
POWER OF KNOWLEDGE IN TIME OF NATURAL AND HUMAN DISASTERS

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Abstract: Considerable experiences and literature shows that the level of knowledge acquired by a society is directly reflected to the level of negative consequences to humanity during the time of natural and human catastrophes. Through this paper I will bring primary and secondary resources supporting my idea by explaining how knowledge empowers the society reducing/minimizing negative consequences during the human or natural catastrophic situations. Education through curricula or extracurricular programs, information through public and private tools, usage of new technologies, social compartments and other ways of interactions will be part of analyses, comparisons and deductions in order to support the idea presented on the very great influence of knowledge in time of catastrophes. Some different cases coming from Albanian reality such as Report- web platform, Maturanti.al, CIT-E-learning platform, will be part of quantitative and qualitative arguments and methods along this work.

This paper will conclude that empowering society through knowledge should be a permanent process beyond catastrophic situations. Any investment on knowledge of the society will indicate significantly negative consequences to the humanity not only during human or natural catastrophes.

Keywords: knowledge, human natural catastrophes, society, consequences;

1. INTRODUCTION

Why every time we find ourselves in difficult situations when facing natural disasters society as a whole tends to look for knowledgeable field experts to learn on? There is only one answer, which is to utilize the knowledge they have in aiding society. How has knowledge been used in helping with the Covid-19 pandemic? Has knowledge been used effectively to its full potential? What are some of the methods of managing knowledge in similar situations?

All the above questions lead to a single point of evaluation, which also is the golden key in facing these situations in the future. The importance of knowledge and its power over the transformation of society and nature by reducing the side effects and increasing the benefits while contemporarily keeping both these entities balanced. Through OECD, forum series (2020) we can learn a lot on schooling in the times of Covid-19: How the pandemic is changing education and the indispensable role of technologies in the process.

Throughout history it has been shown that there is a direct correlation between the level of knowledge and technology at that time with the severity of the consequences brought upon by a natural disaster. The argument at hand becomes even more relevant considering the level of freedom and connectivity in our current society. Covid-19 on a global scale was right up there with other natural disasters but this time the power of knowledge and information was more prominent and by using technologies such as Artificial Intelligence, Machine Learning and Data science it was possible to handle the pandemic in a different way that other disasters would have. Also new communication technologies made it easier for society to organize their efforts more efficiently on both a local and global scale. I am going to be using both primary and secondary literature sources in order to further explain the connection and significance of knowledge as an important instrument in dealing with such disasters. In order to further illustrate this connection, I am going to analyze different sectors such as Education and Health at territorial level.

2. LITERATURE REVIEW AND METHODS

As other experts of the field agree, knowledge is a mix of facts, information, and skills acquired through experience or education. I want to mention Davenport and Prusak (1985) that support the idea that knowledge is considered “dynamic” built by social interactions and experience from where facts and information are studied from different perspectives. A lot of field researchers emphasize the difficulty of knowledge management even with the current technology advancements. In order to properly manage knowledge we must not only know the information but also understand it in all its complexity and dimensions as emphasized by Barton(1995). Knowledge must be like running water, supplied by different sources while making sure they are clean and don't pollute it. This concept must be followed by all subjects and societies that have information flow, they must be unaffected by the amount of knowledge to be able to filter the right information useful for them. This information might come from different sources such as academia but it is not restricted in these fields only. (Weichselgartner and Truffer, 2015). Since knowledge can come from a plethora of sources researchers must first collaborate and associate their studies in order to offer a more generalized view of knowledge and the effects it has on society and nature.

Sveiby(1989) calls on applied knowledge while Hayek(1945) emphasizes that without ways of utilization knowledge is not useful. Another important element of knowledge is information, according to Thompson (1993) access to information is one of the most powerful tools in today's society while being attentive to the different ways this information can be used. Aiding this argument we refer to the categorization done by Machlup(1979) which helps differentiate between information as a trade with a clear goal. According to Machlup(1979) information represents the unanalyzed data and facts collected by an information system. Otherwise the information refers to analyzed data often delivered in a specific way according to the scope or the objective given. Consistent with Machlup is the idea that knowledge is often but not always gained by reading, or analyzing information. The process of information utilization is first done by transforming unanalyzed data into processable information, then said information is used to facilitate the utilization of knowledge. To investigate more on the connection between knowledge and information I will refer to other researchers of the field such as Järvelin & Repo (1984) which considered type of information as listed as follows: 1) Task Knowledge - knowledge that determines the problems and tasks in the domain. 2) Domain Knowledge - earlier produced and organized data and information about the facts and relations which contribute to the problem. 3) Problem Knowledge about the conditions of the problem on hand. 4) Problem Solving Knowledge - methodological know-how needed. 5) Outcome Knowledge - new knowledge produced in the task: part of this is often presented as output information in the form of reports, manuals etc.

The concept of epistemic communities was first introduced in international literature and mostly researched by Peter Haas (1989-1992), Mathee Holden Jr.(1964) and H.George Frederickson (1999). The above-mentioned researchers have used this concept to explain and study the development of metropolitan areas. Collectively these researchers have searched possible ways to join institutions in order to create a collaboration model for regional problems.

Forecasting, the most familiar tool for getting advance information about the future is based on existing conditions and trends. (Sanders, T.Irene,1998: 109). Back to history Aristotle also wrote a lot on knowledge and the power of knowledge in society. In “Metaphysics” (365) he emphasizes that the need to know and understand their surroundings is engraved in human nature. Taking Athens as an example we see how the scholars would take past practices and apply them when analyzing future decisions. Knowledge is as a strong instrument to society to forecast and prevent disaster situations. As scholars of the field mention through history the world has been transformed by availability and use of information. From the invention of the wheel to each new iteration of the innovation, information, and change have transformed the world from simple farming communities into technological societies. (Sanders, T.Irene,1998: 72); Knowing realities through data and facts is essential to society as James says [To know facts is to survive, not to know, or to assess one’s environment wrongly, is to lose the fight to survive] Christian, James L. (1990 : 173).

Discussions. Universities as epistemic community. Society behaves among different experiences across different sources of information’s not all of them classified as scientific and supportive to society. Quite differently knowledges coming by universities are qualified and certified as scientifically proved. I want to bring in attention quotation of Lane. [We live in an epistemological shell with no doors. None may enter none may share ..Christian, James L. 1990: 194]. Along realities of natural disasters, I want to emphasize on the idea of the power knowledge has in epistemic communities and the role of universities as epistemic community. What does the word epistemic refer to in this case according to the literature? An epistemic community is a network of knowledge-based experts who help decision-makers to define the problems they face, identify various policy solutions and assess the policy outcomes (Haas and Adler, 1992). According to Haas, epistemic communities are one of the most important deciding factors in the development of scientific areas (Haas, 1992). We can determine that the main factor here is the investigation and search for scientific knowledge. This is not based on personal opinions but on opinions based on scientific evidence. According to the epistemic concept, reality is a structured body of thought which gives power and authority to knowledge transforming it into experience and applying it (Haas and Adler, 1992).

Universities as protagonists of the voice of knowledge and genuine epistemic communities. There are several arguments that factorize the university as the undisputed authoritative voice of knowledge in society, in the concept of epistemic communities. Among other things, I can mention:

The nature of the profession, the professional categories involved in the process, as well as what is most important the subject of the activity, the students of different cycles, make the university as a wonderful space of power throughout their process of learning at all times, but especially in the situations I am going to deal with. In every cell of universities, study and research centers, startups formats, applied innovations, etc., the most modern knowledge is transmitted and applied, new ideas and mindsets are created and tested. The connection of auditors with business and industry, institutions and public and private stakeholders also makes universities undisputed actors in the voice of knowledge. Again, I will bring in attention primary sources of data on Albanians university realities. Four

scientific symposiums were held at CIT, on challenges of universities, economy, telecommunication and technologies during Pandemic situations in Albania, where many experts gathered on these topics.

Study research programs in EU format, the content, orientation of the study activity according to the study and research format. These and other arguments make us appreciate that the knowledge that comes from universities, comes from sources, in time and space, actors and is tested in institutions and by appropriate actors. Consequently, we can say that it is knowledge certified by the authority of epistemic communities.

Following, I want to focus on some arguments on the universities' mission in times of human and natural disasters, through the exercise of knowledge and professionalism.

The change of stereotypes in professional activity, is the most visible indicator during the period of phenomena we are discussing. Some of the most visible indicators in this situation are social isolation and fragmentation, interruption of direct communication, or even using web-communication technologies, the interruption of professional activity, community services, etc. University in confrontation with disaster situations, are the only massive space at the national territorial level, not to prevent or minimize the interruption of activity according to the daily flow. This argument is made possible through the use of new technologies of social and professional communication.

Universities have the opportunity and capacity to build and apply interactive web communication platforms in the service of continuing the teaching process, without interrupting the professional activity, but only by changing the tools and methodology of the development of the teaching process, doing it online and in terms of social isolation. If I refer to the development of teaching process during the situation of the COVID-19 Pandemic, in the public system in all school cycles in Albania, it is noticed that in all schools the flow of learning was interrupted, as the system was found unprepared to develop the process in conditions of social isolation and distancing. The entire public education system had to interrupt the teaching process for weeks until the ministry issued the relevant order to adapt the way of teaching development, naturally in different forms and truncated in relation to the planned objectives and goals of progression and realization of the teaching curriculum. If the education system would be prepared to develop learning according to the most modern methods, applying the development of online learning through E-learning platforms, the situation would be presented quite differently. I recall the case of the Canadian Institute of Technology (CIT), which on the day that the Ministry of Health and the Ministry of Education, ordered the termination of teaching in university auditoriums, by a decision of the Academic Senate, decided to continue the teaching process by applying the CIT platform E-learning and other open-source platforms that facilitate the process of developing online learning. Why this difference in the same system and under the same conditions? Because at CIT, the HEI institution mentioned, there is a professional community of professors, students, and administrative staff, equipped with state-of-the-art technology knowledge, to build online education platforms capable of professionally applying online teaching and learning, using the platform in question. Meanwhile, the global practice has confirmed the online platforms, such as rescuing the system from the COVID Pandemic situation. (OECD, forum series (2020).

3. CONCLUSION AND RECOMMENDATIONS

Referring to the global experiences in the period of the Covid-19 Pandemic, it is generalized that knowledge should precede and forerun developments in society, providing services and solutions to society. To face this reality, in the case of CIT, it must be said that it has been invested in time and for the entire CIT community delivering successfully services to local and national communities.

With the power of knowledge, the entire society should be empowered, not just the academic communities. The CIT E-learning education platform is put in service of communities for education and vocational training with community technologies under the comprehensive and open concept for categories that could not come to the CIT auditoriums. The comprehensive and open concept applied two years ago under the initiative "CIT Go Digital" under a summer extracurricular program for young people from all over the country and the region, in times of crisis became valid for CIT students, under the conditions of social isolation and distancing.

The same practice and experience have been applied with the program "CIT- Women in Tech", a 4-week extracurricular education program (March-April, 2020) with the latest technologies from all over the country. Open and comprehensive, developed in the auditorium and online, only after just having completed the first week, it was found under the conditions of the pandemic. Under this condition, the program was not interrupted but developed online, successfully certified for all successful participants in the program, coming from the whole country. 35 newcomers from all over the country could acquire knowledge about technology even in pandemic conditions, while the opportunity to be educated through this platform and program was offered to about 2500 young women from the suburbs of Tirana and the whole country.

Investing in knowledge is investing in the highest interest in society, as quoted the Benjamin Franklin citation. With the power of knowledge, it offers solutions for the society under the conditions of natural and human disasters, improves the well-being and health of the society. The Raporto.cit.edu platform, composed and built by CIT academic staff and students, was provided to the Ministry of Health to assist citizens in interactive communication with public health institutions in Covid-19 Pandemic situations.

Periods of human and natural disasters create isolation, social exclusion, and limited opportunities for education, participation in activities, as well as other activities for this purpose. Knowledge of creating and implementing education platforms through communication technologies reduces the aforementioned barriers and exceptions.

E-learning platforms such as CIT's, as well as Maturanti.cit.edu.al or Woman in tech, etc., are excellent opportunities to face the external costs of natural and human disasters. Through the use of knowledge and professional skills to build communication technology platforms, we can be aware of the health status of patients and at-risk categories, provide individualized data of the patient health care, facilitate the treatment of patients and care for professionals health care, provide continuous monitoring and creation of a database for patients with diabetes, create a database of the drugs they are treated with, continue the health care and treatment, sensititate the patients for not neglecting their continuous and periodic treatment, their continuous control, optimizing the use of doses.

It is a necessity and also the right of the citizen to be informed about what is happening and the obligation of the governments to make it happen, but also to apply the knowledge to exercise power. Applications of new technologies bring the citizen close to the power as an instrument to build policies but also to govern resources and administration. The use of knowledge and technology during the time of natural disasters is indispensable for the reduction of environmental pollution, administration, and efficient use of natural resources and their recycling. (ERI-2020). In territorial level also it is very important to evaluate situations after disasters, in order to reduce consequences of disasters by using knowledge databases as scholars of the field suggest. (López-Peláez and Pigeon 2011).

Solutions under the power of knowledge in society are not a spontaneous process, immediate under the concept of "press the button" As Sanders & T.Irene appeal to society and science [..Remember, the future is happening today. The purpose of mapping process is to allow you to see, respond to, and influence what is emerging. Sanders, T.Irene, 1998: 119]; They need the right time to mature and gain the naturalness to turn into professional behavior. At CIT, online education through open-source platforms has been developing for 7 (seven) years as an integrated, supportive, and competing part of the academic learning process. The academic and student community of CIT has built contracted (subscribed) partnerships, to use nonstop and without limits the didactic material base, book titles, and endless literature of McGraw Hill, one of the most prestigious teaching and publishing houses globally. Thus, for CIT students, online communication before and during development of teaching process in the auditorium is part of the conduct of the teaching and learning process. For this reason, this investment in resources and time has almost minimal cost even though we live in a period of COVID catastrophe.

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