

Understanding correlation between organizational and national culture is important for sustainable use of Health Care Technologies

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Abstract

Quality of Health Care has been significantly improved through advancement of medical technologies by enabling health professionals to diagnose diseases more rapidly and accurately, patients to recover sooner and with improved quality of life, health care providers to be more efficient and increase economic productivity and control costs. In order to benefit from unprecedented technology advancement in health care, it is important to additionally focus on organizational factors, workflow redesign and human factor issues. Structural design and culture of the organization need to be associated with the predominant national culture. Several literature findings indicate that harmonious alignment of organizational and national culture support organizational learning that promote effective utilization of the new technology. Authors are presenting a case study designed to explore appropriate methodology for sustainable implementation of Health Care technology projects in Serbia., with special attention to analysis of particular dimensions of national culture correlated with organizational culture and structure.

Keywords: health management, organizational culture, e-health, sustainable implementation of technology, cultural dimensions

1. INTRODUCTION

Existing health care technologies have already raised life expectancies quickly and dramatically even in poor countries without much health infrastructure. Human Development Report 2001 (Oxford University Press, 2001), commissioned by the United Nations Development Program (UNDP) argues that information and communications technology and biotechnology can actually make major contributions to reducing world poverty: “ Ignoring technological breakthroughs in medicine, agriculture and information will mean missing opportunities to transform the lives of poor people”. Nevertheless, all new technical implementations, impact the social system of which they become a part [1]. The technological innovation and the desire to diffuse it into the medical profession of the project region, must strategically engage stakeholders within its project scope, and be sensitive to cultural beliefs and the local values system. Effective change requires that people not only believe that change is necessary but understand how change will come about and what the consequences will be. Change management is about people, not about changing technology or processes. For change to work, it needs participation from all sides. It should involve all stakeholders, but the message, the training and the

involvement should be tailored to the needs of each individual group. For change to last, it has to be reinforced. And the more control people feel they have over the change, the less stressed they become [2].

When introducing a new technology that changes the core processes of an organization, it is important that the structural design and culture of the organization is aligned with the predominant national culture in which the organization is embedded [3]. When a harmonious alignment is achieved, speedy and effective organizational learning can occur. This, in turn, promotes effective utilization of the new technology [4].

2. BACKGROUND AND SIGNIFICANCE

Organizational culture is recognized as a key component of knowledge management and organizational learning and is found to be considerably influenced by national culture [5]. Cultures have an important impact on management approaches, so the cultural differences call for differences in management practices [6,7]. For organizational culture to function effectively as a part of managerial mechanism, the organizational culture and the formal organizational structure must be harmoniously interrelated [8]. The structure and culture of an organization must be aligned with the demands and predispositions of the national culture in which the organization is embedded. Even economic theory recognizes the importance of culture in shaping the behaviours of individuals and institutions. It proposes that beside the formal, the informal institutional context (termed as “cultural socialization”) has influence on the governance structures that coordinate individual action within firms [9].

The culture is perceived as “the collective programming of the mind which distinguishes the members of one human group to another”, and as its building blocks includes “systems of values”. As such, culture is conceptualized and measured through different value dimensions [10,11]. Based on surveying attitudes of 116,000 employees within subsidiaries of IBM in 40 countries and 3 regions Hofstede in 1980 proposed four basic cultural dimensions, largely independent of each other: (1) Individualism vs. Collectivism, (2) Power Distance (3) Uncertainty Avoidance, and (4) Masculinity vs. Femininity.

Collectivism is measured by the Individualism Index (IDV) ranging from 0 (low Individualism, high Collectivism) to 100 (high Individualism). Power Distance is measured by the Power Distance Index (PDI)

ranging from 0 (small PD) to 100 (large PD). Uncertainty Avoidance is measured by the Uncertainty Avoidance Index (UAI) ranging from 8 (lowest UA country) to 112(highest UA country). Masculinity vs. Femininity is measured by the Masculinity Index (MAS) ranging from 0 (low Masculinity) to 100 (high Masculinity).

Hofstede's original research into national cultures included the former Yugoslavia as the only East European country. After the dissolution of former Yugoslavia, Hofstede (2001) adapted the original data into data on the national cultures of Slovenia, Croatia and Serbia. According to Hofstede the Serbian national culture is characterized by high PDI - 86 , high UAI- 92, Collectivism – low Individualism (IDV)- 25, and high to medium Femininity– low to medium Masculinity (MAS)- 43. With reference to implementation of E- Health programs Hu ,suggested that cultural and professional, organization variables may be more explanatory of e health use , than perceived usefulness or perceived ease of use. Bangert and Doktor in 2005, found the work of Geert Hofstede insightful when considering the organizational designs for successful e-health implementation. They argued that only through a

	Organizational characteristic	Average Mark (1-5)	Rank (1-10)
1	Support from superiors	4.52	4.9
2	Involvement of superiors	4.12	4.8
3	Clear instructions from superiors	4.57	5.8
4	Independence in choosing own work style	4.19	4.5
5	Decision making in own line of work	4.23	5.5
6	Good working relations with colleagues	4.60	5
7	Good communication with superiors	4.74	4.8
8	Acknowledge of individual performance through salary	4.12	5.9
9	Career advancement through individual performance	4.35	6.3
10	Support for continuing education	4.4	6.8

harmonious match of organizational structure and culture effective and efficient organizational learning can emerge. And it is only through organizational learning that new technologies can be effectively utilized.

3. RESEARCH OBJECTIVE

The goal of this research was to test general hypothesis that certain problems in implementation clinical e-health programs in Serbia are organizational in their origin, and correlate with dominant national culture. To understand these problems we have investigated a number of organizational characteristics, and associated them with certain cultural dimensions. Our intent was to explore optimal organizational design for e-health projects, associated with the predominant national culture. Our hypothesis was that for Serbia with high PDI (86), high UAI (92), and Collectivism – low Individualism (IDV- 25), successful organizational design of e-health projects has to be strongly supported by leadership, but with dominant collectivistic character.

4. RESEARCH METHODOLOGY

4.1. Study design

This case study was conducted in Health Centres in Vranje and Zajecar , in a process of implementation of e health programs in 2010 and 2011. Organizational culture was investigated by questionnaires and unstructured interviews to assess participants views on optimal organizational design in health care in reference to implementation of this e-health program. Investigation included 97 employees, (74 female, 25 male) with different educational background (50 with high school education, 47 with higher education), and work experience (as a rule over 5 years). Participants in the survey were asked to grade on a scale from 1 to 5 (1- not important; 5 - very important) particular organizational characteristics (presented in a table 1.). Subsequently they were asked to also assign the rank from 1-10 (1 as the most important...)to the same set of characteristics. These organizational characteristics were found in the literature to correlate with organizational culture and structure (Bangert, Doktor,) [12].

5. RESULTS

The results of investigation of organizational characteristics are presented in the Table 1 and the Figure 1. Average mark (5 maximum) and average rank (1 as the most important) for each investigated characteristic are presented numerically in Table 1.

Table 1. Average marks and average rank for investigated characteristic

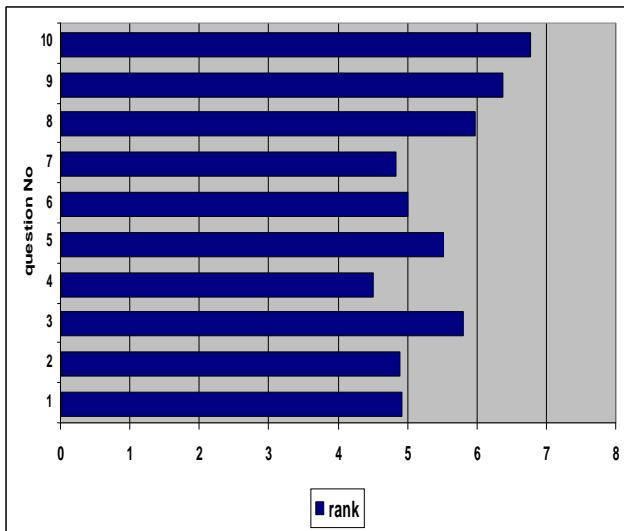


Figure 1. Average rank for investigated characteristic

6. DISCUSSION

Implementation of e health technologies is a predominately change program, or service improvement program, with the implementation of technology being only the part of the solution [13]. Concentrating mainly on the technological aspects of these programs has been found to lead to less effective results. Cultural norms and the nature of the job have been found by Lucas and Spitler to be far more important in predicting use of technology than the potential user’s perception of likely usefulness or ease of use. In this case study, participants have delineated, as the most important, following organizational characteristics: support from superiors, clear instructions from superiors and communication between superiors and between colleagues.

Support for continuing education, career advancement through individual performance ,decision making in own line of work and independence in choosing their way of working , were found less important. The least important for the participants was acknowledgement of individual performance through salary and actual involvement of superiors. It correlated with our hypothesis that organization of the e-health project has to be strongly supported by leadership (high PDI culture),with dominant collectivistic conduct (very important working relations with colleagues and good individualistic performance (acknowledge of individual performance through salary, career advancement through individual performance). Nevertheless, some of the characteristics that could be associated with individualism (independence in choosing own work style) was sometimes ranked high.

Authors have previously reported findings on implementation of information technology projects in Health Care. In both studies participants have delineated interdependence and team work along with

acknowledgement of individual performance, and highlighted clear instructions from superiors, acknowledge of individual performance and independence in choosing their way of working. The least important for the participants, as a rule, was the involvement from the leadership.

Bangert and Doktor in 2005 exploring selected organizational categories with US IT professionals, have found involvement and strong leadership, and acknowledgement of individual performance as the most important , while support for continuing education and new things were ranked as the least important. In the same study, IT professionals from South Korea have ranked as the most important to have clear rules to follow and loyal fellowship.

Results of this study confirm our first observation, that successful organizational design in investigated organizations in Serbia, has to be “somewhere in between” (“West –East orientation”) [14,15]. Critics of Hofstede emphasize that he takes simplistic view of the complex dimensions, which comprise the notion of culture. Although his work has been criticized by various authors, the usefulness of the categories he developed remains very popular, and is utilized by scholars in a variety of fields including management, ICT and health care. Nevertheless, most studies have been developed using a limited range of nations, which is natural since researchers are particularly able to study phenomena that are culturally familiar. We find it important that this research has been performed in a country which has not been studied frequently, with the exception of pioneering work of professor Jovanovic, Langovic and Bogicevic Milikic [16,17,18].

REFERENCES

[1] Hartswood M, Proctor R, Rouncefi M, Slack R. Making a case in medical work: implications for the electronic medical record. *Computer Supported Cooperative Work* 2003; 12; 241–60.
 [2] Witchalls, 2007 Clint. The art of change management. *Computing*. (June 28, 2007): 33.
 [3] Hofstede, G. (1983), “The cultural relativity of organizational practices and theories”, *Journal of International Business Studies*, Fall, 75-89.
 [4]. David C. Bangert and Robert Doktor (eds.). *Human and Organizational Dynamics in e-Health*. Radcliffe: Oxford/Seattle, 2005.
 [5] Hofstede, G. (2001), *Culture’s Consequence*, Thousand Oaks, CA: Sage Publications
 [6]. Newman, K. L. and S.D. Nollen (1996), “Culture and Congruence: The Fit between Management Practices and National Culture”, *Journal of International Business Studies*, 27(4), 753-779.
 [7] Trompenaars, F. and C. Hampden-Turner (1998), *Riding the waves of culture: Understanding cultural diversity in global business*, 2nd edition, New York: McGraw-Hill.
 [8]. Worley CG, Hitchin DE, Ross WL. *Integrated Strategic Change: How OD Builds Competitive*

- Advantage. New York, NY: Addison-Wesley Publishing Company, 1996.
- [9] Festing, M. (2006), "International human resource management and economic theories of the firm", in:Gunter K. Stahl and Ingmar Bjorkman (eds.), Handbook of Research in International Human ResourceManagement, Cheltenham, UK: Edward Elgar, 449-462.
- [10] Hofstede, G. and M.H. Bond (1988), "The Confucius connection: From cultural roots to economic growth",Organizational Dynamics, 16, 4-21.
- [11] Trompenaars, F. and C. Hampden-Turner (2004), Managing People Across Cultures. Capstone Publishing.
- Hu P, Chau P, Sheng O, Tam K. 1999. Examining the technology acceptance model using physician acceptance of telemedicine technology. Journal of Management Information Systems 1999;16,2:91-112.
- [12] Doktor R, Bangert D, Valdez M, Organizational Learning and Culture in the Managerial Implementation of Clinical e-Health Systems An International Perspective Proceedings of the 38th Hawaii International Conference on System Sciences – 2005.
- [13] Legris P, Collette P. A roadmap for IT implementation: integrating stakeholders and change Lucas HC, Spitzer VK. Technology Use. Performance : A FieldStudyBrokerWorkstations.DecisionsSciences1991;3 0,2:291-311.
- [14] Paunkovic J, Stojkovic I, Stojkovic Z, Zikic S Awareness of organizational culture is important for sustainable implementation of e- health International Scientific Conference Management of Technology – Step to Sustainable Production June 2010, Rovinj, Croatia ISBN 978-953-7738-09-9.
- [15] Paunkovi J., Jovanovi R, Stojkovi Z. and Stojkovi I. 2010. Sustainable implementation of information and communication Technology in health care. Case study of organizational and cultural factors. Sibiu Alma Mater University Journals. Series A. Economic Sciences, 3(3), September 2010, 1–8.
- [16] Jovanovic, M. , Langovic-Milicevic,A.: Interkulturni izazovi globalizacije, Megatrend University,Belgrad, 2005.
- [17] Jovanovic M, Interkulturni menadzment, Megatrend, Beograd, 2005
- [18] Bogi evi Miliki , B. 2009. The influence of culture on human resource management processes and practices:the propositions for Serbia , Economic annals, Volume LIV, No. 181, April – June ent, June, 971-986.