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Economics

# DIGITAL POLLUTION-A NEW EMERGING ISSUE OF THE SOCIETY

**Dr. Girish D. Makwana***

M.A. M.Phil. Ph.D. GSET.Department of Economics C.B Patel Arts College, Nadiad-387001*Corresponding Author

**ABSTRACT** Whenever we use our mobile phone, laptop or smartwatch, it has a considerable **ecological footprint**, from the moment we purchase it until we buy a new model. To face this specific pollution that is still unknown to the mass market, we created at Digital for The Planet what we call **Digital ecology**.

**KEYWORDS :** Digital, Ecology. footprint, pollution

**INTRODUCTION: -**

Internet has become a crucial part of modern life. However, from the internet also, we are hurting the planet. Estrin and Gill mentioned that we are now grappling with effects of **'digital pollution'** that have become so potentially large that they implicate our collective well-being. Digital pollution is a big contributor to climate change and not a single person on the planet is not contributing to it. One of the main forms of digital pollution is called 'dormant pollution' – it is due to storage of emails. All emails stored in a mailbox make many servers run uninterruptedly in data centers. Felix Hürlimann at Squirro wrote, "the best-known representative is email spam. The percentage of spam in email traffic was up 3.1 percentage points from November and averaged 66 percent." However, email spam is not the only contributor, new ways of digital pollution spreading are through social networks or push messages to smartphone. "And in near future it potentially will also reach your fridge, your watch or even your clothes. And, albeit digital pollution is not poisonous like environmental pollution, it can still be harmful for health of economy.

Furthermore, data centers of email receiving and sending are very intensive and need to be permanently air conditioned to be cooled. Marina at Clean fox stated, "Internet uses data processing servers, data centres, which consume a lot of energy. A data centre consumes on average 30,000 European inhabitants a day. It uses energy to power servers, cool them and ensure continuous operation in event of a failure. This energy causes large release of CO2." Thus, all internet-related materials could be harmful for society and economy in the future.

- **Meaning of Digital pollution**

"It's a kind of soft **pollution** cannot not be touched in form of social **pollution**, promotion **pollution**, email **pollution**, Video **pollution**, Sms **pollution**, viral **digital pollution** etc. Totally spamming ( **Digital** marketing), Overall it affects mentally leads to irritation".

*"The web generates 2 percent of CO2 emissions of the planet. In one hour, more than 12 billion emails are sent, representing more than 4,000 tons of oil. If 50,000 people delete 1,000 emails each; 300 tons of CO2 are avoided. Which is the equivalent of 300 return flights London – New York" – Jojo March*

**The scope of our digital world is wider and deeper than we tend to recognize.**

It is wider because it touches every aspect of human experience, reducing them all to a single small screen that anticipates what we want or "should" want. After the widespread adoption of social media and smartphones, the internet evolved from a tool that helped us do certain things to the primary surface for our very existence. Data flows into our smart TV, our smart fridge, and the location and voice assistants in our phones, cars, and gadgets, and comes back out in the form of services, reminders, and notifications that shape what we do and how we behave.

It is deeper because the influence of these digital services goes all the way down, penetrating our mind and body, our core chemical and biological selves. Evidence is mounting that the 150 times a day we check our phones could be profoundly influencing our behaviors and trading on our psychological reward systems in ways more pervasive than any past medium. James Williams, a ten-year Google employee who worked on advertising and then left to pursue a career in academia, has been sounding the alarm for years. "When, exactly, does a 'nudge' become a 'push'?" he asked five years ago. "When we call these types of technology 'persuasive,' we're implying that they shouldn't cross the line into being coercive or manipulative. But it's hard to say where that line is."

Madison Avenue had polls and focus groups. But they could not have imagined what artificial intelligence systems now do. Predictive systems curate and filter. They interpret our innermost selves and micro-target content we will like in order to advance the agendas of marketers, politicians, and bad actors. And with every click (or just time spent looking at something), these tools get immediate feedback and more insights, including the Holy Grail in advertising: determining cause and effect between ads and human behavior. The ability to gather data, target, test, and endlessly loop is every marketer's dream—brought to life in Silicon Valley office parks. And the more we depend on technology, the more it changes us.

The scope of the internet's influence on us comes with a problem of scale. The instantaneity with which the internet connects most of the globe, combined with the kind of open and participatory structure that the "founders" of the internet sought and valorized, has created a flow of information and interaction that we may not be able to manage or control in a safe way.

A key driver of this scale is how easy and cheap it is to create and upload content, or to market services or ideas. Internet-enabled services strive to drain all friction out of every transaction. Anyone can now rent their apartment, sell their junk, post an article or idea—or just amplify a sentiment by hitting "like." The lowering of barriers has, in turn, incentivized how we behave on the internet—in both good and bad ways. The low cost of production has allowed more free expression than ever before, sparked new means of providing valued services, and made it easier to forge virtuous connections across the globe. It also makes it easier to troll or pass along false information to thousands of others. It has made us vulnerable to manipulation by people or governments with malevolent intent.

- **The origins of digital pollution are diverse.**

**1- Manufacturing: -**

In total, **710 million electronic devices were manufactured in 2015**. They contain rare metals that **deplete non-renewable reserves**. They are often sourced in Africa, including in the Democratic Republic of the Congo for coltan and lead to armed conflicts and population relocation. Moreover, the legislation in these countries often allows children labour. At Digital For The Planet, we encourage a global and ethical approach to be able to do conscious choices, which is also part of the sustainability definition claimed by the UN.

**Smartphones manufacturing, from material sourcing to assembly, accounts for more than 80% of environmental impacts**. The ores and precious metals contained in electronic devices can be toxic for manufacturers, if in contact with waste, and for the environment. Some components such as chromium are now prohibited because of their toxicity.

Transportation also has an important environmental footprint as for instance **a mobile phone goes 4 times around the world from the**

**material sourcing until the moment the consumer purchase it.** The different parts of an electronic device often come from all over the world which results in a lot of marine, fluvial or air transportation.

**2- Practices: -**

To begin with, we would like to share with you a few key figures related to the usage of electronic devices:

- Digital greenhouse gas emission is about to overpass **the total civil aviation industry's**
- Digitization represents **16% of electricity consumption**
- Electricity consumption due to digitization **increases by 8.5% per year**

An important amount of energy, that is either powered by fossil fuels or renewable energies, is needed to recharge devices, power phone network infrastructures and store data. data centres are considerably polluting. They are often located in Northern countries that are cold as they need to be cooled constantly. It allows to use less energy on this effect and it's generally less costly there. However, there are side effects as **it accelerates ice melt in Sweden** for instance.

Servers, which are the data centres units, generate **tonnes of carbon dioxide into the atmosphere**.

**3- E-waste and recycling: -**

The 710 million electronic devices manufactured in 2015 generated 1.5 million tonnes of waste and are the equivalent of 166 times the size of the Eiffel tower.devices recycling is an environmental stake as the majority are sent to the rubbish dump and contain parts that can be **dangerous for people and the environment**. They are usually transported to Southern countries such as China, where it costs less to sort but where there is already an issue with electronic devices recycling.

Overall, only 1% of the mobile phones are recycled.

Many electronic devices are also built on **planned obsolescence** however **59% of the replaced mobile phones still work**, studies show.

- **What can we do to prevent digital pollution?**

Daily action is a great contributor to reduce the impacts of digital pollution on our environment. Therefore, adopt these actions in order to help environment clean from digital pollution:

1. **Clean your inbox and unsubscribe** from polluting newsletters that you don't read.
2. **Limit receivers copied in your emails.**
3. **Stop useless queries** when searching via search engine. You can directly access required website by saving them in your favourites, instead.
4. **Use URL bar**. By using accurate key words, you can help reduce internet's CO2 emissions by 5kg per year.
5. **Send lighter emails** – for big data, you can use USB drivers or external hard drives.
6. **Limit usage of Cloud to maximum**
7. **Prioritize television over streaming** because online videos represent more than 60 percent of traffic and watching an HD streaming emits as much CO2 as manufacturing, transporting, and playing a DVD.
8. **Learn and recognize your labels**. You can contribute to decrease digital pollution by buying less polluting informatics material which favours energy savings.

**CONCLUSION: -**

To be fair, digital pollution is more complicated than industrial pollution. Industrial pollution is the by-product of a value-producing process, not the product itself. On the internet, value and harm are often one and the same. It is the convenience of instantaneous communication that forces us to constantly check our phones out of worry that we might miss a message or notification. It is the way the internet allows more expression that amplifies hate speech, harassment, and misinformation than at any point in human history. And it is the helpful personalization of services that demands the constant collecting and digesting of personal information. The complex task of identifying where we might sacrifice some individual value to prevent collective harm will be crucial to curbing digital pollution. Science and data inform our decisions, but our collective priorities should ultimately determine what we do and how we do it.

The question we face in the digital age is not how to have it all, but how to maintain valuable activity at a societal price on which we can agree. Just as we have made laws about tolerable levels of waste and pollution, we can make rules, establish norms, and set expectations for technology.

Perhaps the online world will be less instantaneous, convenient, and entertaining. There could be fewer cheap services. We might begin to add friction to some transactions rather than relentlessly subtracting it. But these constraints would not destroy innovation. They would channel it, driving creativity in more socially desirable directions. Properly managing the waste of millions of Londoners took a lot more work than dumping it in the Thames. It was worth it.

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