

# **‘Digital Amnesia’ on The Rise as We Outsource Our Memory to The Web**

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## **ABSTRACT**

Digital Amnesia is a global phenomenon. Our relationships and reliance on technology change the way our brains deal with information. Technology not only changes our lives, it also changes the way we memorize and remember information. There was a time when people could joke about phone numbers, birthdays, information about important historical events and interesting facts from their memories. But today, gaining access to information is a child's game, respectfully Google, with a lot of information available. People tend to transmit most of the memory functions to their smart phones, which increase the speed of digital amnesia or the Google result. Both represent our tendency to forget information that can be easily accessed online or stored digitally. The purpose of this paper is to describe what is happening with digital amnesia in the online era ‘coz, overconfidence and reliance on the use of computers and search engines weakens people’s memory (according to research).

**Keywords:** Digital amnesia, Google effect, Kasper sky lab report, Test & techniques to improve memory.

## **I. INTRODUCTION**



**Figure 1: Our forgetful evolution**

The Internet (Google) has revolutionised how we obtain knowledge, greatly reducing the necessity for traditional books and libraries. The same can be true of physical communication, which has altered considerably since the introduction of social media platforms such as Facebook and instant messaging applications. While everyone assumed that online shopping would merely be a supplement to traditional shopping, it is quickly

becoming the sole method to shop. The list goes on, and the digital versions of our formerly wholly tangible lives now housed in a marvellous gadget known as a "smart phone." The main issue is that we've outsourced much of our brain's memory tasks to our phones, which is something to be concerned about.

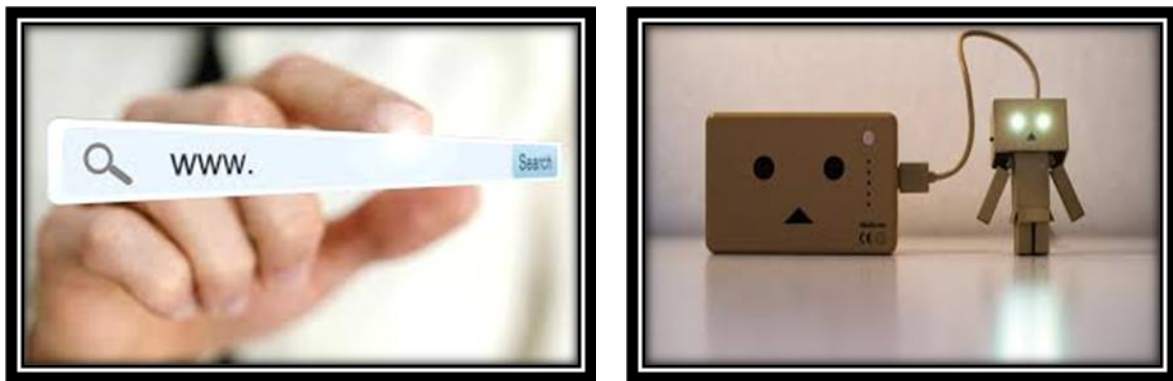
**Objective of the study** – To establish the level of awareness about the phenomenon of digital amnesia.

**Approach of the study** – This paper based on secondary sources such as web links and Kasper Sky lab reports.

**Value of the study** – Digital amnesia is an established and universal phenomenon. Which seems like the dark tunnel in internet age and it should not be taken lightly.

*This paper addresses some of key questions to explain this phenomenon -*

**A. What is Digital amnesia or The Google effect?**



**Figure 2: Shown Google effect and Digital amnesia**

*The Google effect* is our tendency to forget information that we know how to find online.

*Digital amnesia* is our tendency to forget information that we've stored on a digital device.

Both of these phenomena are similar, in that we forget, either intentionally or unintentionally, information that is available to us digitally. The main reason for this is that we are generally better at remembering where information is stored and how to retrieve it, than we are at remembering the information itself.

**B. Why understanding these effects is important?**

- There is nothing wrong with deliberately forgetting things that we know our tools can remember. We have so many things to remember, that an external memory unit is a great help. Password managers are a good example of this, as they allow us to faithfully remember a large number of strong, unique passwords, something we would have struggled to do successfully.
- However, relying on devices to remind us can be a problem if we need to remember information directly. Some studies, for example, have found that while the use of the Internet allows us to quickly discover new

information, our ability to recall this information is far worse than when we find it in other sources, such as textbooks. While this is not a problem in situations where we just need to know where we can get information, it can also be a problem in situations where we need to remember information ourselves, such as:

- Information that we need to have readily available when we don't have access to digital storage or to a search engine.
- Information that is crucial to remember since we cannot afford to rely only on a digital backup.
- Information that we want to internalize and remember in the long-term.

Therefore, the important thing is to be aware of the Google effect and digital amnesia, and to have them under our control. That is, the decision to forget certain pieces of information because we know we can retrieve them digitally is one that we should be making consciously and selectively.

### **C. How can we identify the signs of digital amnesia?**

- Are you storing all your data on phone, laptop or other technological device?
- Are you spending an excessive amount of time with digital media instead of indulging in other activities?
- Are you socially alienated? Have you relied on online networking sites to communicate with others or this makes you awkward when you interact face to face?
- Are you observing an adverse impact on your work, in terms of forgetfulness, unfinished tasks, forgotten responsibilities, etc.?
- Are you unable to imagine a technology free zone i.e. a few hours of the day without the phone, laptop, tablet, a Wi-Fi connection or any other form of technology drives you up the wall?

## **II. RELATED WORK**

➤ The impact of Google is defined as our tendency to forget information that can be added to Google immediately. It was first featured by Betsy Sparrow, Jenny Liu and Daniel Wegner in a published paper (2011). The tests were performed in four sections, where subjects were instructed to perform different tasks in each section. The results reveal that people are less likely to remember information that they once believed was stored and more readily available.

➤ Empty drawing of information that we hope a digital device will keep and remember is what Kaspersky's report calls 'digital amnesia' (2015). Researchers describe it as forgetting the information we rely on digital devices to store and remember on our behalf, seems to be a problem for young and old alike, with 91.2 percent of respondents in a US study showing that they "use the Internet as an internet extension. of their mind. " Many adults do not remember the vital phone numbers of family members and friends. Research has also shown that people do little to protect their personal information online. Less than a third of respondents install security measures on their machines. Worse still, our reliance on the all-seeing, all-knowing Internet makes us lazy with us: about 50 percent of the people interviewed said they would turn to the Internet before trying to remember a fact, and more than one in four people. they are happy to quickly forget something they found on the internet result immediately after using it.

➡ “Previous research has repeatedly shown that an active memory system is the most effective way to build a lasting memory. Conversely, duplicating information (eg by looking at it online over and over again) does not build a solid, long-lasting memory path,” says Maria Wimber of the University of Birmingham in the UK. “Based on this study, it can be argued that the tendency to look at information before trying to remember it prevents the formation of long-term memories, and thus enables us to process information in a shallow, momentary moment. foundation.”

➡ Citing another study, Palsapure Shishir, said it has been found that people who spend a lot of time clicking on pictures, especially selfies, while traveling, do not even remember the details of a tourist destination. “Despite all this research, our understanding of digital amnesia is still in its infancy, so much so that it cannot be classified as a disorder at present. What we understand is that it can extend to other aspects of life as seemingly forgetfulness or other such disorders,” he acknowledged, relying on these devices to be reduced, and people need to make efforts to remember and use the brain. .

➡ Kaspersky, an international software security team, conducted another study to find out how much we rely on devices to remember important information and what information we have forgotten as a result. The study was conducted online among 1,000 Americans in May 2015. It found that digital amnesia affects men and women of all ages and that 91% of respondents use the internet as a brain extension. This figure shows how much we rely on the internet. Some Interesting Statistics-

- ➡ 67% of respondents could remember the phone number to the house they lived in at age 15
- ➡ 69% could remember their partner or spouse’s phone number
- ➡ 68% knew their parents’ phone number
- ➡ 44% couldn’t call their siblings
- ➡ 51% didn’t know a friend’s phone number
- ➡ 70% couldn’t reach a neighbor

There was many studies or surveys conducted by Kaspersky, another one study, examining the memory habits of 6,000 adults in the UK, France, Germany, Italy, Spain, Belgium, the Netherlands and Luxembourg, found more than a third would turn first to computers to recall information.

- ➡ Among adults surveyed in the UK, 45% could recall their home phone number from the age of 10,
- ➡ While 29% could remember their own children's phone numbers and 43% could remember their work number.

The ability to remember a partner's number was lower in the UK than anywhere else in the European survey.

In the UK, just 51% of people knew their partner's phone number, compared to over 80% in Italy.

People have grown accustomed to utilising computers as a "extension" of their own brain, according to Kaspersky. It discusses the advent of "digital amnesia," in which individuals are willing to forget critical knowledge in the hope of retrieving it quickly through a digital gadget.

The study shows that, in addition to saving factual information, people are increasingly storing personal memories in digital form. Photographs of significant events may be stored solely on a smartphone, putting them at danger of being lost or stolen if the device is lost or stolen.

### **III. KASPERSKY LAB REPORT (INDIA)**

According to a recent study, excessive use of smartphones and the internet can wreak havoc on our memories, resulting in "digital forgetfulness." According to the study done among 1000 Indians in June and July 2015 by worldwide software security organisation Kaspersky Lab, titled 'Our Forgetful Evolution,' smart phone and internet addiction is producing digital forgetfulness. The responses to the study's numerous questions illustrate how humans appear to have delegated much of the brain's memory responsibilities to phones that are linked with all of their digital identities.

- ➡ 50 % of users treat the Internet as an extension of their brain. While
- ➡ 74 % use their smart phones to connect to the information highway. About
- ➡ 25 % respondents said they 'strongly agreed' that they just need to remember the source of the information.
- ➡ 47.8 % said they 'slightly agreed' with the statement. Likewise,
- ➡ 26.5 % respondents 'strongly agreed' that almost everything they need to recall or know is on their smart phone. While
- ➡ 37.80 % 'agreed slightly' with this.

As a result, memory begins to be affected. Additionally, as digital communication has become increasingly sophisticated with websites like Twitter, people's minds cannot store a lot of information without some help. "It is very important to reduce the dependence on smart phones especially because of their addictive properties. The brain is a muscle and if not used for its own reasons, it will become lazy. Smart phone addiction can lead to digital amnesia, which should not be taken lightly," said Altaf Halde, Managing Director (South Asia) at Kaspersky Lab. It seems very clear that this is not just a topic of trust but rather a very difficult thing, addiction. It is an addiction to the digital world that has managed to connect us so powerfully, that our minds are starting to work as Google and slowly as a human being. About 50% of Indians are not as interested in remembering facts as they are in remembering the source of facts (i.e. Google). The same can be said of a camera on a smart phone that starts slowly doing more work than our eyes, when it comes to the end of the human experience. All in all we have found that most of us these days do not think about remembering information using our memory and turn to search engines looking for quick answers.

### **IV. TEST & TECHNIQUES TO IMPROVE MEMORY**

There are some tactics to help keep our memory working to its best ability -

#### **1. Training our brain: Mnemonics –**

- ❖ The process or technique of improving or developing the memory.
- ❖ The art or practice of improving or of aiding the memory.
- ❖ A system of rules to aid the memory.

A mnemonic is a tool to help remember facts or a large amount of information. It can be a song, rhyme, acronym, image, or a phrase to help remember a list of facts in a certain order. There are some examples –

- Example of the Order of Taxonomy: Kids Prefer Cheese Over Fried Green Spinach

(Kingdom, Phylum, Class, Order, Family, Genus, Species)

- Examples of Acronym Mnemonics: ROY G. BIV for the Spectrum Colors (Red, Orange, Yellow, Green, Blue, Indigo, Violet)
- Example of spelling Mnemonics: for the word ARITHMETIC: (A Rat in the House May Eat the Ice Cream)

## **2. Brain games –**

**3.** Scientists believe that Brain games are also a good way to keep our memory active. Even simple things like a tray game work very well. This is where we put a lot of things on the tray, study them, and then cover them with a cloth and write down all we can remember. Sudoku, Chess is currently important to our memory as it incorporates ‘repetition’ in our head where we place numbers or objects. Finally, bingo is another highly recommended brain game to improve our memory. This helps maintain brain function, improve response time, increase concentration, improve spatial awareness, help reduce stress, and more! So in this age where technology can gradually help us day by day, playing brain games like chess, Sudoku and bingo is a great way to give our brain a run-in and prevent it from being overwhelmed by digital amnesia!

## **4. Stroop test –**

A Stroop test is a very popular psychological test that everyone has taken at least once in their lifetime. A subject is shown a list of words written in different colors. However, to confuse the subject, the colored word on the screen is chosen to be the name of a color different from the color it is printed with, for instance, the word “red” written in green letters. The subjects are then asked to name the color, rather than the word. The Stroop test gives us a measure of the processing speed or reaction time of our conscious mind.

## **V. CONCLUSION**

“Digital machines are new brain machines; we are increasingly relying on them to code, store and acquire information. They enable you to choose what the human brain remembers and how information is handled, changing information management practices. But with this new reliance on data storage devices, there comes a risk. It may be a practice to treat digital devices as a good extension of the brain; Reliance on these devices also raises questions about what would happen if the unexpectedly accessed content was not immediately available due to the outsourced behavior of a third party, loss or theft. Our brains obviously have a limited capacity for how much information is accessible. Old memories disappear and eventually become obsolete, or they are erased from important memories if we do not use them (we remember them). Given these limitations, one could argue that smart phones can improve our memory, because they store information externally, and thus free up capacity in long-term memory. This can be especially true of older ones, who seem to be at greater risk for distractions from important or obsolete information stored in memory, making it more difficult for them to access relevant information. As Dr. Maria Wimber, Lecturer, School of Psychology, University of Birmingham

puts it. As this study has shown, relying on digital devices actually allows people to transfer memory function to their connected devices. Humans are able, with the help of technological advances, to treat their devices as extensions of their brain, freeing up mental space and allowing them to move on with their daily lives without the burden of memory. Research has also shown that the rise of Digital Amnesia brings fear and anxiety as well as excitement and opportunity. Different generations and consumers in different countries experience the emergence of our relationships with devices connected in different ways. One thing is for sure, if the effects of Digital Amnesia continue to emerge, people need to take steps to protect the memories and information they voluntarily provide on their digital devices. No one really knows what this means for the future, we should take the time to understand the long-term effects of how we remember and how to protect those memories. "The problem with this kind of digital memory release is that it prevents us from learning to remember, and allows us to forget things quickly." Can our brains really forget to remember? Only time (and maybe our smart phones) will tell us.

## VI. RECOMMENDATIONS

- Don't let technology become a source of stress.
- Don't replace real relationships with digital ones.
- Training brain with Mnemonics, brain games.
- Apply once Stroop test.
- Restrict smart phone usage to only essential, work-related activities and set a time limit.
- Fill your day with activities that don't require internet usage.
- Stimulate yourself for DIGITAL DETOX programme without FOMO (fear of missing out on social media).
- "Digital amnesia has not been recognized scientifically yet, but the fact is, if we use our mind less, our neurons (brain cells) will build fewer connections, stagnating the brain's development." So put a barrier between need and action.

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