

RESEARCH BRIEF

Millennials in the Information Age: Disjuncture Amidst Technological Innovations

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The concept of information society was conceived by Daniel Bell (1976) to highlight the information domain and the corresponding technological innovation that goes with it during the post-industrial society (Webster, 2005). With the development of information and communication technologies (ICTs), particularly of the Internet in the 1990s, Manuel Castells (1997) published the book entitled *The Power of Identity: The Information Age – Economy, Society, and Culture* using the network society as his metaphor. He pointed out that the network creates a web of information flows along with the movement of people and products across the globe (Castells, 1997). Castells (1997) highlighted that the Information Age ushered in various social changes. Information, ideas, images, and symbols are transmitted across the globe at a faster, wider, and global scale at any given time. It impinges upon the social, economic, cultural, political, personal, and even psychological aspects of our existence, creating ramifications at varying levels, scope, and magnitude. As it keeps fascinating us, it also brings about certain challenges.

The use of ICTs has been analyzed by Tapscott (1998) in the 1990s. He referred to those born between January 1977 and December 1997 as the “net generation” to emphasize the peak of the digital revolution effecting changes in the lives of these people. On the other hand, Prensky (2001) used the term “digital natives” to refer to the young people who practically grew up in the world of computers, video games, and the Internet exploring the digital

space for social interaction, self-expression, and identity formation. Other terms like generation next, iGen, Google generation, and the most common term, “millennials,” being used nowadays would refer to the youth of today who practically grew up amidst the Internet and technological innovations.

Because of the prevalence of the use of the Internet, social networking sites (SNSs) also become pervasive in providing the necessary system of networks for better connectivity, expression, and articulation among the millennials of common interest (Radi, 2003). Communication is now easier and faster and cuts across spatial boundaries connecting people from across the globe. At the macro-level, education is highly favored by ICT advancement as more information can be accessed digitally in just a snap of a finger (Myers, 2016). Electronic learning or e-learning is making education more accessible. The growing trend of e-commerce, along with telecommuting, increases productivity, thus making the economy more dynamic and vibrant (Nuncio, 2019). At the micro-level, even romantic love has been facilitated by the Internet as more and more dating applications have been made available.

In 2005, 87% of the youth ages 12 to 17 had used the Internet. Every day, almost 11 million teens go online. From 2005 to 2018, people using the Internet grew from 1 billion to 3.9 billion, as estimated by the International Telecommunications Union (ITU, 2018). The Broadband Commission for Sustainable Development said that by the end of 2019, half of

the population of the world will be connected to the Internet (ITU, 2018). The Connect 2030 Agenda aims to connect 70% of all the people across the world by 2023 so that key social and economic resources will be made accessible in this growing and expanding digital world. Furthermore, by 2025, a 75% connection rate is targeted. On average, Internet users spend six hours a day through Internet-powered devices and services based on the 2018 global digital report (We Are Social, 2018).

A study by Rappler.com and Globe Telecommunications Company (2016), revealed a 43% growth in Internet use in the Philippines. According to the 2018 Global Digital Report by the creative agency, We Are Social, 67 million Filipinos went online, spending 3.2 hours on mobile and 5.2 hours on desktop and tablet just to view social networking sites in 2017.

The use of the Internet is phenomenal and has been creating changes that even some structures of society cannot cope up with. William Ogburn (1886 – 1959) called this “cultural lag,” highlighting how cultural factors are affected by technological developments (Lauer, 1973). Ogburn’s theory nuances unequal rates of change of the interdependent parts of a culture given certain technological advancements (Lauer, 1973).

The study aims to revisit national data to validate this growing concern on Internet use and will highlight existing cultural lag that may cause disjuncture if proper and timely social and legal interventions are not put in place.

Methods

The study relied on the use of secondary data by the Demographic Research and Development Foundation, Inc. and the University of Philippines Population Institute’s (2016) 2013 Young Adult Fertility and Sexuality Survey (YAFS4). The survey is the fourth in a series of national surveys conducted among young adults ages 15–24 (Natividad, 2016). The first YAFS (YAFS1) survey was conducted in 1982, covering only young women on the issue of fertility. The second round was done in 1994, covering both male and female respondents compared to YAFS1. YAFS3 was done in 2002, expanding the age of the respondents from 15–27 years old to look at the marital behavior among the youth. YAFS4 used the same set of questionnaires of YAFS3 but added questions pertaining to widespread

cell phone and Internet use, health and lifestyle, and self-assessed well-being.

Surveys and literatures from cases in other countries were used to establish the need for a nationwide empirical research in the Philippines to analyze the evolving phenomenon of Internet use. The study highlights the need for appropriate and timely social and legal interventions that are lagging in abating further disjunction and negative consequences.

Results

Nationally Representative Surveys and National Statistics on Suicide - USA Case

From 2010–2015, there was an increase in adolescents’ depressive symptoms, suicide-related outcomes, and suicide rates based on two nationally representative surveys and national statistics on suicide rates among U.S. adolescents. According to Twenge, Joiner, Rogers, and Martin (2018), mental health issues are more likely reported among adolescents who spent more time on social media and electronic devices such as smartphones. Teens spending five or more hours a day online were 71 per cent more likely than those who spent only one hour a day to have at least one suicide risk factor such as depression, suicidal ideation, making suicide plan or attempting suicide. The study also concluded that spending two or more hours a day of time online significantly increases suicide risk factors (Twenge et al., 2018).

Adolescents, which Twenge et al., 2018 referred to as the iGen, spend less time on in-person social interaction, sports and exercise, homework, print media, and attending religious services, which may also account for increases in depression and suicide. As iGen spends less time in face-to-face interaction and more and more time online, lesser time is devoted to sleeping, increasing mental health vulnerability. Given less definitive research findings, the study could only imply recommending lesser screen and time online rather than just keep the status quo of incurring high social costs of depression and suicide (Twenge et al., 2018).

The Royal Society for Public Health 2017 Survey – Britain Case

A study of the Royal Society for Public Health on social media users in Britain among 14–24 years old linked heavy use of social media to mental illness

(“Joe heavy use of social media is linked to mental illness,” 2018). The impact of the use of Facebook, Instagram, Twitter, and Snapchat highlighted benefits such as self-expression and community building among their users. However, negative consequences far outweighed the positive effects since users of such platforms experience anxiety, depression, sleep deprivation, worries about body image, and FOMO or fear of missing out.

David Myers: A Social Psychology of the Internet

Although Internet use created social benefits, it also comes with some risks and social costs, as stated by Myers (2016). These social costs are the following:

Deindividuation – faceless anonymity enables sexual exploitation, piracy, hate speech, and meanness of cyberbullying.

Time diversion from a face-to-face relationship – internet addictions to gambling and pornography may disrupt and drain time from healthy relationships and productive work.

Slacktivism – the effortless signing off online or sharing of prosocial videos may substitute feel-good Internet clicks for a real and costly helping.

Self-segregation resulting in group polarization – people selectively exposing themselves to think-alike media and bloggers and like-minded groups may shift toward the extreme through the Internet echo chamber effect, leading to group polarization and greater social divisions.

Young Adult Fertility and Sexuality Survey (YAFS4)

YAFS4 was conducted in 2013 as the fourth round in a series of surveys using a nationally representative sample of Filipino young adults of 15–24 years of age (Natividad, 2016). The survey was funded by the Australian government through the United Nations Population Fund (UNFPA) and by the Department of Health’s Health Systems Research Management Grants facilitated by the Philippine Council for Health Research and Development (PCHRD).

Cellphone use. The Public Telecommunications Policy Act of the Philippines of 1995 (<https://tinyurl.com/rtkqzpt>) deregulated the telecommunications industry in the Philippines. The Public Telecommunications Policy Act facilitated ICT development in the country and made cell phones so popular among the Filipinos, leading to 78.3% ownership among the youth (Laguna, 2016). Though primarily used for communication, the introduction of smartphones in the market, along with its enhanced functions and applications, made it so popular among the youth. Among the many uses of the cell phone, the survey showed 99.4% of the respondents used cell phones for communication, whereas 47.6% used it for entertainment (Laguna, 2016). Its use keeps on evolving from just plainly for communication to entertainment purposes like listening and downloading music, playing online games, watching and downloading videos, surfing the Internet, and taking and storing pictures.

Internet use. Internet use among the Filipino youth was only about 2% when YAFS3 was conducted in 2002. However, this grew to 58.9% in 2013. Internet use facilitated social networking, checking emails, chatting, doing school work, and entertainment.

Exposure to pornographic materials through videos. The survey revealed an increase in the exposure of the youth to pornographic materials through videos. From 2002 to 2013, watching pornographic videos online grew from 55% to 57% among the youth. Exposure was highest among college students at 63.3%. For the Filipino youth or the millennials, some norms are still restrictive, particularly when it comes to the discussion of sex-related topics. The Internet has given them the option to access some information discreetly. According to McKenzie (2007), one of the most researched topics online is related to sex. YAFS4 further revealed that 26.3% of those who were using the Internet accessed websites with sexually explicit content. The study of Myers (2016) reminded us of possible addiction to pornography and gaming, favoring more time spent online rather than having a face-to-face interaction.

Filipino millennials and their dilemma. Although YAFS4 indicated the prevalence of cell phone and Internet use among the Filipino youth, the national survey only mentioned exposure to pornographic videos as one of the potential problems encountered by the millennials in the country. It is not even clear if the 2% increase in exposure to pornographic videos

is attributed to the increase in Internet use among our millennials or not.

The national survey provided data on depressive symptoms using the 12-item version of the 20-item Center for Epidemiology Studies – Depression (CES-D) scale used to screen depression among the general population. The survey revealed a mean score of 19.5 from a scale ranging from 12–36. The survey also covered life satisfaction, self-esteem, and self-rated happiness using different indicators and scoring methods. The self-esteem score was 18.5 from a scale ranging from 0–30. Life satisfaction was also measured using the question, “How satisfied are you with your life as a whole these days?” while showing flashcards numbering 1–10 in an array, with 1 labeled as dissatisfied and 10 as satisfied. The same procedure was used in measuring self-rated happiness in answering the question, “Taking all things together, would you say you are...” while pointing to the appropriate number in the array of flashcards being shown with 1 as being not happy at all and 10 being very happy. Mean scores of 7.2 and 7.9 were estimated for the life-satisfaction rating and self-rated happiness, respectively.

What seems to be lacking in this nationally representative sample survey among Filipino millennials are the number of hours being spent in social media and other electronic devices so that attribution to suicide risk factors can be determined. As shown by the study of Twenge, et al. (2018), mental health issues are more likely reported among adolescents who spent more time on social media and electronic devices such as smartphones. Statistics on the national suicide rate is also very pertinent to ascertain the disjuncture caused by an increase in Internet use among the millennials. The report amongst teens from the U.S. also showed that an additional two or more hours a day spent online could significantly increase suicide risk factors such as depression, suicidal ideation, making a suicide plan, or attempting suicide. All these issues can only be addressed if necessary information at a national level is available for better policy formulation.

Information can also be disaggregated in terms of the use of applications such as Facebook, Twitter, Snapchat, and Instagram. The findings (“How heavy use of social media is linked to mental illness”, 2018) revealed amongst the teens from Britain ages 14–24 years old showed that the use of these social media platforms has negative consequences such as anxiety,

depression, sleep deprivation, worries about body image, and FOMO. A national survey can also be implemented, incorporating these issues to establish an empirical basis.

Nuncio (2019) pointed out that Internet addiction, online game addiction, Facebook intrusion, Internet use disorder (IUD), and Internet gaming disorder (IGD) are being experienced by the youth nowadays. The above-mentioned addictions and disorders may lead to personality disorder, psychological maladaptability, health problems, and even death if necessary interventions are not implemented. Nuncio (2019) further noted the lack of published scholarly output regarding this matter as far as the Philippines is concerned. He argued the need “to study the phenomenon objectively and scientifically and publish those findings in reputable and refereed journals” (Nuncio, 2019, p. 295).

Summary of the positive effects and negative consequences of Internet use. Table 1 summarizes the positive effects and negative consequences of Internet use based on the different studies conducted in the U.S., Britain, and the Philippines. The education sector benefits from Internet use and the expanding digital world through the advent of e-learning and the availability of massive digital information online.

Another sector that is highly favored by the prevalence of Internet use is the economy. E-commerce is now the business of the 21st century as more and more goods and services can be marketed online across the globe. Telecommuting made the market more dynamic, making the telecommunications industry as the most viable sector of the economy. With 3.8 billion people using the Internet in 2018, it is not surprising to note that The Connect 2030 Agenda aims for a 70% and 75% Internet connectivity by the years 2023 and 2025, respectively. The viability of the market is encouraging as we talk about 70–75% of the world’s population as potential consumers (We Are Social, 2018).

The Internet is important in the case of the Philippines because it sustains the connection and communication with the relatives who are residing or working overseas. However, as connectivity is increasing, disjuncture also increases among the prime movers and users of the Internet, the millennials. Looking at the social, personal, and psychological effects, the negative consequences seem to outweigh the positive effects. Although there is a faster and

Table 1*Summary of the Positive Effects and Negative Consequences of Internet Use*

LEVEL OF IMPACT	POSITIVE EFFECT	NEGATIVE CONSEQUENCE
Education	E-learning Massive digital information	
Economy	E-commerce Telecommuting	
Social	Faster communication Better connectivity Community-building	Lesser face-to-face interaction Pornography Sexual exploitation Piracy Hate speech Cyberbullying Slacktivism Group polarization
Personal/Psychological	Self-expression Self-identification Finding romantic love	Worries about body image Deindividuation Anxiety Depression Suicidal ideation Suicide

more efficient communication across the globe, better connectivity at an instant, and different communities established online catering to the diversity of categories and idiosyncrasies, social costs cannot be discounted nor ignored. Lesser face-to-face interaction deprives individuals of the fundamental lessons and values of real versus virtual social interaction that is now becoming the norm. Other interpersonal skills are compromised because of such changes in social dynamics.

Although Internet use can provide discreet ways of accessing information about sex-related topics, which are not discussed overtly under normal circumstances due to cultural nuances, accountability may become an issue. Sexual exploitation can be facilitated because of the faceless anonymity provided by the Internet. Such anonymity may also encourage piracy, hate speeches, and meanness through cyberbullying. Establishing accountability is very difficult as there is no legal framework that will counter such a problem.

Slacktivism may divert real and actual social and political participation on the ground because engagement is done in just a click of a finger. Petitions are being signed online, whereas advocacies

through videos and other infographic materials are just uploaded on the Internet to reach out to more people conveniently. Fund-raising and other charitable undertakings are also being done on the Internet, given the financial constraints and viability.

Communities are being formed in the digital world through various social media platforms. Blogs, social communities, and Facebook groups, for example, provide like-minded people an echo chamber to strengthen and amplify views and opinions in support of one another. This mutual association and concern may lead to segregation, as these like-minded people isolate themselves from the rest of society. Segregation may further encourage social division as people become more polarized that may lead to racism and radicalism, depending on the amplified social issues being upheld.

At a personal level, Internet use provides an avenue for self-expression and self-identification, especially to those people who are introvert and can only comfortably and confidently articulate themselves virtually. The Internet is such a relief to them from the burden of actual face-to-face interaction. The prevalence of different dating sites allow for a casual

meet up and the prospect of romantic relationships to flourish.

However, too much dependence on the Internet can lead to worries about body image as comments cannot be filtered online. Millennials encounter hate speeches and cyberbullying in social media because not everyone observes and practices responsibility and accountability. What is even more compelling is the increasing number of millennials experiencing anxiety and depression.

Although there are no national statistics that will establish these cases in the Philippines, borrowing data from the U.S. and Britain would compel us to act accordingly before suicidal ideation and suicide rates cost more lives amongst Filipino millennials. The study by Twenge et al. (2018) concluded that spending two or more hours a day online significantly increases suicide risk factors. This has already been reported by the study of Rappler.Com and Globe Telecommunications Company (2016) as 67 million Filipinos went online, spending 3.2 hours on mobile and 5.2 hours on desktop and tablet just to view social networking sites. Although the data was not disaggregated according to age, this would already imply some caution because it would only take two hours of Internet use a day before suicidal risk factors such as depression, suicidal ideation, mapping out a suicidal plan, and actual suicide could occur among the millennial users.

At this point, what is clear is that the Philippines seem to be lagging in responding to the Internet phenomenon. Agence-France-Presse, for example, reported a new law that was implemented in France last August 2018 under the presidency of Emmanuel Macron (Beardsley, 2018). The law, hailed as the law for the 21st century, mandated students under 15 years old to turn off their phones during the day or put them in their lockers while in school with exemptions to the ban for students with disabilities. France established a legal framework in response to the growing concern on students who are becoming too dependent on and distracted by their phones.

Policy implications for the Philippines vis-à-vis Internet use. Realizing that the Philippines is still quite far behind in addressing this growing concern on Internet use, the policy recommendations of Nuncio (2019) will be very relevant if we want to progress along this direction. Given that the problem is transdisciplinary in nature, the national government,

along with the other sectors such as the academe and the medical professionals, can start by initiating a nationwide study on the different Internet addiction and disorders to establish the current situation of our youth. Without empirical evidence, interventions cannot be identified and appropriated.

Data generation would also be very timely because YAFS5 is scheduled to be implemented in 2020. It would be ideal if coordination will take place among various stakeholders to push through with a national survey that will generate pertinent information in this regard and may be used as a basis for further analysis and future policy considerations.

Parents and other family members must also be involved in addressing the problem because they can help in monitoring, regulating, and supervising their children so that they may be guided accordingly. Organizing them through various seminars, conferences, and forum will increase awareness and may eventually lead to greater responsibility and accountability.

Just like in France, schools can also contribute significantly to identifying appropriate interventions because children spend most of their time in schools. Activities that give premium to social interaction may be promoted so that the value of face-to-face interaction may be internalized and appreciated more than the virtual reality being offered by the Internet.

Barangay officials and the community, in general, also have a stake in giving support to address the social costs of Internet use. Ordinances can be drafted to provide guidelines on monitoring and regulating Internet cafes in the area. The community can also organize events and activities to foster social interaction and community building amongst the members. In doing so, more and more time can be devoted to actual face-to-face interaction, and interpersonal skills can be developed and nurtured.

Lastly, the youth themselves should also be involved in addressing this concern because they are the ones directly affected by the problem. The millennials are the ones next in line in preparing for the trajectory of the future undertakings and development pursuits. As they are the generation born amidst the technological advancements, they have the authority and the credibility to define, understand, and identify the dynamics, complications, and the disjuncture behind these technological innovations specifically within the Information Age where Internet use dominates the digital world.

Holding regular forums to provide venues for discussions and information campaigns can increase the level of awareness regarding the issue. Engaging the millennials in addressing this pressing issue may empower them to become effective advocates accountable to the welfare of their fellow youth.

Advocacies can enjoin other stakeholders to be more involved and accountable so that sound and appropriate interventions through activities, projects, programs, ordinances, and eventually laws can be identified and implemented the soonest before the issues get even worse.

Emmanuel Mesthene (1970,) stated that the introduction of new technologies alters the available choices, offering new options while rendering previous choices less desirable if not obsolete. He called this process *soft determinism* as technological innovations open up possibilities, which we may or may not opt to try or adopt. Technology creates disjunctive consequences that has to be anticipated so that benefits can be maximized while minimizing potential negative ramifications. This disjuncture is highlighted in the way the millennials live their lives. The continuous expansion of social and digital media made modern life easy and complicated at the same time.

We now experience cultural lag as the society slowly realizes the fast-paced changes that Internet use impinges upon the youth of today. The Philippine situation is a case in point where social costs of Internet use are not substantiated by national data or study that will facilitate appropriate and timely interventions. Interdisciplinary actions should be undertaken to uphold scientific integrity and ethical considerations to help us pursue technological innovations and developments that genuinely uphold the well-being of most, if not all, of the members of the society.

Conclusion

There is no doubt that ICTs, specifically the use of the Internet, have brought forth great benefits in the economy, education, and communication sectors. This new phenomenon has been evolving so fast that some social structures have been lagging. Although technological innovations created many opportunities, negative consequences cannot be ignored.

As we live in the Information Age amidst the network society where changes happen at a faster,

wider, and greater scope, we are all caught up in this web of information that we struggle to understand and make sense of in our day to day undertakings. After almost 30 years since its adoption in our society, the effects of Internet use have never been analyzed nor revisited. It has carried us all away for a fast ride without allowing us some time for assessment and introspection.

The data and cases from the U.S., Britain, and France should serve as a wake-up call to finally look into the issue with greater caution and discernment. It has to compel us to take the necessary steps and act upon it. The millennials are continuously drawn into the web of technological innovations for greater connection and self-expression yet ironically being left in disjunction that leads to depression and suicide. The stakes are just too high for us to ignore this cultural lag. Intervention must be appropriated the soonest as social costs pull us away towards the point of personal, psychological, and social breakdown.

Declaration of ownership

This report is my original work.

Conflict of interest

None.

Ethical clearance

This study was approved by the institution.

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