ISSN NUMBER: 2717-7130

Vol:1, Issue: 1, pp: 9-17

International Journal of Social Science, Innovation and Educational Technologies (Online)

ARTANTAŞ. E. (2020)., Vol: 1 Issue: 1, pp: 9-17

***Keywords**: projects,e- health, Environmental*

Research Article

The Supporting of an e- Health Projects in the Context of Environment

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Arrived Date	Accepted Date	Published Date
17.01.2020	25.01.2020	31.01.2020

Jel Codes: B2, M1, M2

ABSTRACT

Environmental projects are large-scale public sector projects that require the participation of a number of public and private sectors working regularly for the benefit of the state. Public health and harmful environmental factors are a social problem that attracts the attention of governments around the world and sees that they are stepping into sustainable development. In this study, we consider electromagnetic fields as technologies developed to solve problems such as health, biogeometry and geographic information systems. In the context of these technologies, we propose a research for a project that can be used to advance research in large-scale interdisciplinary public health projects. Our thinking can be extended to other public sector projects as well as various geographical locations. This article illustrates one of the challenges of health information systems. Although there is reliable evidence, the positive effects of health information systems are inconclusive. In the field of health information systems with the aim of developing a new model the arguments in the literature are examined. This article also concludes that there is a need for rethinking to be effective for this field.

1. INTRODUCTION

Perceiving sustainable development as an environmental problem is reflected in institutionalization initiatives. As discussed by Paul and Ezz (2011), although the reliable and generalisable evidence demonstrating the positive effects of health information systems safety and quality remains inconclusive a growing body of research revealing the unintended consequences and potentially error producing effects of health information systems' implementation.

One of the aspects of sustainable development is a health threat. The term health hazards, limited exposure to air, soil, water or toxic substances as a result of anthropic activities, including risk associated with nuclear power plants and electromagnetic fields. Information technology plays an important role in solving the problem of sustainable development.

Especially in recent years, information technology and the use of systems supporting this process, geographic information systems (GIS) have been widely used. For example, GIS-based maps simply describe high-exposure areas for policy makers and planners. The GIS spatial database not only allows for the combination of different health hazards, but also the integration of other variables necessary for the assessment of social-geophysical factors, depending on the location of the site and its population, such as its proximity to radiation risk areas and population. Although there are extensive studies of some health hazards, these efforts are isolated and need integration.

This article proposes an integrated interdisciplinary framework that aims to benefit from the use of GIS in the context of health risks to propose a framework that can be used by governments on a global scale to incorporate sustainable development practices.

Healthcare applications are technically complex, and the software and hardware markets are considered to be less mature than the IT markets for other industries and for medical technologies.

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Leaders in the healthcare field recognise that in addition to technological challenges, high levels of resource commitment and leadership, changes in institutional structures (Schriger et al. 1997), planned and unplanned changes to health care practices must also be addressed if the potential benefits of IT in healthcare are to be realised.

From this evolved multidisciplinary science which we define as science in which several disciplines operate side by side, and there is little or no exchange occurring within different multidisciplinary research projects (Lawrence and Despres 2004).

At least in the previous couple of centuries, science historically evolved in disciplines, yet a solution-oriented agenda might question the rigidity and sometimes the desirability of ‘‘disciplinary silos’’. Solution-oriented research processes are concerned with outputs, often seeking broad social and economic impacts. Within research processes, resources can be allocated according to the need to approach specific wicked problems (e.g. climate change), and ultimately create solutions. These solution-oriented approaches can be interpreted as using inter- and transdisciplinarity as modes in which science can operate. Therefore, in solution-oriented agendas inter- and transdisciplinarity are means rather than ends, and the overall goal is to propose solutions to specific wicked problems (Harris et al. 2010).

This article is structured as follows. In the next section we examine the problem of electromagnetic fields as health hazards that need to be addressed by governments today. Then in section 3 we present the need to transdiciplinarity research when it comes to the application of large scale projects on public health.

Finally, we suggest a framework with the specific example of an application for prevention of public health hazards (section 5) and we conclude with current limitations and future projections.

2.Previous Research

There has been concern about possible health consequences from exposure to the radiofrequency (RF) fields produced by wireless technologies. According to the WHO (2006) mobile telephony is now commonplace around the world. This wireless technology relies upon an extensive network of fixed antennas, or base stations, relaying information with (RF) signals.

Over 1.4 million base stations exist worldwide and the number is increasing significantly with the introduction of third generation technology. Other wireless networks that allow high-speed internet access and services, such as wireless local area networks (WLANs), are also increasingly common in homes, offices, and many public areas (airports, schools, residential and urban areas). As the number of base stations and local wireless networks increases, so does the RF exposure of the population.

The impact of electromagnetic fields exposure on health has been discussed during the last few years from different perspectives. They range for listing electromagnetic fields as a potential health hazard to listing several diseases associated with the exposure. Some studies such as (Röösli, 2008), suggest that some more sophisticated study design is needed to bridge this research gap. Otto and Hlendahl (2007) record threats of potential diseases due to the magnetic and electromagnetic fields (EMF).In the context of low-frequency EMF, they mention that the results of epidemiological research with respect to childhood leukaemia prompted the International Agency for Research on Cancer (IARC) in 2001 to classify these fields as ‘‘possibly carcinogenic to humans’’.

3.Electromagnetic and Biogeometry Health Hazards

Electro-Smog as a subtle pollution has become one of the increasing problems inside our built environments. It is responsible for a condition known as electro hypersensitivity (EHS) as it is now being referred to by the Department of Health, the Health Protection Agency (HPA) and the World Health Organization (WHO).

Most of the solutions to Electro-Smog focus on reducing the radiation exposure and the number of electrical and wireless appliances despite their major role in our daily life. Using energy sciences such as BioGeometry, the harmful effects of electro smog will be neutralized. BioGeometry® uses specially designed shapes programmed according to a new 'Physics of Quality' to induce harmony in all levels of subtle energy in the environment. (Farouh, 2009).

According to Farouh (2009) BioGeometry® energy- quality balancing solutions are being applied to architecture, telecom networks, industrial design, boats and airplanes to transmute the effects of environmental energy disturbances from sources such as electro-magnetic radiation, structural design, and cosmic and earth-energy radiation. BioGeometry® science was used to solve the electro magnetic harmful hazards in two Swiss villages, Hemberg followed by Hirschberg. BioGeometry® uses the energy principles of geometrical shapes to balance biological energy systems within the overall framework of environmental energy interactions. According to Gilbert (2008), after a powerful cell phone tower was put in the middle of the Swiss city of Hemberg, residents began to fall ill. Animals and birds were seen to leave the area, and those confined to pens suffered miscarriages. The solutions provided in Hemberg were based on the placement of specially designed geometrical shapes in certain locations that radiate a harmonizing quality into the electromagnetic fields that propagate them into the environment.

This project was initiated in 2003 by the Mediation authority and Swisscom. After the BioGeomtrical solutions the quality of life was completely changed and improved like health problems, psychological complains etc. In November 2005 the local government of Appenzell IR commissioned the BioGeometry® researchers to solve the long standing electro-sensitivity problems in the area of Hirschberg, Switzerland. The success was repeated again and hailed in the media. The fact that one can reduce the harmful side effects of electro-sensitivity without reducing the amount of electromagnetic radiation was a perfect environmental solution compatible with modern technology.

During the last years, there has been growing attention to Biogeometry as a tool for health hazards reduction in several studies such as Dabaeh, (2006), Shiha (2009), Farouh (2008), and Abdel Aaal (2009) addressing the reduction of technological hazards through architectural designs with Biogeometry support in different contexts; Al Borolosy (2007), exploring the origins of architecture in different civilizations relating it to Biogeometry; Wafa (2009), proposing a framework for architectural design using Biogeometry concepts, Ahmed, (2004) and Al Sawy (2004), addressing very important issue concerning health hazards caused by artificial energy sources such as electrical devices and depending on the degree of pollution causing several diseases such as Alzheimer, cancer, headaches, fatigue and abortion. Al Morsy (2007) highlights the issue of reducing non-physical hazards through Biogeometry.

4.The Role of GIS in Public Health

As Kistemann et al (2002) clarify; the domain of health is no typical area to apply Geographical Information Systems (GIS). In environmental sciences, GIS have been widely used to analyze a huge variety of land characteristics, and to solve problems related to human activities (Carlon et al, 2001, Facchinelli et al, 2001, Thums and Farago, 2001, Nam et al, 2003, Blanco and Cooper, 2004 and Elbir, 2004). Nevertheless, the recent development clearly shows that also within the domains of environmental health, disease ecology and public health GIS have become an indispensable tool for processing, analyzing and visualizing spatial data. In the field of geographical epidemiology, GIS are used for drawing up disease maps and for ecological analysis. The striking advantages of GIS for the disease mapping process are the considerably simplified generation and variation of maps as well as a broader variety in terms of determining area units. In the frame of ecological analysis, GIS can significantly assist with the assessment of the distribution of health-relevant environmental factors via interpolation and modeling.

On the other hand, the GIS-supported methods for the detection of striking spatial patterns of disease distribution need to be much improved. An important topic in this respect is the integration of the time dimension. The increasing use of remote sensing as well as the integration into internet functionalities will stimulate the application of GIS in the field of Environmental Health Sciences (EHS). In future, the integration and analysis of health- relevant data in one single data system will open up many new research opportunities.

In the context of health risk assessment, GIS have been used for quantifying the human health risk through a system able to manage all the steps in a georeferenced structure (Bagli et al, 2004). Scoggins (2004) presents a study showing the use of GIS in the context of air pollution that relates ambient air pollution levels to mortality in Auckland, New Zealand, Urban airshed modeling and GIS-based techniques to quantify long-term exposure to ambient air pollution levels and associated mortality. The GIS-based exposure maps identify high exposure areas for policy developers and

planners in a simple and realistic manner. Taken together with overseas studies the study provides additional evidence that long-term exposure to poor air quality, even at levels below current standards, is a hazard to the public health.

5.The Need for Transdisciplinarity in Health Projects

Ezz et al (2006) have highlighted the need of transdisciplinary research in the context of large scale ICT and information systems projects. Bruce et al (2004) highlight Hicks and Katz (1996) arguments concerning increasing calls for more interdisciplinary approaches to problems, along with encouragement for greater collaboration and networking among institutions and researchers. Such encouragement is often based on the assumption that the research will contribute to more effective innovation and enhanced competitiveness. Pressure to encourage interdisciplinary research also comes from the need to solve complex socio- scientific problems, where one discipline on its own cannot provide an answer. However, this perceived need for interdisciplinary research, despite considerable financial encouragement and verbal exhortation is not being met by the research community, particularly when it comes to research which crosses the boundaries between natural sciences and social sciences (The Royal Society, 1996).

Existing research on experience gained from transdisciplinary projects shows the challenges faced by the project teams. For example Antrop and Rogge (2006) present a case study in urban planning, where while integration worked smoothly amongst the researchers, the collaboration was much more difficult with the program team and local stakeholders. There were several reasons for this.

The expectations of the program team were very high and it was not yet clear how the results of the study would be integrated in the whole of the project. The challenges could be summed up as follows:

- Too high expectations by the program team.
- The unclear definition of the end-users of the report.
- The lack of a common language: Difficulties in communication occurred mainly between the program team and research team and between the program team and the local stakeholders.
- Too limited time for communication.

Further challenges are discussed by Tress et al (2005) including that interdisciplinary rural studies often lack a strategy on how to make integration work in their project. Two main types of design and management for integrative studies can be distinguished: the parallel design and the integrated design. In the parallel project design, disciplinary subprojects run parallel to each other. Subprojects come together late in the project process and try to integrate their results. Contributions of the single subprojects are still identifiably in the end-product. Ezz et al (2006) give an example of the need for transdisciplinary research in the context of sustainable development in the context of integrated coastal zone management (ICZM). It is also clear through the literature review that there is still a need for transdisciplinary research models to support this complex and challenging task.

As the researchers mention, one of the main challenges of ICZM for sustainable development as a problem is that it necessitates the integration not only between different sectors but also, the integration among:

1. different coastal and marine sectors,
2. land and ocean sides,
3. science-management,
4. different nations (international),
5. inter-government.

However, lack of co-operation between involved agencies is one of the challenges as this is far beyond the concept of integrated management. Thus we can see ICZM as a management and collaboration problem.It needs extraordinary management approach to deal with it. We argue that collaboration research efforts should be extended to the process centred view to mange country's resources, in the context of sustainability in general and ICZM in particular.

However, multi-disciplinarity nature necessitating transdisciplinarity in the case of IS may mean openness to the wealth of knowledge from other disciplines necessary to deal competently with

the complexity of the IS phenomena. It also may mean cooperative relationships with other disciplines and constructive dialogues.

6.Using Technology to Tackle Public Health Issues in Transdiscipline Projects

Lawrence and Després (2004) discuss some key questions about the natural and human- made environment, at whatever geographical scale; need to be understood by innovative concepts and methods. This stems from the fact that the capacity of human societies to deal with environmental questions (such as climate change, health, land-use, forestry management, renewable and non-renewable resources, housing, poverty and urban planning) are insufficient even though many professionals are convinced that they have the "right answers".

The incapacity to deal with the above-mentioned problems is related to their complexity, to the compartmentalization of scientific and professional knowledge, to the sectoral division of responsibilities in contemporary society, and to the increasingly diverse nature of the societal contexts in which people live. In addition, the lack of effective collaboration between scientists, professionals and policy decision-makers has led to the "applicability gap" in sectors that deal with both the natural and human-made environment. There is an urgent need for innovative approaches in many situations, such as the blatant failure of the wealthiest countries of the world to provide all citizens with secure employment, affordable housing and appropriate health care that meet at least minimal requirements.

As Kistemann et al (2002) argue environmental health sciences (EHS) are dealing with the effect of natural and social environment on human health. Reflecting the complex and heterogeneous character of this structure, many sciences make specific contributions to its analysis, among them environmental hygiene and environmental medicine, toxicology and epidemiology, but also natural sciences, economics and social sciences. In many cases, the investigation requires a close interdisciplinary co- operation (Eikmann and Herr, 2001). If the aspect of spatial relation between human health and environmental factors is to be dealt with, the expertise of geographical science as being focused on a spatial approach is required. Along with the reintroduction of classical literature into medicine and the ™neo-Hippocratic∫ refocusing since the 18th century, the notion that place was a type of data: on one hand geometric data which are the co-ordinates of points defining also curves and areas and on the other hand the attribute data containing the factual information.

Thus, this area calls for transdisciplinary research, which focuses on the organization of knowledge around complex heterogeneous domains, rather than the disciplines and subjects into which knowledge seems inevitably to become organized in academic settings (Nowotny et al, 2001), 'transcending' the academic disciplinary structure. Further, it tackles complexity in science and it challenges knowledge fragmentation (e.g. Klein, 2004; Ramadier, 2004). It deals with research problems and organizations that are defined from complex and heterogeneous domains (e.g. Horlick-Jones & Sime, 2004). Beyond complexity and heterogeneity, this mode of knowledge production is also characterized by its hybrid nature, non-linearity and reflexivity, transcending any academic disciplinary structure (Balsiger, 2004).

The transdisciplinary strategy was adopted since it enables researchers to cross disciplinary borders and to deal with extra-scientific "real world problems". Depres et al. (2004) have identified a framework including the steps they went through while addressing a transdisciplinarity problem. They have also shown the key stakeholder's involvement in each phase. It is obvious that there is a coordinating team for each phase to facilitate the interaction between the multiple stakeholders including experts from different disciplines. (Schirnding, 2002) As been addressed in the above section the GIS can be used an integrator, in this case. The use of GIS is not limited to identify the combinatory health hazards per geographical area, but also for:

1. Monitoring the application current agreed upon hazards/ laws
2. Identifying new potential hazards
3. Identifying new patterns
4. Identifying new laws
5. Healthcare planning (hospitals distribution, equity)
6. Land use
7. Crisis management

7.Suggested Framework

According to Caro (2008), several e-health networks in Canada, Germany, Sweden and the United Kingdom have been implemented. These components must transcend the boundaries of e-networks to engage and integrate transcendent forces in the form of public governance agents rooted in larger socio-political environments. In effect, information system professionals must acquire transcendent knowledge and skill sets to engage the "transgenic" forces, or key socio-political elements, that are critical in evolving inter-sectorial e-networks. Engaging and co-opting these transgenic forces appear to be particularly important in national health care systems, where public governance is a key socio-political value.

The research will be explored by using modern technology by launching the infrastructure for an interdisciplinary e-health community in the Mediterranean region and other European and non-European partners.

Based on the idea of sustainable development, the proposed community will address not only health issues, but also environmental issues and environmental issues.

**The researcher is a part-time academician. He also works at the Ministry of Health. Since he did not live in the research area; He presented his suggestions, his contribution to swot analysis and his studies such as data analysis through Webinar meetings. The academician, who is proficient in the field of technical and health, has also made suggestions about application techniques since he is an expert in the field of informatics. And other researcher is Dr. Esra SİPAHİ. *The researcher is a part-time academician. She also works at the Ministry of Education.*

It is believed that these recommendations will contribute to ICT technologies in other environments such as TREIHT.

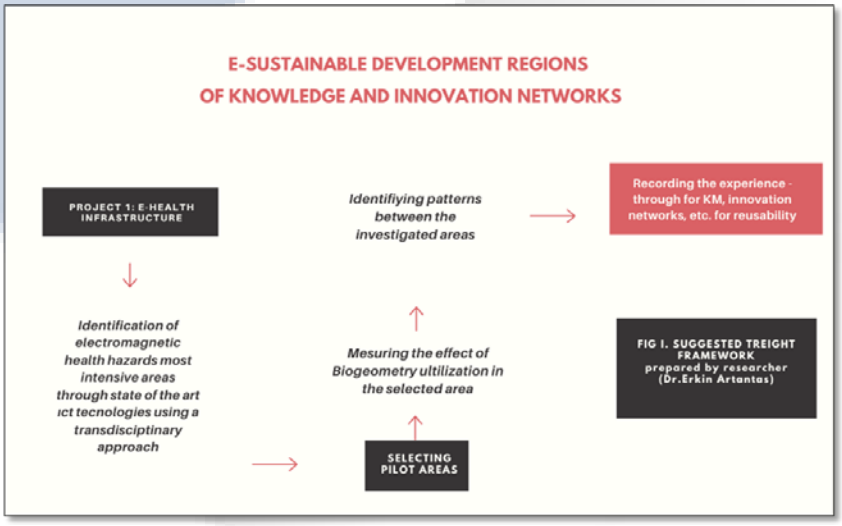

Fig. 1 Suggested TREIGHT Framework

The proposed TREIHT project (fig.1) relates to certain health hazards in the context of electromagnetic fields to identify the most affected areas. Pilot research projects were implemented under the auspices of the Swiss Mobile Communications and Environment Mediation Agency (MAMCE) and develop a supportive infrastructure.

BioGeometry® is based on many areas around the world. (energy quality balance is applied to architecture, telecom networks, industrial design, boats and aircraft to transform the effects of environmental energy degradation such as electromagnetic radiation, structural design, cosmic and earth-energy radiation).

Ethical issues such as the elimination of injustice in health will be considered as a priority. The term environmental justice includes everyone's right to a healthy environment: bad environments in the health sector are disproportionate among disadvantaged people in society. It is intended to be

reusable in the context of other e-health and other non-e-health practices. When the literature researches are examined, no comprehensive study has been found in this field. It is also important to support the development of e-government and e-governance.

Conclusions

In this research, e-sustainability development research is presented from an interdisciplinary perspective. Sustainable development requires the successful implementation of information systems projects that are complex and require interdisciplinary collaboration to solve real-life problems. By e-sustainable development, we mean large-scale information systems projects, including technical and non-technical infrastructure enabling integration.

One aspect of sustainable development is the threat to health hazards, as the links between health and economic development are becoming increasingly recognized, especially in terms of health's contribution to poverty reduction.

Addressing the human dimension of sustainable development is accepted as the basis for achieving its goals. Our research supports the first principle of the Rio Declaration of 1992: "People stressed that sustainable development is at the center of concern".

Therefore, in our proposed framework (TREIGHT), sustainable development has been explored by extending the scope of eHealth to include local environmental impacts as additional health factors.

System thinking forms the basis of the modeling approaches we apply to the problems considered. The TREIGHT project aims to model an infrastructure for the prevention of electromagnetic health hazards using the Biogeometry approach.

Work; their long-term goals are important in terms of addressing the needs of e-sustainable development and future work in this area, including e-Health and large-scale information systems projects not only used by Health Institutions. This article illustrates one of the challenges of health information systems.

Although there is reliable evidence, the positive effects of health information systems are inconclusive. In the field of health information systems with the aim of developing a new model the arguments in the literature are examined. This article also concludes that there is a need for rethinking to be effective for this field.

REFERENCES

Abdel Aaal, M. (2009). "A Novel Approach to Interior Design Components from the Energy Sciences Perspective," Ph.D. Faculty of Fine Arts, Helwan University.

Ahmed, N. (2004). "Qualitative Energy Balance in Interior Spaces," Msc. Faculty of Fine Arts, Alexandria University.

Al Borolosy, L. (2007). "Balancing Resonance in Architecture and Urbanization," Msc. Faculty of Engineering, Cairo University.

Al Morsy, I. (2007). "The Role of Environmental Design to Reduce Non- Physical Hazards to Human Health Inside Buildings," Msc. Faculty of Engineering, Mansoura University.

Al Sawy, M. (2004). "Biogeometry and Architecture," Ph.D. Faculty of Engineering, Cairo University.

Antrop, M. & Rogge, E., (2005). "Evaluation of the Process of Integration in a Transdisciplinary Landscape Study in the Pajottenland (Flanders, Belgium)," Landscape and Urban Planning, 77(2006). 382-392.

Bagli, S., Morra, P. & G. Spadoni, G. (2004). "The EHHRA Tool: A Decision Support System for Assessing and Managing Human Health Risk from Industrial Activities," Proceedings of 11th international symposium loss prevention, 31 May-3 June 2004, Prague, 1457-1463.

Balsiger, P. W. (2004). "Supradisciplinary Research: History, Objectives and Rationale," Futures, 36 (4). 407-421.

Blanco, G. A. & Cooper, E. L. (2004). "Immune Systems, Geographic Information Systems (GIS). Environment and Health Impacts," J. Toxicol. Environ. Healt, 7, 465–480.

Bruce, A., Lyall, C., Tait, J. & Williams, R. (2004). "Interdisciplinary Integration in Europe: The Case of the Fifth Framework Programme" Futures,). 36, 457-470.

Carlon, C., Critto, A. Marcomini & Nathanail,P. (2001). "Risk Based Characterisation of Contaminated Industrial Site Using Multivariate and Geostatistical Tools," Environ. Pollut., 111, 417–427.

Caro, D. H. J. (2008). "Deconstructing Symbiotic Dyadic E-Health Networks: Transnational and Transgenic Perspectives," International Journal of Information Management, 4, 94-101.

Cecez-Kecmanovic, D. (2006). "The Discipline of Information Systems—Boundaries Crossed, Boundaries Pushed," Faculty of Management, University of Western Sydney, [Online], [Retrieved January 2, 2020], http://www.sistm.unsw.edu.au/people/dubr avka/CECEZ1.HTM

Dabaeh, M. (2006). "Biogeometry as an Integrated System for the Design of Architectural Spaces," Msc. Faculty of Engineering, Cairo University.

Després C., Brais N. and Avellan S. 2004. 'Collaborative planning for retrofitting suburbs: transdisciplinarity and intersubjectivity in action'. Futures, 36 (4): 471-486.

Eikmann, T. & Herr, C. (2001). "Novellierung der (Muster-) Weiterbildungsordnung – eine neue Herausforderung für die Umweltmedizin?," Umweltmed Forsch Prax, 6 (2001). 1.

Elbir, T, (2004). "A GIS Based Decision Support System for Estimation, Visualization and Analysis of Air Pollution for Large Turkish Cities," Atmos. Environ., 38 (2004).4509–4517.

Ezz, I., Furlong, S. & Papazafeiropoulou, A. (2006). "Large Scale E_Government Projects: The Need For Transdisciplinary Collaborating Teams," eGovernment Workshop "06 (eGOV06). Brunel University, London.

Facchinelli, A., Sacchi, E. & Mallen, L. (2001). "Multivariate Statistical and GIS-Based Approach to Identify Heavy Metal Sources in Soils," Environ. Pollut, 114 (2001). 313–324.

Farouh, H. (2008). "Peace, Energy and Environment for Architectural Morphogenesis," Ph.D. Cairo University.

Farouh, H. (2009). "Harmonizing Electro- Smog in the Built Environment Experimental Project in Hemberg, St. Gallen, Switzerland," Proceedings of the 4th IASME/WSEA international conference on Energy & environment, 278-283.

Galliers, R. D. (2004). "Trans-disciplinary Research in Information Systems", International Journal of Information Management," 24 (2004). pp. 99-106.

Gilbert , R. J. (2008). "The Hidden Energy Science of Sacred Geometry: Ancient Traditions and Recent Breakthroughs," [Online], [Retrieved January 22, 2010], http://vesica.org/main/sacred-geometry/ sacred-geometry-articles/1027-the-hidden- energy-science-of-sacred-geometry.

Hicks, D. M. & Katz, J. S. (1996). "Where is Science Going?". Science, Technology & Human Value, 21 (1996). 379–406.

Horlick-Jones, T. & Sime, J. (2004). "Living On The Border: Knowledge, Risk and Transdisciplinarity," Futures, 36(4). Kistemann, D., Dangendorf, F. & Schweikart,

J. (2002). "New Perspectives on the Use of Geographical Information Systems (GIS) in Environmental Health Sciences," International Journal of Hygiene and Environmental Health, 205 (2002). 169-181.

Nam, B. H. S., Eom, K. C., Lee, S. H. & Smith, A. (2003). "Distribution of Polycyclic Aromatic Hydrocarbons in Agricultural Soils in South Korea," Chemosphere, 50 , 1281–1289. Newell, S., & Galliers, R. D. (2000). "More Than a Footnote: The Perils of Multidisciplinary Research Collaboration," Proceedings: AIS Americas Conference, Long Beach, 10–13 August 2000, CA, VOL III 1738–1742.

Nowotny, H., Scott, P. & Gibbons, M. (2001). Re-Thinking Science: Knowledge and the Public in an Age of Uncertainty, Polity Press, Cambridge, UK.

Paul R.J. and Ezz I. 201. 'Health Information Systems: A User Perspectıve'.16th Annual Conference of teh UK Academy of Information Systems (UKAIS 2011). St. Catherine's College, Oxford.

Otto, M. & Hlendahl, K. E. M. (2007). "Electromagnetic Fields (EMF): Do They Play a Role in Children'S Environmental Health (CEH)?," Int. J. Hyg. Environ. Health, 210, 635–644.

Ramadier, J. (2004). "Transdisciplinarity and its Challenges: The Case of Urban Studies," Futures, 36 (4). 423-439.

Röösli, M. (2008). "Radiofrequency Electromagnetic Field Exposure and Non- Specific Symptoms of Ill Health: A Systematic Review," Environmental Research, 107, 277-287.

Röösli, M., Moser, M., Baldinini, Y., Meier, M. &. Braun-Fahrländer, C. (2004). "Symptoms of Ill Health Ascribed to Electromagnetic Field Exposure—A Questionnaire Survey," Int J Hyg Environ Health, 207, 141–150.

SchrigerD., Baraff L., Rogers W. And Cretin L. 1997. 'Implementation of clinical guidelines using a computer charting system'. The Journal of the American Medical Association, 278: 1585– 1590.

Schirnding, Y. (2002). "Health and Sustainable Development: Can We Rise to the Challenge?," The Lancet, 360, 632-637.

Scoggins, A., Kjellstrom, T., Fisher, G., Connor, J. & Gimson, N. (2004). "Spatial Analysis of Annual Air Pollution Exposure and Mortality," Science of The Total Environment, 321, 71-85.

Shiha, I. (2009). "The Study of Vital Energy Design of Architectural Spaces in Touristic Villages at the Red Sea," Msc. Matareya Faculty of Engineering.

The Royal Society (1996) Interdisciplinarity Transport and the Environment, The Royal Society, London.

Thums, C. & Farago, M. (2001). "Investigating Urban Geochemistry Using Geographical Information Systems," Sci. Prog. 84, 183–204.

Tress, B., Tress, G. & Fry, G. (2005). "Integrative Studies on Rural Landscapes: Policy Expectations and Research Practice," Landscape and Urban Planning, 70, 177-191.

Wafa, M. (2009). "The Effect of Earth Energy on Architecture," Msc. Faculty of Fine Arts, Alexandria University.

WHO (2006). "Electromagnetic Fields and Public Health," Fact sheet N°304, May 2006, [Online], [Retrieved October 2, 2019], http://www.who.int/mediacentre/factsheets/fs304/en/index.html.