EVALUATION OF SOFT SYSTEM METHODOLOGY (MODE 2) TOWARD ONLINE DISTANCE EDUCATION IMPROVEMENT - CASE OF SAUDI ARABIA.

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Abstract:

Learning and understanding about complex situations is considered now a key issue in implementing information systems (IS) and technologies (ICT). Systems thinking literature has discussed Checkland's Soft Systems Methodology (SSM) Mode 2 as a learning approach that facilitates learning among stakeholders at different levels of the social organization prior to or during IS/IT design and implementation. Engagement of different people's views, ideas, and goals within this learning process can support the improvement of the whole system of human activity as most individuals concentrate more on their activities and less on other processes in the system. We believe that SSM- Mode 2 still needs more research and exploration. This paper discusses SSM-Mode 2 as an enquiring tool to improve online distance education systems (ODE) management. Soft systems thinking is used as a conceptual lens to conduct and analyse data in a higher education institution in Saudi Arabia. Our findings suggest a new soft systems perspective on the learning process for management solutions to enhance SSM mode 2 as well as contribute to more inclusive and efficient educational practices in the online distance education.

Keywords: soft system methodology, Mode 2, online distance education, learning process.
Track Name: Solutions from a Management Perspective

1. INTRODUCTION

Learning and understanding about complex situations is considered now a key issue in implementing information systems (IS) and technologies (IT). Systems thinking literature has discussed Checkland's Soft Systems Methodology (SSM) Mode 2 as a learning approach that facilitates learning among stakeholders at different levels of the social organization prior to or during IS/IT design and implementation. Online Distance Education (ODE) is a form of education that relies on Internet-based education as opposed to face-to-face learning in classrooms. The resulting IS for ODE allows the educators and the learners to interact regardless of the separation in space (synchronous learning) or time (asynchronous learning). To facilitate the learning process, information and communication technology (ICT) plays a significant role. According to Bates (2005), the development of the Internet has contributed significantly to revolutionizing ODE. Earlier options included the use of post as a medium for ODE.

Typically, ODE initiatives that include programmes and projects are characterized by goals with (well-defined) and without (ill-defined) measurable indicators of success. Political and social aspects influence definition of ill-defined challenges as well as how they are addressed. According to Jackson (2000), management practices are affected either positively or adversely due to ill-defined problems that play a key role in establishing relationships that contribute to "emergent properties" of systems. The hard systems approach (oriented to meet pre-defined goals without proper consideration of ill-defined or messy issues) was challenged and redefined by the development of soft systems methodology (SSM) by Peter Checkland with assistance from associates at the University of Lancaster (Checkland, 1981; Checkland & Poulter, 2010; Checkland & Scholes, 1990). According to Checkland (1981), SSM assists practitioners in tackling real-world problems by drawing on the perceptions of multiple individuals involved in order to learn to make better sense of a situation as a whole as shown in Figure 1.

According to Jackson (2000) and Checkland and Scholes (1990), there are two modes of SSM, with Mode 1 concerns with the practical SSM application in a real world step by step while Mode 2 deals with the use of SSM to learn about the situation itself (and that includes the intervention itself as shown above in Figure 1). Due to the existence of Mode 2, soft systems methodology is a significantly innovative approach to making sure that any proposal for change is grounded in an adequate process of arriving at it, not only SSM itself. Mode 2 involves using different stages of SSM in a reflective way to structure how to conduct the intervention, so that those using SSM ideas can learn about a situation without having to fully engage with it.

This paper aims to identify then how using SSM in Mode 2 can also help a better understanding of a situation in which ODE is implemented and management. It will discuss how the complex situation of the ODE system at KAU was explored by using a soft systems approach and how this approach helped researchers learning about a situation and gaining some preliminary insights prior to propose some possible ways to improve it. This was helped by partially using some stages of SSM and taking into account different stakeholders' perspectives. This case could lead to propose a novel approach in learning about and managing ODE systems and in using soft systems tools to this field.

Figure 1: Seven Stages of SSM within two streams; logical and cultural. (Checkland & Scholes, 1990, p. 28).
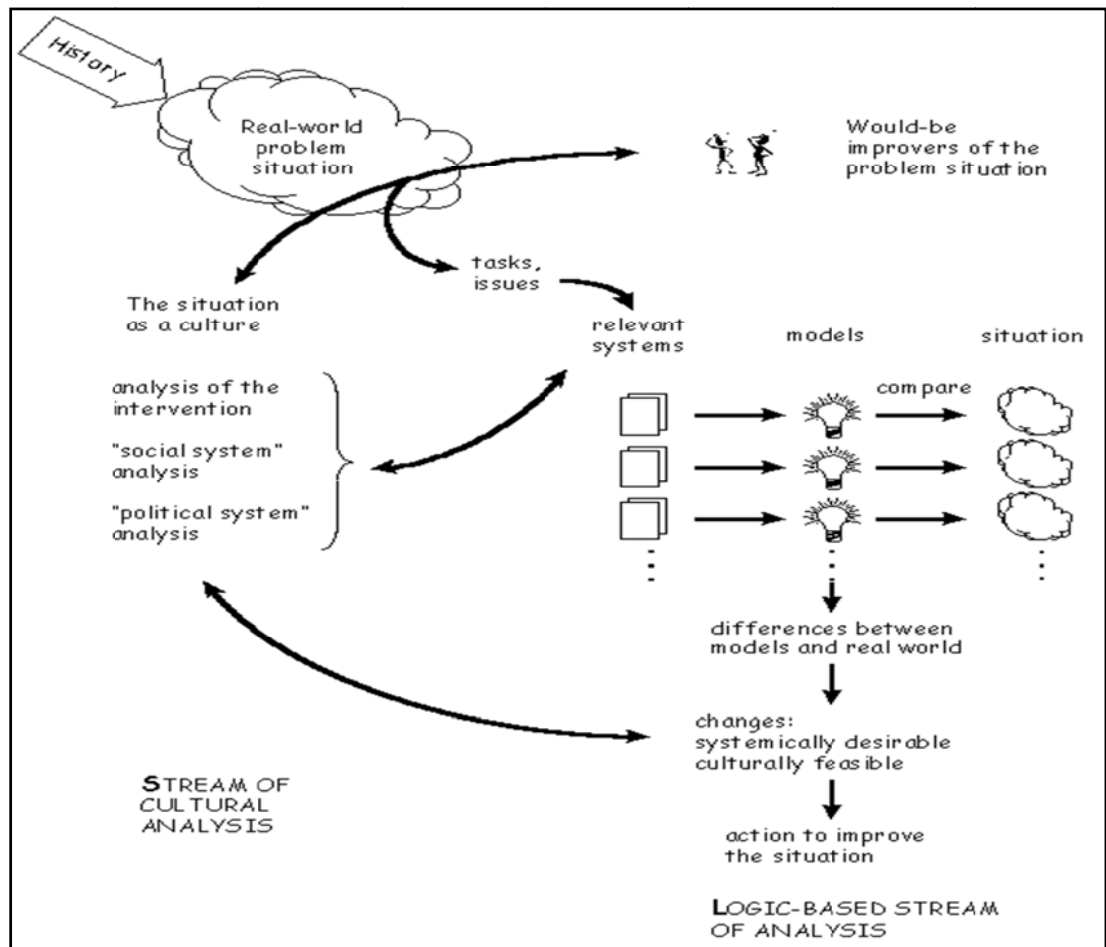
The next section of this paper will review briefly state the problem. Then the theoretical assumptions that underpin SSM- Mode 2 and its use as a learning process are presented, followed by a description of how SSM tools and principles (stage 1 and 2) support the researchers to learn about the ODE system at KAU. Next, the stakeholders' classifications and cultural and political environments are presented. We conclude by showing how the role of this approach in simplifying the processes of learning about and developing the ODE system in order to satisfy the needs of the stakeholders and achieve more successful management practices.

2. STATEMENT OF THE PROBLEM

ODE has been adopted by numerous countries in the world, especially developing countries (Alkhalaf, Nguyen, & Drew, 2010; Research and Markets, 2012). In Saudi Arabia, ODE was implemented in 2006 among the main institutions in the country (Alenezi, Karim, Malek, & Veloo, 2010). Though there have been numerous studies on ODE in Saudi Arabia, the challenges it has encountered have not been adequately addressed in a holistic manner (Altowajry, 2005; Alzahrani & Woollard, 2012; Chanchary & Islam, 2011; Hamdan, 2005; Khan, 2011; KSU, 2010; Ibrahim,

Rwegasira, & Taher, 2007; Mirza, 2008; Rugh, 2002). A key assumption that drives this paper is that a dominant approach of ODE implementation is goal-based, meaning that ODE is to meet a number of targets in terms of efficiencies, number of students to be enrolled and number of courses to be put online. This assumption obscures ill problems related to implementation as well as a better understanding of how ODE plays a role in the wider education systems where it is implemented. To develop an alternative perspective to ODE, the ideas of soft systems thinking are introduced in the next section.

3. THEORETICAL VIEW OF SSM- MODE 2

The conceptual view of soft systems suggests that the social system is characterized as an open system that relates to its environment. The soft systems are complex because they comprise several interrelated subsystems; a system engages individuals involved with it as they explore and learn more concerning complex situations (Checkland & Scholes, 1990). To achieve this, the soft systems approach tends to construct meaning through assumptions that the situation will be improved. The stakeholders determine the system's desired results through manipulation and conceptual contribution. In this study, the soft systems view aids the pluralistic nature of the stakeholders in the ODE system to construct and define the expected goals in regards to improvements of its existing ill-defined challenges. Some of the issues that require intervention include socially oriented problems, especially those existing in the social system, as well as understanding the ways in which people plan and implement IS and ICT in such system (Cordoba-Pachon, 2010). Due to the variety of stakeholders and perceptions, definition and measurement of the social problems tends to be difficult to achieve.

4. SSM- MODE 2 AS A LEARNING PROCESS

A visible and so far popular approach to soft systems thinking is Soft Systems Methodology (SSM). The aims of SSM include facilitating learning among the stakeholders; therefore, it can be classified as a learning-oriented method for the SSM practitioner in relation to Mode 2 (Checkland, 1981; Checkland & Poulter, 2010). This mode of SSM allows a problematic situation to be analysed and for improvements to be established through an internalised process. Various views on the problems, whether internal or external, assist the learners to evaluate the reality of the existing problematic situation. Additionally, the process helps the learners to understand the characteristics of a complex environment through the exploration of holistic analysis levels, including analyses of the political and cultural environments (Checkland & Poulter, 2010). This can be achieved with the aid of SSM tools (stage 1 and 2) as shown in Figure 1.

The SSM practitioner can also learn about system improvement through the root definition and development of conceptual models as demonstrated in stage 3 and 4 in Figure 1. This leads the learner to gain more knowledge about how to potentially act purposefully to improve the efficiency of ODE. Stage 5 will encourage the SSM practitioner to compare conceptual models with the real world through understanding the challenges and possible improvements for the existing ODE environment.

A full coverage of both stage 1 and 2 as presented in figure 1 has been also termed using SSM in process and content mode (Checkland and Winter, 2006). The process mode can help understand how to better organise the learning process about the situation (cultural and political systems analysis) whilst the content mode can be used to directly intervene into it (logical stream of analysis). The learning process facilitated by SSM- Mode 2 is more iterative of these streams of analysis and is internalised by the researcher (Flood, 2010). This could mean that iteration between different stages would happen more in this mode than in mode 1, and that the enquiry process can begin at any stage and stop at any point as required (Checkland & Poulter, 2010). When any action proposal for change is defined, (stage 6) in Mode 2, this change could be applied to the complex situation, but this requires dialogue with and understanding of stakeholders' goals and aims, which could also help the researcher gain a better understanding of the political and cultural contexts. In this regard, the learning process about what could potentially be put in practice may begin again with the aim of developing knowledge to understand the new emerging situation that results from discussions.

In summary, SSM- Mode 2 is an iterative action-oriented approach for internal learning purposes. It is accomplished through the SSM practitioner's reflection on a situation with the help of the seven stages, which can be used in either a parallel or a sequential way.

5. ODE SYSTEM IN KING ABDULAZIZ UNIVERSITY

The focus of this research is on stages 1 and 2 of SSM, which assist researchers to develop a more structured approach while conducting an empirical study. Information was gathered through direct observation, semi-structured interviews, and a deeper understanding of the social environment in the region to enable one of the authors of this paper to achieve a better understanding of the complexities of the existing situation as well as of the use of SSM stages. In relation to the first aspect, it was perceived that the development of the ODE system at KAU has experienced challenges linked to cultural and political factors, thus making KAU a perfect place to base the research. The process of exploration was designed to ensure the researcher's understanding of the components of the ODE system, who were significant stakeholders, their roles, as well as a first glimpse of emergent issues coming from the cultural and political contexts surrounding the ODE system at KAU.

5.1 Cultural context

One of the significant social aspects is the language used in the Kingdom of Saudi Arabia. Arabic is the most widespread language in the country. Therefore, the majority of activities are conducted in Arabic because most of the population is comfortable with the language. English is the second-most widely used language second famous language in the country. Islam is the dominant religion in the area. In most places, communities are conservative and tend to acknowledge and respect traditional religious views. Additionally, daily life is influenced significantly by the religion, which defines various activities in the country. The way of conducting life at home and in the workplace and other institutions is determined by Islamic teachings and instructions. In other words, the way of life in Saudi Arabia is dependent on religious values at both the individual and the community level.

Gender segregation is another important aspect in the country governing various social settings. For instance, learning and business institutions have separate quarters for each gender. Males tend to function in different areas than women to avoid physical contact and interaction. Regardless of the gender separation in most higher education institutions in Saudi Arabia, there is a single curriculum and universal examinations for all in the case of King Abdul-Aziz University. The campus allows communication between people of different genders through emails, telephone calls to other campuses.

5.2 Political context

In accordance with Islamic laws, respect for elders is encouraged in the society. For this to be achieved, ranks are established and acknowledged in various places including homes, learning institutions, workplaces, and businesses. For an individual engaged in a conversation, a certain hierarchy is determined by age, status, family, gender or one's position in the society. In most cases, older individuals tend to have influence on decisions about issues that happen in the society. Males dominate most of the decisions and activities in the society with respect to the hierarchies that exist in the kingdom.

The same type of hierarchy dominates KAU, especially in terms of the decisions adopted by the university. Therefore, the ODE system is one of the educational environments that are negatively affected by the ranks in Saudi Arabia. Members in higher positions have more power and authority than members in lower positions in the ODE system. The ranks act as a barrier to innovation and expression, especially in relationships involving stakeholders such as students and teachers. The ODE system should assist learning, with the students benefiting significantly. Therefore, their opinions should be accounted for during the process of making decisions. In other words, the ranks contribute to individuals and community members lagging behind other developed communities in the world—particularly in aspects related to innovation and development.

5.3 Stakeholder classifications

Various stakeholder characteristics contribute to differentiated ideas, responsibilities, and classifications in the implementation of the ODE system at KAU. This study should consider various views and ideas and analyse them to identify which will enhance the growth and development of the considered system. The identification and classification of the stakeholders is crucial for planning purposes. Most of the significant stakeholders in KAU's distance education system include the staff members of the deanship of e-learning and distance education, the academic members, and the students. The stakeholders were interviewed with the aim of identifying their organizational roles and responsibilities, relationships, and the possible impacts they could have in changing the system the possible impacts they have in restriction the situation.

The deanship members include administrative and technical staff members who are in charge of ensuring that the curriculum is followed and giving notification of any changes that may arise. They also are in charge of ensuring that learning materials, schedules, and media to facilitate e-learning and distance learning are implemented successfully. The administrative concerns of the staff members include ensuring that schedules are implemented by the university as well as acknowledging the students enrolled in the program for management purposes. The academic members are in charge of delivering learning materials, activities, and exams that are used to

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evaluate the success of the learning program. Trends are established with time to determine the success or failure of the system. It is their responsibility also to identify problematic situations that may contribute to the failure or delay of the program.

Finally, the students have to follow instructions for the classes they take online and complete tasks assigned to them. Their significant mandate includes learning and enhancing their skills in the institution. Their contributions nevertheless include ideas about the methodology that could be helpful in developing a more efficient ODE system.

6. DISCUSSION AND CONCLUSION

The directive of this paper was to propose SSM- Mode 2 as a learning approach to support the researcher's understanding of KAU's ODE system as perceived by various stakeholders. Some key ill-defined issues were also identified. According to the findings of stage 1 and 2 of SSM, it is essential to note that a complex relationship exists between KAU's distance education system and its political and cultural contexts. Understanding these two aspects can assist the management in addressing emergent ill-defined issues related to this connection as well as encouraging the learning process using SSM- Mode2. In the case of KAU, issues were discovered after conducting interviews with the main stakeholders involved in the ODE system.

The adoption of SSM- Mode 2 can contribute to a better understanding of relationships in complex situations and its practitioner gain a comprehensive understanding of whatever situation is under study. Engaging different stakeholders and interacting with them through discussion and negotiation in different stages of SSM can increase practitioners' ability to learn within SSM- Mode 2. Interpretation and reflection on peoples' views and ideas ensure better decision making regarding the problems within their political and cultural contexts. It is clear that hierarchies and gender segregation in the political and cultural environments can hinder proper personal and institutional performance.

Initial findings about the situation suggest that online distance education systems can develop more successful educational practices if ideas about soft systems thinking are incorporated in ODE management. The researchers has used this type of thinking to explore complex situations and this has helped her to better structure her learning about the situation of ODE. SSM- Mode2 is a practical way to do this based on the notion that human activity systems can be an expression of the perceptions of people who give meaning to what they perceive. There are therefore only possible perceptions, all of which are valid in accordance with a certain world view and no single account can be fully privilege or account for what is happening in the human activity system as a whole. This methodology organizes a learning process, in contrast to hard systems engineering that seeks to design a solution mechanically.

The initial exploration has also yielded some insights which could inform future work. There are relevant ideas of possible and culturally feasible improvements that can be made to the whole education system to fulfil the needs of different stakeholders. This study represents a contribution to fully engage with SSM- Mode 2 as a learning process for ODE development. Its relevance to the

Saudi context as well as the ODE community in general is to be further ascertained, shaped and disseminated in future research.

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