

Information Overload: Causes And Cures

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Abstract—Information overload occurs when one is trying to process too much information. It is being bombarded with too much information at the same time. It is becoming a problem in the workplace or life in general. This paper provides a brief introduction into the notion of information overload and points to some possible solutions.

Keywords—Information overload

I. INTRODUCTION

We live in the age of information overload. Information about almost anything is merely a click away. We are bombarded with tweets, texts, blogs, emails, reports, stream of articles on Facebook, TV, and more (see Figure 1). This is a good thing, but it may be more information than the brain can handle. Our brain is overwhelmed by the pace at which it is exposed to information. When we have more information than the brain is designed to handle, we begin to exercise poor judgment, lose track of things, and lose focus.

Information overload (IO) is having too much information with only a finite ability to process it. Sources of information that may cause IO is shown in Figure 2. Compared with machines, human beings are poor at handling information and are easily overloaded. While we are bombarded with a lot of information every day, our fast-paced society also requires that we make rapid decisions.

The concept of IO has been with us for a long. It was observed by Solomon as he said, "Of making many books there is no end; and much study is a weariness of the flesh" (Ecclesiastes 12:12). According to Daniel Levitin, "The past generation has seen an explosion of choices facing consumers. In 1976, the average supermarket stocked 9,000 unique products; today that number has ballooned to 40,000 of them, yet the average person gets 80%-85% of their needs in only 150 different supermarket items. That means that we need to ignore 39,850 items in the store. And that's just supermarkets" [1]. The relationship between information load and decision accuracy is shown in

Figure 3. The problem of information overload has been addressed in several disciplines such as information science, management science, philosophy, sociology, psychology, and healthcare [2-5].

II. CAUSES OF INFORMATION OVERLOAD

By the late 1960s, an exponential growth in publications, particularly in science and engineering, was noticed. By the 1990s, information overload began to be noticed as a major problem [6]. Powerful search engines such as Google (www.google.com) provide tons of information for the user. From a system point of view, information overload (IO) takes place when the amount of input to a system exceeds its processing capacity. It may be perceived as when the flow of information is more than what can be managed effectively. In other words, IO occurs when one is presented with an amount of information that exceeds one's cognitive capacity. IO is also known as infobesity or information anxiety.

Working conditions often create stressful situations for employees. Without doubt the employees in the modern working environment are faced with volumes of information from ever increasing sources. Modern trends towards globalization add more to the problem.

The main sources of information overload are the Internet, wireless communication technologies, TV, and newspaper. It manifests itself in the piling up of paperwork, large numbers of emails, frequent phone calls, and exposure to multiple sources of information. IO may lead to poorer judgment, losing track of things and losing focus.

III. OVERCOMING INFORMATION OVERLOAD

The causes of IO are multiple and complex. Hence, it is difficult to provide a simple "quick fix" solution. Although there is no simple solution to IO, various solutions have been proposed to mitigate IO. These include the filtering strategy and the withdrawal strategy [1]. The filtering strategy attempts to eliminate useless information from the sources. Information is

extracted to meet the interest of the person. One is required to discriminate between useful and meaningful information. The withdrawal strategy minimizes the number of daily information sources to protect oneself from bombardment of information from multiple sources. An extreme example is abandoning TV and the daily newspapers. Technology is regarded as a solution to helping people cope with IO.

IV. CONCLUSION

Although information overload is regarded as an ubiquitous problem, what is seen as information overload varies. People experience information overload through media such as newspaper, TV, the Internet, and the digital wireless communication technologies. Some consider it a myth of modern culture and believe that people cannot be overloaded with information. Others believe it has impact on employee's effectiveness. Evidence that IO is a real problem for many people cannot be denied. IO is a real problem faced by increasing number of people coping with stress. We can regain control by organizing information in way that filters useless information and optimizes our brain's capacity.

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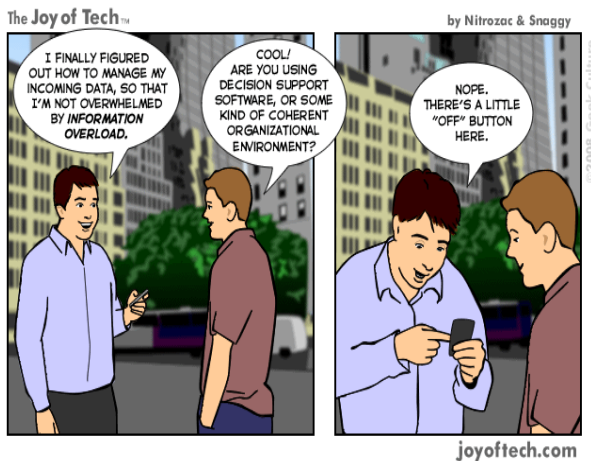


Figure. 1 typical image of information overhead.

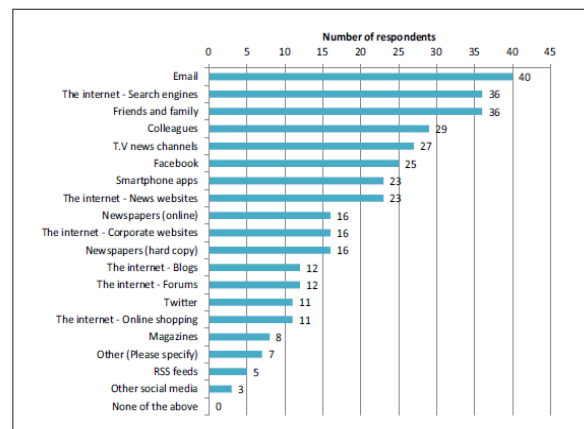


Figure 2. Sources of Information used on a daily basis [3].

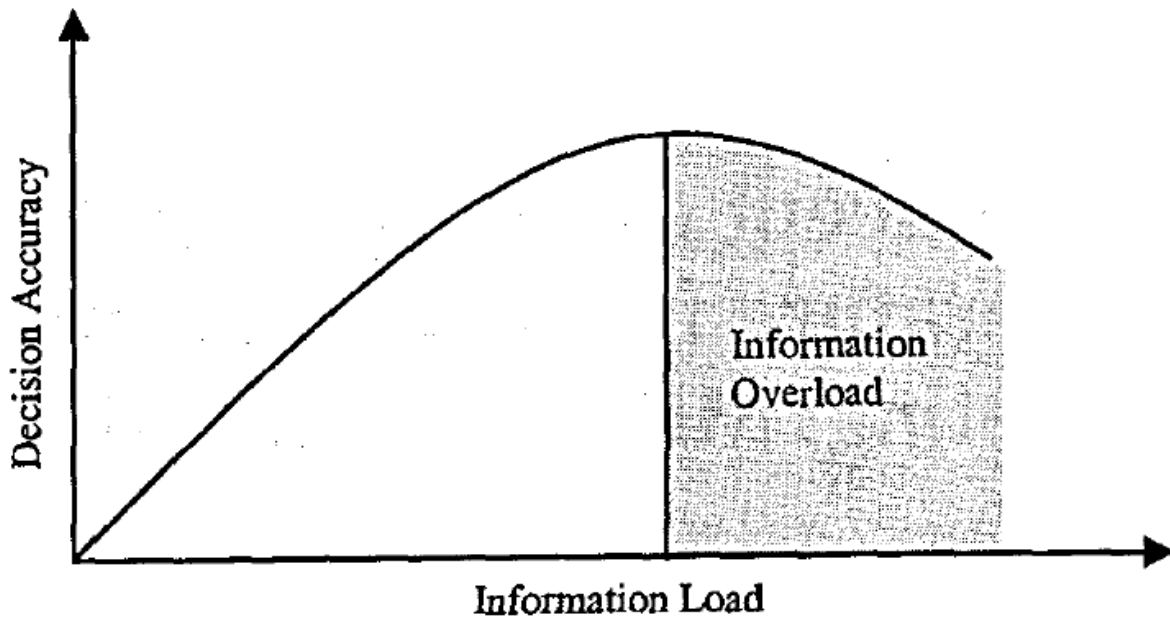


Figure 3. Information overload versus decision accuracy [5].