REVIEW ARTICLE

READINESS FOR E-HEATLH IN THE DEVELOPING COUNTRIES LIKE PAKISTAN

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ABSTRACT

Modern healthcare services are expanding beyond the traditional methods of physical contact with the patients to the virtual platforms of e-Health. Both biblical and new models are now serving the societies side by side around the planet but in the developing states like Pakistan the concept of e-Health is still alien to masses. Computer-based health information systems are becoming order of the day. It is argued that having a successful e-Health is not simply a purchase of hardware and software; rather it demands social treatment by addressing all the issues of technical, organizational, human and social nature. This paper extracts and juxtaposes the determinants of user-readiness using existing research from all over the world to determine the issue in the perspectives of e-Health in Pakistan.

KEY WORDS: Information technology, e-Health, Health Management Information System.

INTRODUCTION

A diversity of e-Health systems like tele-Health projects have become possible in developing countries due to the rapid proliferation of mobile phones and other wireless devices.[1] WHO has also set up a global observatory on e-Health systems to track developments in relevant fields by collecting and analyzing data on Information and communication technology (ICT) and health.[2] The use of computers in the work place has increased in recent years with more and more professions becoming dependent on information and communication technology.[3,4] Healthcare is a big sector and has the potential to adopt ICT as evident from the experiences in advanced states.[5]

Computer-based Health Management Information System (HMIS) was initially developed to generate information on the status of ongoing health-related activities in order to facilitate evidence-based decision-making and effective management of health care systems at all levels.[6,7]

A national health information infrastructure supports a public health system capable of monitoring, promoting, and protecting the health and safety of the total population by sharing tools that enable improved clinical management of patients using vital statistics.[8,10] It provides underlying information architecture to detect and track global threats to public health by connecting local health providers and health officials to national data systems (e.g., Centers for Disease Control and Prevention), using high-speed networks.[11]

Over the last decade, the need to develop and organize new ways of providing efficient healthcare sciences has corresponded with major advances in ICT resulting in a dramatic increase in the use of ICT applications in healthcare, collectively known as e-Health.[12] Today, the integration and assimilation of e-Health into the everyday life of healthcare workers is becoming a reality in developed as well as developing countries[12]. e-Health is the use of digital data transmitted, stored and retrieved electronically in support of healthcare, both at the local site and at a distance (WHO, 2006). ICTs have an impact on the delivery of public health through e-Health applications. The potential of e-Health to improve life expectancy, literacy, education, and standard of living is significant.[13]

e-Health Readiness refers to the preparedness of healthcare institutions or communities for the anticipated change brought by programs related to ICT.[14] E-readiness is defined as an organization's ability to promote and support the growth of ICTs, including infrastructure, relevant systems, and technical skills.[15]

We are living in a period of significant change. Major corporations are significantly downsizing, rethinking strategic plans, re-engineering and merging together to form corporate monoliths. Our work places are also changing from hierarchical closed systems to a new open, flexible and often virtual environment. Our communities are changing and learning that one company or one industry cannot sustain viable economic growth.[15] Thus;

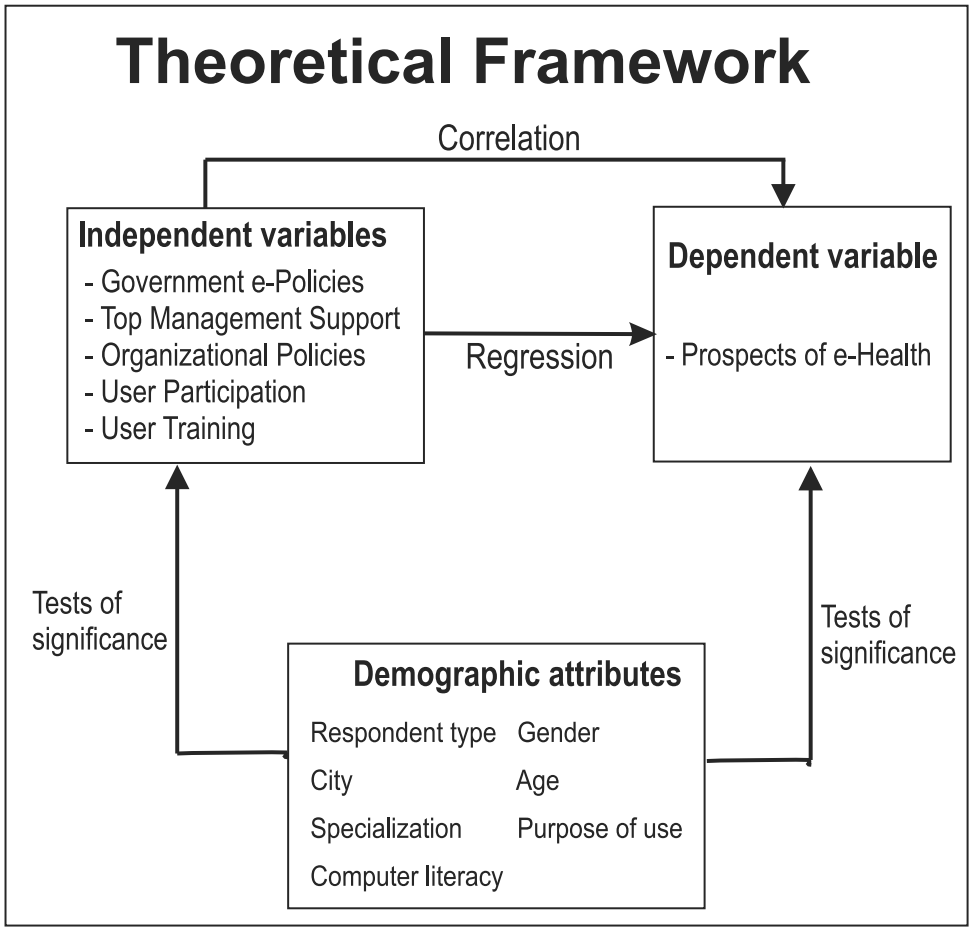
ICTs can improve the efficiency and effectiveness of public health delivery mechanisms.[16] Literature suggests that following are major determinants of users' readiness.

Government e-policies about the use and application of enabling technologies is a critical factor in introducing ICT in every sector including the health or public health system of country.[17] In Pakistan, there is 'mismatch between policies and ground realities.[18] The clinicians in Pakistan use different digital tools in providing health facilities and services to the patients.[19] They identified that the availability of the required computer hardware and software is critical in determining the user acceptance. Another researcher has reported that the choice of enabling technologies is puzzling decision because of the variety available. In a literature review.[20] Durrani & Khoja (2009) have found that the use of tele-Health in developing countries is replete with the issues of selecting the most suitable technologies for their health requirements.

Top management support is the involvement and participation of the executive level management of the health organization in ICT related activities. It is not surprising to discover that top management support has been one of the most widely discussed organizational factors in several e-Health success stories.[21] Top management support has been investigated in linking its influence on ICT use; e-Health adoption; e-Projects implementation and other. Management style deals with the way in which management tends to influence, coordinate, and direct people's activities towards a group's objectives.[4]

Different organizational contexts and factors are reported to have been influencing ICT usage.[22] Organizational context is characterized by mission, size, goals, culture, and budget size. In addition, organizational factors are the organizational structure, organizational size, managerial ICT knowledge, financial resources etc.[4]

The significance of user participation in the development and use of e-Health system is the main route to contextualizing the new technologies. When users are not heard, the developers mostly embed their self-conceived user-perceptions into the system, which then appear incompatible with the real user-demands. User partici-



pation at the development level increases the system's ownership by the users.[24] System ownership requires 'user-empowerment' in terms of deciding about the structure and contents of new system, for example, if system matches with the users requirements, the chances of success are obvious.[25]

User training is of utmost importance. There are several accounts of information system failure in different sectors including e-Health, e-Learning and e-banking etc. due to gap between the new demands and computer literacy of the users.[26,27] The new users of any technology need training and when computers are used by every educated person then a mass training program is indispen-sible.[28] In the age of computer technologies, user training has been emphasized in almost all the studies on the user-acceptance of new gadgets.[29]

DISCUSSION

Despite lagging behind its private counterpart, there have been signs indicating that the public sector's conservative approach to using information systems has begun to change.[17] The traditional information systems are gradually being replaced by modern systems with more sophisticated software and hardware applications.[4]

A study carried out in 2000 pointed out that the information generated through HMIS was irrelevant and the data did not help managers to make decisions.[5] Recognizing the importance of strengthening the existing fragmented and paper-based routine health management information systems (HMIS), there has been tremendous initiatives in developing countries for better health care delivery and management, an "initiative spurred in large part by technological advances, and the interest these advances have generated in the health sector."[30] There is growing recognition that ICT can replace traditional HMIS with flexible electronic means and could bring significant cost reduction and effectiveness in terms of timely delivery of health care services in developing countries.[7]

CONCLUSION

The theoretical framework of the issue of readiness of e-Health sector in the developing states like Pakistan can be presented in the form of a schematic diagram to be implemented for an empirical data collection.

Given the large health infrastructure in Pakistan both public and private, catering to a population of 180 million people, there has been a need to develop and establish a national health management information system which is able to collect, process, analyze and provide feedback on all health related data including information on input, process and output indicators.[23,31] It is high time to introduce e-health readiness in develoing countries like Pakistan.

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