

## Chapter 65

# Human Interaction in the Use of Health Information Systems: A Case of a Developing Country

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### ABSTRACT

*In developing countries, Health Information Systems (HISs) are increasingly used to enable and support both clinical and administrative processes for healthcare services. The use of the HISs in developing countries' healthcare centres is influenced and impacted by humans' interactions which manifests from culture and traditions. Due to the diverse nature of culture and traditions, it is near impossible to have single formula in addressing the patients' needs. As a result, the aim to improve quality of healthcare through HISs is challenged, and many stakeholders do not seem to understand the problem. The challenge continues to significantly contribute to poor service delivery, as the need for healthcare services increases. This study focused on the interaction between the healthcare professionals and the HISs, to understand how and why the challenges of using the ICT systems exist. This includes examining the implication, and how the challenges impact the recipients of healthcare services.*

### INTRODUCTION

In developing countries, Health Information Systems (HISs) are increasingly used to enable and support both clinical and administrative processes for healthcare services. To this extend, McDonald (2006) explored limitations to opportunities that are offered by ICTs in developing countries. This includes infrastructure availability and lack of skill among health workers, in the use of ICT tools. Due to the number of patients on the increase on daily basis and the sensitive of patients' records, healthcare services providers requires a more adequate, reliable, and accurate information. This is to support and enable healthcare workers to deliver improved services to their patients. Rodrigues (2010) argued that HISs is an ICT-based tool, to make healthcare delivery more effective and efficient.

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Health Information Systems (HISs) is considered to be a functional computerised system, to execute healthcare related processes and activities. According to Lippeveld (2001), HIS provides specific information primarily to enable and support the processes of health organisations. In one of World Health Organization' (WHO) document of 2003, it is stated that HIS is an integrated effort to collect, process, report, and use health information and knowledge, in order to influence policy making, programme action, and research (WHO, 2003).

The use of HIS requires interaction between people, process, and technology, to support operations and management in delivering of essential information in order to improve the quality of healthcare services (Cleverley, 2009). Similar to other industries, the nature of healthcare industry has changed over time, from a relatively stable conservative industry to a dynamic one. This is attributed to the role of people, in the innovation and management of activities. The dynamism is based on the interactions with technology that people bring in from their different culture and traditions. This includes the types of technologies that are available and how they are used and managed to provide services. As stated by McDonald (2006) exploring the limitations to opportunities offered by IS in developing countries such as inadequate basic physical infrastructure availability and lack of skill among health workers for using information technology tools.

Reporting on the current states of HIS, the World Health Organisation noted that the current status of HIS varies among countries. Most developed countries have fully utilized HIS in their systems as they have the resources, expertise, and capital to implement them. While developing countries HIS are not being fully utilized yet (WHO, 2011). This could be attributed to factors such as lack of computer infrastructure, funding, technical know-how, and how culture and traditions are employed in the use and management of HISs to address health services.

This study therefore examined the impact of human interaction on HISs in a natural setting. The following questions were formulated in order to guide and collect data, to addressing the objectives of the study: (1) what are the factors which impact Human Interaction in the use of health information systems; and (2) What are the roles of Human actors in the healthcare service delivery.

The remainder of the paper is divided into five main sections. The first section presents literature review. The second section discusses the methodology used. In the third sections data analysis is presented and based on the findings the implications for the Human Interaction in the HIS are discussed.

## **LITERATURE REVIEW**

The power of ICT is dramatically changing the ways in which the healthcare organisations operate. Istepanian (2006) explains that, networking technologies and database management systems are able to incorporate better healthcare service, faster in response, and easier to meet increasing demands for the system integration. According to Keenan et al., (2006), the implementation of information systems in hospitals has helped healthcare professionals to improve the efficiency and effectiveness of their services. Health information systems (HIS) that can record and locate important information quickly have become a standard practice in many hospital organisations. The vision of a paperless hospital is delineated as the embodiment of the future health information systems with the hope that it brings an improved promise of more reliable effectiveness and efficiency to the environment (Leppeveld, 2000).

HIS comprises of different computing applications that support the needs of healthcare organisations, clinicians, patients, and policy makers in collecting and managing all data that are related to both

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