study settings.

Research Questions

The key research aims of this present study are threefold:

a) To understand various motivations and gratifications of Facebook photo tagging practices among Indian teenagers

b) To examine the perceived usefulness of Facebook photo tagging among Indian teenagers

c) To examine various liking and disliking aspects associated with Facebook photo tagging activity.

Qualitative Essay

A qualitative essay was designed for the purpose of this study that consisted of two parts. First part addressed five main demographics related questions namely age, gender, class-grade, ownership of mobile phone and digital camera among respondents. The second part of the essay consisted of eight qualitative tasks, prepared with the specific aim to address the main research questions of the study. These eight qualitative tasks included different motivations for practicing photo tagging, perceived usefulness of photo tagging, likes and dislikes about photo tagging, attitude when others tag them in digital photos, and type of photos one like and dislikes to get tagged. These qualitative essay tasks were designed based on the objectives of our research, field level discussions with the target user group, and related literature on the subject.Qualitative essay based data collection method offered us the possibility to gain new insights, knowledge and

information about photo tagging and related practices without knowing beforehand about the possible data, insights and research themes we could possibly explore. The main justifications for practicing qualitative essay based research methodology are listed below.

▪ Our literature review concluded that no prior framework or previous research exists that examines digital photo tagging related practices among digital natives. Therefore, this research topic expected an exploratory study to examine and investigate the underlying research theme.

▪ Exploratory nature of the research enabled us to better understand photo tagging phenomenon and related practices, habits, likes and dislikes of digital natives. The qualitative essay on photo tagging resulted in collection of more in-depth and rich exploratory data as compared to other observational methods.

▪ Past research examining technology preferences of young digital natives shows that young teenage girls remain hesitant in expressing their opinions and experiences in front of adult researchers (Isomursu et al. 2003). Due to this reason, focus group discussions and personal interviews were not considered a viable option. Additionally, Indian teenage girls are found to be uncomfortable in expressing their views about

technology usage due to number of reasons including parental controls and peer and societal pressure.

- Qualitative essays enabled the study respondents to answer the eight qualitative essay based tasks anonymously, therefore, we are confident that richness of the data is not affected by the possible fear of openly engaging and answering questions about photo tagging, that is somewhat considered as anti-social behavior in India.

Study Participants

A total of 67 Indian digital natives aged 12 to 18 years participated in the qualitative essay based questionnaire examining Facebook photo tagging and related behaviors. The study respondents consisted of 35 female and 32 male participants. Less than half of the total respondents (43.28%) own a personal mobile phone while around 40% own a personal digital camera. Despite the limited ownership of these devices, all the respondents have regular access to digital cameras as well as mobile phones e.g. those who don't own these devices are using that of parents or siblings. Majority of the study participants are between 13 and 16 years old. 10 participants are 13 years old, 25 participants are 14 years old, 15 participants are 15 years old, while 11 participants are 16 years old. The remaining 6 participants are above 16 years old.On average, each respondent contributed 6.1 qualitative statements, while the effective response rate for the qualitative essay was 76.3%. A total of 409 qualitative comments and statements were collected from the essay participants, boys contributing 180 qualitative statements, while the girls provided 227 statements. The missing response rate of the eight qualitative tasks ranged between 16.41% - 32.83%. The qualitative tasks one and two registered lowest missing response rate, while qualitative task number eight registered highest missing response rate. The possible reason could be fatigue among the respondents i.e. most respondents were enthusiastic in the beginning but experienced fatigue at the end of the essay.

Research Design

The study was organized with two local schools in India's Northwestern state of Punjab in December 2013. English is the primary medium of instruction in both of the participating. The qualitative essay study was conducted in English along with respondents fluent in written and spoken English. A brief information session was organized by one of the authors to motivate our target user group so as to participate in our research. The information sessions were held inside the classrooms and lasted for about 10 minutes where target users were informed about the study, research aims and objectives, ethical norms and standards and other practicalities. This information session was organized at-least two days before the actual study so that willing participants can discuss with parents, teachers and classmates

before agreeing to participate in our research. A short pilot study was organized with 6 teenagers (3 male and 3 female) students studying in Grade 8 and 9. The pilot study enabled us in calculating the average time required for answering the essay, difficulties faced by students in interpreting essay tasks and most importantly, gauge the richness of the qualitative data generated against each of the eight qualitative tasks. The necessary corrections were included into the final qualitative essay after the pilot study. The pilot study data was not included in the final data set. The participating students were given 40 minutes to answer this qualitative essay and study was organized in a separate classroom. The essay answering session was supervised and monitored by one of the authors of the study along with one or two school teachers.Students were clearly informed that study participation is voluntary in nature so they can withdraw their participation anytime while answering the essay. Additionally participants were asked not to write any identification except age, gender and grade they are currently enrolled in. The researcher read aloud each of the eight qualitative tasks on digital photo tagging in order to explain the purpose of the tasks. No compensation, gift or reward was given to the respondents. The collected qualitative data was later processed and certain corrections were made including namely spelling mistakes and expanding short-forms for clearer understanding during analysis phase. The data was analyzed first using affinity diagramming and later on by practicing grounded theory based data analysis approach. Afterwards, the findings and themes generated from affinity diagramming and grounded theory based analysis were compared and discussed by two researchers independently.

Empirical Results

The analysis of eight qualitative tasks on photo tagging shows that teenage boys are much more engaged and engrossed in Facebook photo tagging related practices in comparison to teenage girls. More than half of the boys explicitly mentioned that they are either practicing tagging of digital photos on regular basis or possess expert level experience in performing photo tagging. On the contrary few teenage girls mentioned their active involvement in the tagging practice. Majority of the boys mentioned that they are either engaged with photo tagging activities or at least are aware of the activity. On the other hand, around two-third of the girls stated that they either do not perform tagging, do not know about tagging or do not like photo tagging in general. It is worth mentioning that while conducting the study we also found strong negative attitudes among the teachers regarding photo tagging and social media in general. Teachers usually kept referring to social media and Facebook as anti-social activities. Photo tagging is considered time-wastage and not useful for young children by teachers so it might be possible that teenage girls are also influenced from this belief. Additionally,

teenage girls are also found hesitant in discussing photo tagging or openly admitting engagement with photo tagging activity. A thorough analysis of the qualitative comments of the gender groups show that qualitative comments of teenage boys are more detailed, thorough and often explained with examples. Meanwhile, the descriptions provided by teenage girls are more concise, short and to the point. The possible reason could be the very nature of the research topic as photo tagging is considered anti-social among girls making them hesitant to discuss the topic in detail.Qualitative data also shed light on the different photo tagging practices on popular social media platforms. Facebook is considered the most popular SNS among Indian young children. Both genders, classified two broad categories of photo tagging on Facebook i.e."group tagging" and "cause tagging". Group photo tagging is usually performed with close friends, family, classmates and relatives. Photos that are taken mostly on planned as well as unplanned events are mostly used for group photo tagging. Some of the common examples for group tagged photos are birthdays, weddings, picnics, religious visits, and outdoor school tours. Second form of the classification is photos tagged for creating awareness among masses on various social and noble causes. In this type of tagging, mostly photos shared by other users are forwarded to the selected contacts by tagging them in the photo. Some of the notable examples are expressing solidarity for

earthquake victims, people suffering damages during tsunami, victims of child labor, and educating about traffic rules. The respondents believe that tagging photos of social and noble causes enable them to express their feelings and opinions about a topic or subject that might bring awareness among their contacts as well as society at large.

Motivations for Photo Tagging

Significant differences between genders are spotted in the motivational factors of Facebook photo tagging practice. The motivations of teenage boys are more practical and tangible as compared to the girls. One of the most common motivation for tagging photos among majority of the boys is to receive more likes and comments by tagged friends and family in their digital photos. Overwhelming majority of the teenage boys are of the argument that photo tagging is an easy way to seek attention, gain prestige and social status within their online and offline social circle. These three gratifications are in direct relationship with the number of likes and comments received for any tagged photos. The boys also consider the activity as prestige symbol as it is a mean to receive more appreciation and applaud from classmates and friends in the form of getting more likes and comments on their tagged photos. One of the participants stated *"If I don't tag photos then only few likes and comments are received for the shared photo but last time, I tagged some of my*

pictures and found so many likes and comments by friends and family". Similarly, another boy asserted that "I received 32 likes through tagging one of my picture…". Therefore, the more appreciation in form of likes and comments, higher will be their prestige among the peer group. Photo tagging is also regarded as symbol of socialization among most of the teenage boys. Anyone tagging a boy in his or her photo displays that he is cared, valued, and considered important and by others. Attaining prestige and social status through photo tagging is achieved by selectivity and regularity. Some of the boys mentioned that they are highly selective in tagging photos and they tag their contacts not too frequently. They carefully consider the photos as well as people to be tagged before the tagging activity. They pointed out that tagging only few photos per month or over a given period is better than tagging frequently. Practicing selectivity in photo tagging is also considered a tactic for maintaining prestige and status among their social circle. If the tagging is carried out too frequently and regularly, it can possibly pose negative effects on the repute of tagger. Another most common motivation pointed out by many teenage boys is to identify all the people in the photo by tagging them. This is considered important since other contacts can easily recognize and know everyone tagged in the photo often resulting in more likes and comments. Therefore, the element of identification is also

related to the elements of seeking attention, gaining prestige and social status. On the other hand, all the above mentioned gratifications pointed out by boys are missing in case of teenage girls.Both genders display some similar gratifications including happiness, fun, self-expression, and informant purposes. They consider the practice as a symbol of happiness, expressing that tagging others in their photos is a mean to share happy feelings with friends and family. The respondents stated that they engage with photo tagging as it is a fun activity that offers them joy and entertainment. Photo tagging is also carried out sometimes for self-expression purposes as they can express their feeling of gratitude in form of gifting others by tagging them in their photos. Finally, photo tagging for informant purposes is performed for easily informing or notifying friends and family about a new photo shared online which they might have missed viewing otherwise. Both boys and girls appreciate getting tagged in photos representing special events, such as weddings and festival celebrations. Usually on these special events lot of group photos are captured and shared online. Both genders possess high motivation towards getting tagged in group photos. Boys appreciate getting tagged in a group photo especially with group of friends together since it bring prestige, honor and mean to attain gratitude from friends in front of the entire social circle. Teenage girls also prefer to

get tagged in group photos, however they did not mentioned any relationship between motivation for getting tagged in group photo and social status, prestige or honor. Teenage girls prefer to be tagged in group photos especially with family, relatives, and close friends. Most of the girls specifically stated that they would never tag or like to get tagged in their own self-portraits. One possible justification for this behavior can be privacy concerns and parental influence.Similarly, gender differences also exist in the preferences for being tagged in group photos. Boys strongly prefer to be tagged in a group photo where they have a personal presence. The boys expressed strong reservations against someone tagging them in a photo where they are not present in the photo. Interestingly, personal importance in form of presence in the tagged photo is highly valued among the teenage boys. Similar to personal importance the boys are also concerned about their personal appearance in the tagged photos. Boys like getting tagged in photos if they appear nice, cool and funny, for instance one of the respondents stated *"If I am looking nice then I don't mind being tagged in a photo".* Additionally, getting tagged in photos on nature, wildlife, TV celebrities and group of friends together is also appreciated by boys. On the contrary, girls do not have concerns if they are tagged in a group photo in which they do not have a personal presence. However, the girls preferred

to be tagged in photos that are meaningful and possess some value for them. Unexpectedly, teenage girls do not display any reservations for personal importance and personal appearance in the tagged photos as boys do.

Perceived Usefulness of Photo Tagging

The study results also reveal significant gender differences on the perceived usefulness of the photo tagging practice. Most of the girls expressed low level of usefulness of photo tagging and more specifically tagging personal photos. Majority of the teenage girls are of the opinion that photo tagging is unnecessary, not useful, time wastage, and intrudes personal space and privacy. However, few girls perceive photo tagging as a useful activity as it enables them to communicate, express and inform friends and family about any recently shared photos. Few girls also pointed out fashion and peer influence as other reasons attributed to the usefulness of photo tagging activity. The girls consider the activity as a fashion symbol because tagging is a common activity between their friends and classmates and they keep hearing quite a lot about Facebook tagging from various sources. Similarly, peer influence also plays an important role as their friends and family members, especially siblings and cousins engaged in the activity persuade them by briefing the importance and benefits of the activity. Besides that perceived usefulness of tagging activity among few girls, many girls reveal common reasons for lower

perceived usefulness of the activity. Most of them exhibit fear of breaking their privacy and personal space through tagging. The girls are hesitant towards tagging their photos with others since they strongly believe that tagging photos will be accessible by even those people who are not in their friend list. They do not wish their photos ending up in the hands of strangers because of social, cultural, and family norms. Due to these concerns, girls are extra cautious while tagging or sharing any of their personal photos even with close friends. Lack of online privacy literacy, potential for misuse of personal photos and need for own personal space are some of the other reasons for uneasiness and lower degree of comfort with tagging activity. These above mentioned reasons clearly demonstrate potential negative impact on the perceived usefulness of Facebook photo tagging. Similar to teachers, some parents also possess negative attitude towards Social media that lead to lower perceived usefulness of the activity. The girls are also pessimistic about the activity due to strict parental control of ICT usage including mobile phones and internet as well as their low endorsement towards new technologies. Finally, as discussed earlier, photo tagging is considered an anti-social activity by elder especially teachers and parents and this common belief among teenage girls makes them perceive the activity as useless and unproductive. In comparison to girls, boys are found emotionally as well as technically inclined towards photo tagging.

An overwhelming majority of teenage boys perceived photo tagging as useful, and more than half do not consider it as a time wasting activity. Some of the common reasons and justifications for higher perceived usefulness of photo tagging among boys is similar to the usage motivations described in the previous section. The boys consider the activity useful as it can be used for gaining prestige and appreciation, personality gauging, and gifting purposes. According to boys, tagging a number of friends in a shared photo helps them in gaining more visibility among their network that eventually results in more likes and comments especially from those tagged in the photo. The number of comments and likes received against a tagged photo defines the tagger's social status and prestige. As a thumb rule, higher the number of comments and likes, higher is the prestige and status in the social network. The respondents consider the activity useful as it also helps them in gaining appreciation and importance from others. Similar to previous gratification, higher number of comments and likes is one way of gaining and judging appreciation and importance. Gaining positive comments and likes against their photos ultimately give them feeling of happiness and contentment. Tagging is also considered a useful activity as it can be used for gauging the personality of network members, especially friends and classmates. Many respondents argued that by looking at the nature of the received comments and likes, one can gauge the personality of fellow

classmates and friends. Lastly, the boys consider the activity useful as it enables them to participate in the online gifting culture by tagging others in their Facebook photos and their friends doing the same in return.

Photo Tagging Liking and Disliking

Compared to girls, teenage boys more expressively informed about their preferences and choices in context to their liking and disliking for photo tagging activity. As stated earlier an overwhelming majority of teenage boys like photo tagging and related practices. On other hand vast majority of teenage girls disapprove photo tagging practice. Most of the reasons and justifications for strong attraction to the photo tagging activity especially by boys has been extensively covered in the previous section. A large number of boys are of the opinion that tagging photos is a fun and entertaining activity that provide them good feelings after they tag or get tagged by friends and family. One of the respondent stated "… *when I tag my friends then I receive more likes and comments on the tagged photo hence I feel good*". According to another respondent "*Last Sunday, one of my friend tagged me in a funny photo and I like it*". Teenage boys like the activity because it is often considered as a gifting phenomenon among them as one of the boy expressed *"When my friends tag me in their photo it shows that my friends cares for me, and in return I do the same"*. Hence, tagging is considered as a mean of online

gifting that offer special meaning and importance for tagger as well as the persons tagged in the photo. Teenage boys like tagging as they can express their opinions and feelings in form of a photo to a broader audience. Tagging photos is also cherished by the boys as it offers them an opportunity to express and raise their voice for various social causes and activities with broad audience effortlessly. For example, one of the participant mentioned "*I tagged my friends in a candlelight march photo to register my protest against the recent Delhi rape incident*". The respondents feel empowered with photo tagging as the activity acts as a tool for supporting various social causes and generating awareness among people. Even though majority of the boys like photo tagging in general, they expressed some concerns of disliking, mostly focused on being tagged by others. They dislike being tagged in a photo that is not meaningful or somewhat against social and cultural norms. For instance they would strongly object being tagged in abusive language and terms used against any person, religion, or ethnicity. Being tagged in an objectionable photo causes irritation and might also generate negative impression about the tagged person in his own social circle. They stated that in such situations, they will simply hide that activity from their timeline or un-tag themselves manually from the photo. Additionally being tagged in boring photos containing no element of fun and intuitiveness is

also disliked by the boys. Interestingly, majority of teenage boys are quite watchful on receiving any sort of negative criticism from fellow classmates and friends on tagged photos. They believe that public negative criticism on their online activity might have negative effect on their social status and self-esteem in their social circle. The comments also suggest that if a tagged photo receives negative criticism then it is likely that the person will actively engage in measures for disassociating from that photo. Similarly a tagged photo that carry along negative or derogatory comments for the family and very close friends then it is quickly untagged or deleted. Few respondents also stated that though the activity is fun and cool but sometimes it takes extra effort and time to think carefully about the photos to tag their friends and selecting appropriate and relevant friends for tagging their photos. The tagging activity does not end after one is done with tagging others in his photos, as sometimes the tagger has to actively follow the discussion emerging around the tagged photos. As referred earlier, in contrast to boys, photo tagging among girls is not popular and considered an unattractive activity. Majority of the girls specifically stated that they do not like tagging photos or being tagged in photos shared by others. Most of the girls consider the activity as useless and time wastage activity. The underlying reason for low involvement and attractiveness with photo tagging

can also be attributed to the fact that most of girls do not like to share their personal photo with others. In general, the girls feel uncomfortable if someone tags them in their photos, as one of the respondent stated *"I don't want to get tagged in someone else's photo, I am seriously unhappy when someone tags me in their own photos"*. Privacy concerns, social norms, and parental controls and influence are some of the other reasons that lead the girls to dislike the photo tagging activity.

Discussion and Implications

This study explores various motivations, experiences, likes and dislikes, needs and practices of Indian digital natives in context to photo tagging. The aim of this exploratory research is to explore the concept of Facebook photo tagging and related motivations and practices, considered popular and on rise among digital natives of a developing country. The knowledge gained from the qualitative research enables us to gain better understanding of our target group and gain insight to prepare preliminary framework and inform future research on the subject. The study contributes by informing about the practices and associated needs of digital natives from technology use, particularly Facebook photo tagging among teenagers. The study results provide insight on the potential gratifications and motivation among boys and girls for practicing photo tagging in their daily

routine. In line with previous research, the current study results show a clear difference between the usage and motivations of photo tagging among the gender group (Rui and Stefanone, 2013; Junco, 2013; Pempek et al. 2009). The results suggest that teenage boys see photo tagging as prestige symbol, socialization icon, and a tool for receiving more likes and comments. They use Facebook photo tagging to honor and pay regard to other members of their network, especially friends. Teenage boys also engage in Facebook photo tagging to gain social status and attention among their peers. Interestingly, personal appearance is considered very important for teenage boys that is usually an important consideration for females (Pempek et al. 2009). Meanwhile, teenage Indian girls gratify with Facebook photo tagging mainly for self-expression, fun and happiness. The study results also suggest significant gender differences in the perceived usefulness of Facebook photo tagging among boys and girls. Overwhelming majority of the boys perceive photo tagging as highly useful in contrast to girls whereas marginal number of teenage girls perceive it useful. Teenage boys perceive photo tagging useful due to its direct impact on their social status, prestige, and self-expression. On the contrary teenage girls expressed high perceived usefulness of Facebook photo tagging mainly due to evolving peer influence and fashion symbolism. Teenage girls often perceive the activity useful as it enhances empowers them in communicating with others. The girls also informed about the reasons for lower perceived usefulness for Facebook photo tagging. Parental control and influence is considered as one of the main reason for this perception. Cultural norms and attitudes can be one possible explanation of this perception, as in India, compared to teenage boys, girls more often face stricter control of technology usage by their parents. Additionally, privacy concerns and intruding personal space are also some of the reasons for lower perceived usefulness of Facebook photo tagging among teenage girls. This finding is pretty much aligned with previous studies that point out stronger concerns for online privacy among females as compared to males (Rui and Stefanone, 2013; Pempek et al. 2009).Gender differences are also spotted in potential liking, disliking and usage frequency of Facebook photo tagging activity. Similar to previous finding, there are clear differences between both genders on this issue. An overwhelming majority of teen boys cherish Facebook photo tagging in comparison to teenage girls. Boys mostly dislike the tagging activity due to fear of criticism that can lead to negative reputation among the network. They also dislike being tagged in objectionable and abusive content shared by others. Embracing the activity by boys is mainly centered on the previously expressed gratifications, motivations and reasons for higher perceived usefulness. On the contrary,

teen girls like Facebook photo tagging if the activity is performed on group photos containing family and friends. Ensuring privacy also helps in liking the activity by female participants. Disliking of the Facebook tagging activity can be explained by results, the girls considered photo tagging as a time wasting activity and most of them are uncomfortable doing it due to family pressure and social norms. Interestingly, most of the above findings are inconsistent with previous studies that point out high engagement of females as compared to males with overall digital photowork activities on SNS (Junco, 2013). On the other hand, our results perfectly align with the findings by Pesce et al. (2012), indicating that Indian and Brazilian males are comparatively more engaged with Facebook photo tagging activity (Pesce et al. 2012). The differing results between these can be explained by the fact that the study by Junco (2013) was conducted with Americn participants, meanwhile ours and Pesce et al. (2012) study was conducted with Indian participants.We believe that the better understanding of potential gratifications, perceived usefulness and potential liking and disliking of photo tagging could inspire novel and good fit photo tagging solutions. We feel that these aforementioned topics namely gratifications for photo tagging and potential reasons for dislike are opposite side of the same coin. Therefore, designers and relevant stakeholders must take

them into consideration while designing potential photo tagging solutions. These topics will certainly benefit from more attention and future research investigations. The future work can perhaps aim at preparing potential framework having causal relationship between perceived usefulness and gratifications and different challenges and constraints in practicing photo tagging. Additionally this possible theoretical framework could be tested via a controlled quantitative survey with similar target user group from India. For the digital nativity and associated research, our rich qualitative data some of the definite answers about different motivations, practices, likes and dislikes and important experiences on photo tagging systems among digital natives. In line with Kinnula et al. (2012), we also agree that it might be so that digital natives do not different from adults in terms of how they make use or access photo tagging. But significant differences might do exists in terms of what digital natives use photo tagging for, what needs, expectations, experiences and assumptions digital natives possess from photo tagging systems.

Conclusion

This qualitative research based exploratory study has tried to give answers to most of the research themes that were outlined in the beginning of the paper. This study has clearly added new knowledge into the practices of digital natives in context to

photo tagging in the development world. The previous research examining user behavior, habits and practices in relation to photo tagging systems has been mostly studied from adult users' point of view, while young digital natives are mostly ignored. Additionally, most studies examining digital natives are organized in developed world with strong focus on the technology needs and practices of digital natives dwelling in the western countries ignoring digital natives in the developing countries. The possible cause for this imbalance could be the popular belief that digital natives only dwell in industrialized economies. However in reality, young children from developing world are also quickly transforming themselves into digital natives and are becoming at par with their counterparts in developed world in terms of ICT usage and ownership. Similar to other recent work examining digital natives and technology use (Vodanovich et al. 2010; Kinnula et al. 2012), we also believe that digital natives should be considered distinct from adult users and this research should be pursued further. The increase in broadband connectivity, easy accessibility of the low cost yet high-end digital media and ICT has changed the current practices, motivations and behaviors of digital natives even in the developing world. This development has not only affected the technology needs, expectations and requirements of today's digital natives but also going to affect the design of the potential technology systems in the near future. Qualitative essays were solely designed for the purpose of this study since we faced different practical challenges in safely organizing this research with young digital natives in India. It is found that qualitative essays are effective in gathering rich qualitative data on a given controversial theme (photo tagging is seen as anti-social, time wastage and not useful) in a shorter time span. Qualitative essay method enabled our respondents to anonymously register their opinions, experiences and needs from photo tagging systems without revealing their identity and contributing towards the development of potential photo tagging solutions that are better and of good fit compared to the present photo tagging solutions. However on the negative side, we found that since qualitative essays are non-guiding research data collection tool making it difficult for the researchers to know the reasons and possible justifications for some of the underlying themes. This would have been possible in case of focus discussions and interviews where participants can be interrupted anytime to know more about a given theme.

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