

The Effects of Big Data on Health Awareness in Morocco

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Abstract— Nowadays Big Data is crucial and necessary in order to make better quality decisions. For that reason, a shift towards the computerization process is obligatory. Meanwhile, all organizations look for data collection that allows evolution, development and improvement of their business processes. This is why we aim to set up a logical guidance based on data quality so that it can raise citizens' awareness vis-à-vis the contagious and infectious diseases. This enables the design of an adaptive awareness information system that meets the needs of users and leads to deep changes on private and public organizations and on society in general.

The objective of our research is to investigate the importance of Big Data which is the center of all information systems, such as health awareness. This study is characterized by the use of information and communication technology to improve processes, communication between users and information systems or between other information systems and the efficiency of the administration of databases in terms of deadlines, quality, or productivity of public employees for the sake of generation protection.

Index Terms— Information system, adaptive, health, awareness, quality, adaptation, Big Data,

1 INTRODUCTION

Computerized organization can be defined as an organization whose processes are accompanied with IT solutions. The information system in its turn produces information that lead to varied quality decisions based on collected quality data, hardware equipment, applications or available software, and the organization of internal management processes.

Meanwhile, the quality of the information system is guaranteed by the quality of its informational, organizational and technological components. In the same way, information system allows for a better evolution and development of various organizations and administrations. This is why it becomes necessary and it plays a very important and powerful role for a secured distribution of information.

Furthermore, we can define a system of information as an organized set of resources that allow collecting, storing, processing and disseminating the data in a secured way. Besides, all information systems require the presence of a project manager or coordinator. This may be the documentalist who is called to be involved actively in the implementation of the information system.

In fact, this is a socio-technical system consisting of two subsystems, one social and the other technical. The social subsystem consists of the organizational structure and people linked to the information system. The technical subsystem consists of technologies (hardware, software and telecommunication equipments) and processes covered by the Information System. The concept of information system is a rich and ambiguous concept. It is also composed of two concepts that are rich and have multiple meanings, which we will examine briefly in turn.

2 MATERIALS AND METHODS

According to Didier Mamma, awareness information systems are in some ways exceeded. He said "Here is the situa-

tion as I see it now: during a time, we designed information systems where we have favored sometimes elegance at the expense of efficiency". Thus, we have to bear in mind that an information system is not intended to be perfect, but it should be efficient in the service it provides to users with muted data in terms of quantity and also quality. It is very essential to understand this because it highly affects the efficiency and the design of information systems.

Therefore, it is useless to create an ideal information system while basic data are not effective. Another element worth noting is the speed at which things are developed, the reason why we became in need to establish stylish information solutions for the development of business process and also organizations that use this kind of information systems which are considered more adaptive in comparison to other organizations.

Besides, at the beginning of Information Technology, companies think on outlining plans over 10 years and progressively over 5 years. Later on they think almost on the plan of the year, but today all is treated in a short time (few seconds) with the help of an attractive information system. We start questioning that though the reason is simple. Before, we controlled the entire value chain upstream and downstream; however, now it is no longer possible because a value chain is distributed.

2.1 BIG DATA: A TOOL OF RAISING AWARENESS FOR ALL FIELDS

Raising awareness among staff has been for a long time a side-line of safety strategies implemented either at the enterprise level, administrations as well as in the field of health education.

It is possible to identify among the reasons that may have led to this situation particularly the lack of budget, lack of trainers who will make people aware, a difficulty of mobilizing participants in different professions, the difficulty to demonstrate results because the effort must be brought on time, and pre-conceptions of certain executives that "Awareness is useless". That is why, if we want to be capable of putting the treatment of the human element safety and also health awareness in their proper place, it is essential to have a measure that will allow us to know from where to start, what is the covered path and therefore to place awareness work in a continuous improvement approach. In fact, the establishment of a measurement enables making tangible impact of an awareness campaign. Thus, it will become possible to set objectives and measure their reach in terms of participation, affiliation and results.

In fact, only part of the population will start adopting the expected behaviors. An initial core that remains has already been established and it is on this one that we will afterwards be able to rely on to enlarge the circle. Meanwhile, if safety is the concern of all, spreading a safety culture is carried out by example too. Finally, if we want to be able to integrate the awareness process in the development of a dashboard Security Information System, it is necessary to have good indicators. This generates the establishment of a communication program, education, awareness and public participation (CEAP).

In effect, it does not remain a method to limit a certain expert's strategy, but generally, the designer is trying to achieve three levels within the mass of knowledge:

1. Structuring level
2. Conceptual level
3. Cognitive level

2.2 Designing an Expert System

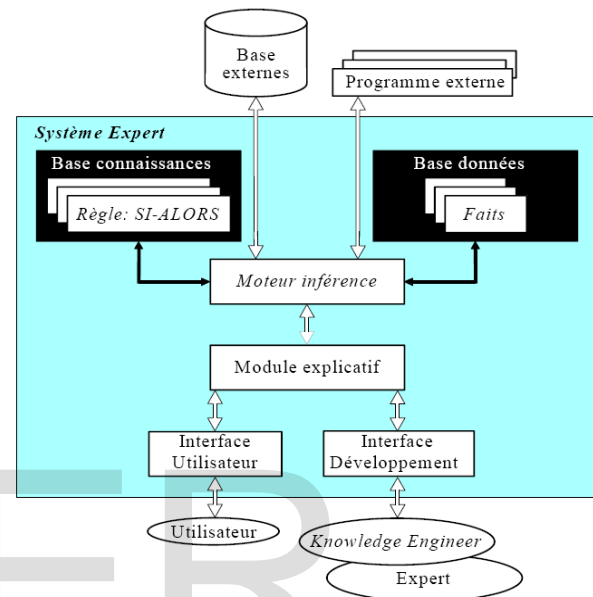


Figure 2 architecture information system

Knowledge engineer uses a method borrowed from human sciences to develop expert system. Yet, there is no method made to identify different strategies of experts. But generally speaking the designer aims to achieve three levels within the mass of knowledge.

First, the structural level that includes deductive procedures used in the field considered to reach certainty.

Next, when knowledge engineer controls this level, it will be possible to represent knowledge at the conceptual level, where the concepts that the specialist makes as common use will appear. Finally, the cognitive level will contain a maximum quantity of raw knowledge related to the field.

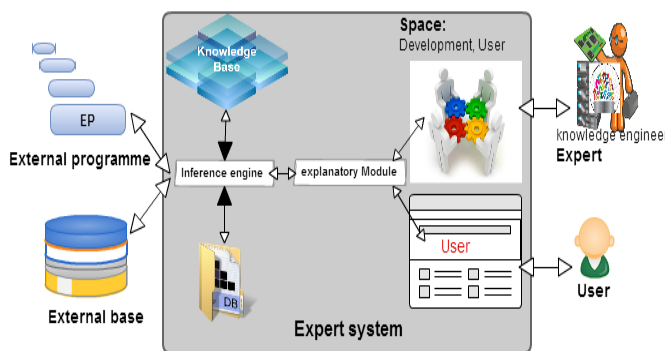


Figure 1 Design of an expert system

The development of an expert system made the call to a fundamental strategy to the humanities and social sciences.

2.3 The Importance of Health Awareness

Health is an ongoing process of physical, psychological and socio-cultural wellbeing. It is demonstrated by the ability to express its activity in a way that is liable for promoting the wellbeing to personal and social levels at the same time

through enriching the personal and social life. It is also not restricted to the absence of dysfunctions, disease or infirmity. In fact, to be able to enjoy sexual health for instance, it is important that the individual's health rights are recognized and respected.

Meanwhile, dissemination among teenagers with accurate and comprehensive health information remains probably the basis of any strategy against diseases to protect citizens and the coming generation bearing in mind that through awareness, we can live healthily. Several studies demonstrated that accurate information provided at the appropriate time and age encourages responsible behavior.



Figure 3 The interactive system

In addition, for individuals to limit the risks or modify their behaviors they also need to acquire quite specific aptitudes and feel supported by their environment. Meanwhile, lack of information and dialogue on health can have severe consequences for young people. Therefore, awareness and education enable people to be more aware of the dangers that may confront and protect them against several dangers.

2.4 Limit of Some Awareness Information Systems

Awareness information systems are the heart of any administration that deals with consciousness and recognition. It is obvious that awareness information systems are crucial for the development. They represent the best aptitude and good management and show the best information to the users seeking for awareness.

Despite that awareness information systems hold several qualities, still they remain limited and have several drawbacks that make them somehow weak. For instance, among the drawbacks of the current awareness information system, we found out that it:

- Does not meet users needs.
- Is open to all age categories.
- Lacks a follow up and updates of information;
- Contains only one language;
- Is non adaptive.

3 RESULTS

In fact, the existing awareness information systems do not have a large amount of data. This affects their adaptation to the needs of users; for this reason, we seek to establish a rich awareness information system in terms of information that is also based on Big Data. That is because this kind of adaptive information system remains the most efficient tool for awareness and good education. It allows easy and concise forward of information to the appropriate users while respecting their right of access to the information.

4 DISCUSSION

From what we mentioned before, we can announce hereby that our objective is to design an adaptive and special information system based on Big Data technology that respects a number of criteria such as age, gender and language. The adaptive awareness information system that we aim to implement will help raise awareness and forward the correct information more easily to each user. Through this system, we will be treating users according to precise categories as well as affiliations. In fact, the establishment of this new adaptive awareness information system has many advantages allowing the improvement of results quality and validity. Among those advantages, we can mention the following:

- The information system will be consisted of several languages to make it comprehensive to all users.
- Classifying users will be according to several categories where they belong.
- Respect the culture and traditions of each region.
- Access to information will be according to gender since there are devoted information for men and others for women.
- Tracking and updating information is necessary.

5 CONCLUSION

Reaching a goal in this regard is a challenge since awareness information systems nowadays do not have enough databases. Moreover, all organizations are moving toward the use of Big Data technology. Meanwhile, most objectives fixed at the level of this project will be carried out and applied in the new system, except if we left the door open to research on how to embed tools as well as thinking about setting up a dedicated awareness information system for people with disabilities. This matter, in fact, poses a new challenge that we seek to confront soon.

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