Informational Overload; Roots and Consequences

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Abstract: In many organizations, the managers resent more from too much raw information and irrelevant data than lack of suitable and relevant information; that is they receive too much information so that they run short of time to separate the relevant and irrelevant information. On the other hand, the information amount that they encounter at work is progressively increased. Informational overload causes occupational dissatisfaction for 60% of the managers and is a major factor for stress and inefficiency. The informational overload occurs when the amount of received information is more than our ability to process valuably and meaningfully. This might be due to personal or organizational factors. Also technology plays a significant role in existence of informational overload. Technology not only assists us in providing the information content but also lets us have access to too much amount of information. The paradox existing in information technology is that, although without Information Technology we cannot work, investigate and control too much information, it results in many difficulties too. Adopting the increasingly modern technologies at workplaces enormously increase the amount of information to be produced within one day or one week and also has increased the competition ability and success of the organizations.

Key words: Organization, Information, Informational Overload, Information Technology.

INTRODUCTION

Today, nearly all the individual engaged in technological affairs are well acquainted with the expressions “Information Explosion”. This phenomena is a great really which has led in huge evolutions and even huge revolution in the human life. The two categories of Information Explosion and Informational Overload can hardly be separated from each other. In fact, the more information is produced the more information is overloaded. The information obtained from various sources or channels may be contradictory or may be incomparable. Despite the fact that information plays an important role in the process of business, the informational overload causes the disorder in organizational programming and corruption of the united structures. Also, the informational overload is resulted from retrieving the organizational information and processing them, processing the decisions such as in the project management or marketing decision making and communicational processes (Kiessling et al, 2006). Nowadays, the managers of the institutes and organizations have well realized that holding their positions, both for improving the organizational structure and for rational and appropriate development of the activities from other aspects, are not feasible without utilizing the “Information Management” methods and techniques. In contrast to the past, when the information managers just undertook the improvement of the ongoing issues and executive affairs, today these responsibilities are posed as some of the most important organizational strategies.

2. The Necessity and Importance of Information for the Managers:

The processed information is useful to the managers, while the raw information is not of significance for them. The irrelevant and unusable information is not only costly, but also its lateral effects may result in inappropriate decisions. Compilation of too much information is not useful and moreover the precious useful information may get lost amongst too much information. When the designer cannot distinguish between the useful and aimed information and unusable and massive information, he/she may direct the user towards a devious path and consequently the vital and critical information may be lost (Debely et al, 2007).
3. The Informational Overload – Concept, Causes and Symptoms:

We all need information to survive in the business market and to compete, meanwhile excessive information may make us drown in. If you let yourself inundate in the informational swamp, the organization and yourself will face corruptive consequences. Existence of repetitive and wrong information somehow makes the managers disappointed, and prevents them reaching the useful information. The more useful information exists, the more analysis is required and sometimes the excessive analysis leads in paralysis and hurt the accurate decision making (Debely et al., 2006). There are various opinions are expressed by theoreticians with respect to the concept and reasons of informational overload existence, and we briefly express some of them here:


The Informational overload is too much amount of the information which is offered within a short time and is difficult to comprehend and solve. The informational overload occurs when the nature of the information is unspecific, vague, new, complicated or compressed.


As expected, individuals who have little or no information for processing make weak decisions. When the information amount is increased, the information processing and the decision making quality is increased too. However, the decision maker could have access to more information by determining a specific point rather than by processed the information. Now, the informational overload occurs and the decision making ability is declined and subsequently, the extra information cannot be processed and just interferes the decision making ability.


To give a better understanding of the informational overload, Butcher proposed seven main factors of why managers obtain too much excessive information to be embarrassed:
1. They accumulate the information to pretend that they care too much about their responsibility for making better decisions.
2. They receive too much amount of unnecessary information.
3. They search for more information to check the existing information.
4. They need to justify their decisions.
5. They accumulate the information for a likely future utilization.
6. They feel they can provide more security by obtaining more information.
7. They use information as a kind of current capital to avoid being obedient or subordinate to others.

In all of the said cases, in spite of the abundant information, obtaining the relevant useful information from amongst enormous amount of information for daily operations and programming is so difficult. Also, accumulating too much information, so that he/she cannot process it, may result in disorder.


These two theoreticians have defined Stress as a feeling resulted from the increased anxiety for informational overload. The factors of informational overload which cause stress include the physical stresses (Such as: bad air, warm air, night shift working, hard physical works ...), psychological stress (Such as: lack of time, quarrels, social isolation, mandatory group works, lack of ability to discern) and financial conditions (Such as: inadequate fund, occupational instability ...). Informational overload has recently been expressed as a stress making factor.

Fig. 1: The concept of Informational Overloads Capacity.
In an empirical study (The subject countries: Singapore, Hong Kong, Australia, England and United States of America), Reuters defines the informational overload as repetition of events or accidents, and points out the factors that affect the informational overload and the effects resulted from it. (Figure 2)

Fig. 2: Elements and structure of the empirical study.

From their point of view, managers may be thankful to the information obtained through management information system, however, they complain a lot about the excessive information (Informational overload) available today. It’s interesting to note that when the excessive and too much information are supplied, the managers imagine that they cannot obtain all the information they require for their work. The irresolvable issue is that the managers receive too much information but do not obey the correct type. These two theoreticians suggest that the solution for the informational overload should be expressed on five extensive subjects. Personal factors, informational characters, process and work parameters, organizational designing and utilizing the informational technology (Klausegger & Sinkovics, 2007).

4. The Signs of the Informational Overload:
Someone asked, how do the employees and managers of an organization work under the too much anxiety resulted from informational overload and the related consequences? The informational overload can be identified through these symptoms:
1. Weak concentration due to overload of the short term memory.
2. The illness of hurriedness so the person starts to believe that they should race with time.
3. Multilateral behavior which is usually resulted from the power of too much production or the power of too few production.
4. Hostility due to an acute mood, a state of sensitivity or easily being irritated angrily.
5. Too much motivation or accustomedness, so the brain functions improperly or stops working.

Investigating these seven types of answers, has disclosed the existence of informational overload at the organizations.
- Accumulator – Accumulates the information for information.
- Eliminator – Eliminates the information without evaluating it.
- Time waster – Requests and searches the information but does not do anything with it.
- Analyzer – Tries everything but cannot decide.
- Anti-Technology – Opposes with innovation.
- Strong user – uses the information to find the opportunities, but …
- Leader – Knows the value of the critical information and uses it for maximum exploitation and acknowledges how much we benefit from the information. (He/she sees the full half of the glass not the empty half of the glass; that is he/she is optimistic).

5. The Reasons Why Informational Overload Emerges:
The modern technology has increased the speed of information production and has made lots of information available to us. Nevertheless, there are also some other reasons for why we encounter informational overload. We have categorized the reasons in four types however it’s necessary to mention that the informational overload is the result of a set of factors not a single one.

5.1. Individuals:
One of the definitions to the informational overload poses that the informational overload occurs when the information amount is more than the ability of the processing person within the available time (Jackson, 2001).

The followings are the reasons of informational overload:
- Limitation of individuals’ information processing capacity.
- Personal characteristics (Experience – skill – attitude – age)
- Personal mood (Day time – voice – temperature – sleeping amount).
- Inability to prioritize, classify and organize the input information.
- Useless utilization of time.
- Lack of organizational skills.
- Wanting to obtain too much information.
- Willing to do all the works without assistance.
- Being attracted to technology and using it for increasing instead of decreasing the information.

5.2. Technology:
Technology plays a significant role in informational technology. Technology not only supports us in providing the informational contents but also lets us have access to abundant amount of information. The capabilities of the information management have undoubtedly progressed and these progresses will be conducted faster day by day. However, although the advances and intelligent systems promise a future without informational overload, the users currently should adopt a very precise approach. Some of the main resources of informational overload; E-mail, Intranet, Extranet and Internet, demonstrate the technological reasons related to the informational overload as follows:
- The designed informational systems which are so weak or so complex.
- Introducing the information more than required.
- Excessive trust to technology.
- Completing various deficient technologies.

5.3. Organization:
A successful organization should be dynamic. A fundamental need for change demands strong relation and coordination. When change process is not performed correctly, the following factors may be the factors of informational overload:
- Lack of policy for internal communication of the organization
- Lack of the informational training required in the organization.
- Trusting some special champions who have made and implement their decisions.

Moreover, lack of ability in replying the following questions may be one of the reasons informational overload at your organization:
- Do you know your status in the organization and do you know what they expect you?
- Do you know what information is significant from transmission aspect?
- Do you undertake the responsibility of the information you produce or is the illness prevalent in the organization to say “It’s not up to me” or “This is not my problem”?
- Do the individuals from various sections cooperate to produce and send information?
- Do the groups communicate with each other’s fast, easily and simply to transfer the information?
- Are the Informational forms of the organization written according to standards?
- Do the employees actively participate in decision making processes?
- Is there a suitable atmosphere to “research and investigate” and patience to solve the faults?
5.4. Specification of the Information:
The final reasons of the informational overload are the specifications of the information itself. As an instance, the information quality improvement can decrease the informational overload. Eppler has expressed the reasons of informational overload, depending on the informational specification:
- Unspecified information (The required information vs. the existing information)
- Variety of information and growth of its types
- Informational vagueness
- Freshness of the information
- Complexity of the information
- Concentration of the information
- Quality – Value of the information and its being middle aged
- Excessive frequency of the irrelevant information (Informational pollution).
- Unknown credibility of the information resource
- Growth of the information aspects.

The informational overload occurs when the volume of the information is more than our ability to process it valuably and meaningfully. This might be due to some personal factors such as the followings:
- Lack of time
- Unsuitable personal organizing activities
- Inefficiency
  - Also, it might be due to organizational factors including the factors which come afterwards as follows:
  - The organizational culture which is not equipped for dealing with the information suitably.
  - Too much bureaucracy
  - Unsuitable conditions for communication
  - Useless utilization of the information technology.

6. The Results of the Informational Overload:
It’s obvious that if the leading factor of a society (The highest centralized information system of the society which is resulted from organizing the information of economy and politics) cannot identify the information evolution factor or cannot utilizes them through a suitable rationale, will be afflicted with local or general informational cancers. The informational cancer is a condition in which information aimlessly and in an anarchist manner wanders through the society and wastes the related energy. In other words, in such a society the information is exchanged anarchically and not on suitable and compliant rationales, the since such groups are not able to exchange with each other’s or the foreign world, will ultimately turn to uncontrollable informational tumors and lead in reverse effects. Lack of communication amongst the informational groups finally leads in informational downfalls and irregular pulses. Gradually separated islands emerge due to lack of compatible rationales and these unharmonious pulses naturally neutralize each others’ effects. This subject is of a great significant with respect to the organizations. The information surplus is one of issues that the managers suffer from in organizations. Various organizational groups accumulate some information according to their needs. This information is accumulated according to their immediate needs under no unique rationale. The informational cancer phenomenon is created in this condition and the information seems to be aimless and corruptive and wastes the resources, equipment and man power of the organization. Therefore these organizations or their subsets should avoid accumulating the information disorderly and without coordination and should follow a unique and natural rationale. Under such inappropriate conditions, the unique organization is divided in the components which are not complying with other groups or organizations and may even move against the aims and missions of the organization. Therefore controlling the information and the related processes are amongst the most significant duties especially today deemed for the managers and the related authorities. Accordingly, the type of controlling is important too. Should the information be controlled on a centralized style or should we approach the information in another way? Various methods of approaching the information are suggested too especially with respect to the large systems. Generally a large system is a controlling system in which the correlated subgroups are unified on the basis of a unique aim. Also, the subject of method of approaching the information controlling is related to “The logical structure of the controlling system”. In 1998, Reuters News Agency classified the informational overload in two categories of Personal and Organizational groups:
A. The consequences of the personal informational overload:
1. Tension and illness: One third of the managers get afflicted with illnesses related to tension and stress as a result of informational overload.
2. Less free time: Two third of the managers should work late after official times to deal with too much amount of information.
3. Less occupational satisfaction: around 70% of the managers are not satisfied with their occupation due to informational overload.
4. Inappropriate decisions: Around 43 percent of the managers believe that too much information affects their decision making process negatively.

B. Organizational consequences of the informational overload:
1. Missing the productivity
2. Wasting the resources
3. Losing the advantages for competition
4. Repeated works and frictions at work.

7. Managing The Informational Overload:

With respect to the route passed by information and data for decision making, it’s right to propose that the unsuccessful missions of an organization is not just due to its manager’s fault in weak or untimely decisions. But his/her fault is “Unawareness”. Her/his fault is inadequate attention to information management; the fault of not providing the informational infrastructures. Russel E. Ackoff declared that many managers resent more from raw information and irrelevant data than from lack of information; that is most managers receive too much information so that they need a lot of time to separate the relevant from irrelevant information from each others. Ackoff calls this issue as “Informational overload” which is initialized by the information technology development especially within the recent years. Thus, meant to develop the decision making process in organizations, we need to decrease the overload which is encountered by most decision makers. According to his view two factors may decrease the informational overload: “Filtration” and “Condensation”. Filtration means, an event or course of action through which the raw information (Data) are separated, classified, corrected and refined according to their relations and appropriations to the aimed issue or subject, decision maker’s informational needs and locative and chronological conditions. Indeed, the related, required and necessary information is separated from the irrelevant and unnecessary information. “Condensation” means an even or process through which the raw information (Data) is purified from the extra and repetitive data and the obtained data are summarized and condensed. Thus, summarized, abstract and condensed information will be offered to the decision maker (Manager) and “information pollution” is prevented so the manager does not receive both extra and unnecessary information nor deficient and inadequate information. The information should reach the target on the right time, for the right aim and in the right form. Observe the following checklist to provide an informational policy framework all over the organization to minimize the informational overload:

1. Determining an aimed and clear strategy and checking if these informational activities can support the aim. Clarify the aims of the organization and transfer them to the employees to be aware of the consequences of their activities. Be sure of your role and what you are expected to achieve and also make sure that you exactly know what information others need you to supply.

2. To deal with the information more efficiently, adopt small and identifiable managerial structures. Keep in mind that a small but efficient institute excels a large but slow institute.

3. Make sure that your management method complies with the process required for the information. Creativity requires the free flow of information as the result of a free management which brings power and options for others.

4. Invest in the horizontal education and training at the organization so you can increase the awareness level of the affairs conducted in other sections. The employees usually long for playing a role in promoting the organization and developing the skills strengthens not only the organizational facilities but also your own talents.

5. Provide a value-system on the basis of acknowledging and appreciating the better ideas and thoughts. Learning phenomenon occurs when we make mistakes. You may also grant awards for extra cooperation or even the mistakes resulted from creativity.

6. Preventing the informational overload should be initiated with the culture of organization. We should investigate the culture, attitudes and method of managing the organization to realize whether that positive attitude or activity exists in various sections and is utilized for an efficient utilization of the information. That may require training the employees who save the information or unintentionally avoid cooperation and don’t know the significance of the information flow at the organization. Interestingly, the more employees participate in the information, the less the informational overload is probable to emerge. That’s because participation:
- Decreases the repetitive work, doubt and perplexity.
- Provides better grounds for inspiration and innovative ideas.
- Increases the awareness of the affair conducted in other sections of the organization.
- Leads in various achievements as the result of cooperation and maximizes it.

7. One of the solutions for informational overload is performing the information auditing through which we can identify the wrong case and their places. The auditing, investigates the aim and efficiency of the information management and auditing is meant for coordination amongst the methods and eliminating the difficulties and omitting the extreme bureaucracy. The informational auditing involves all the methods and
processes including the processes related to the clients and suppliers, financial affairs, marketing, research and the competitors’ circumstances. The auditing initially investigates the employees’ needs for having access to their aims and then the current methods, that is the work which is work practically performed by the employees. The informational auditing, studies the activities, responsibilities, and liabilities of the related employees in the informational chain (That is the entire employees of the organization) and the current mechanisms of quality control. It examines the credibility, precision and efficiency of the current system expenses and specifies the reasons of difficulties such as the bottlenecks, lost rings of the chain, unsuitable resources and lack of the required skills. It also indicates the useless, unimportant and extra information, and the points which may lead to emergence of informational overload.

8. You should admit that “Information” needs a place in the board of directors. The informational policy, just like all the main organizational strategies, may lead to a downfall if it is not supported at top levels (Schick et al., 1990).

**Conclusion:**

The fundamental solution for the informational overload is informational management. You can manage the informational overload when you know how to control the information management process to be relieved of the extra information and process the remaining information better. However, before starting the activities you should start to know the issue of informational overload. We should have complete and adequate understanding of the issue and its signs and reasons. After being equipped with this awareness, we may adopt suitable solutions. We have endeavored to offer some indications, reasons and solutions for optimizing the informational overload management in this article to enable you not only to keep the head out of the water surface but also swim ahead of your competitors. You and your organization may face destructive consequences if you let the informational swamp drown you in.

**REFERENCES**


