AN E-HEALTH RECORDS SYSTEM FOR INDIGENOUS MEDICINE PRACTICE IN SRI LANKA

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(09/9101)

Master of Business Administration in e-Governance

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University of Moratuwa

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DECLARATION

I certify that this research does not contain any materials previously submitted for a degree or any academic purpose of any university. To the best of knowledge and belief it does not contain any material, previously published, written, or orally communicated another person or myself.

..... 23/11/2012.....

Signature of the Candidate Date

To the best of my knowledge, the above particulars are correct.

UOM Verified Signature

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DEDICATION

This Thesis is dedicated to both my late grandfather and grandmother who have supported me all the way since the beginning of my childhood.

In addition, this thesis is dedicated to my wife and two kids who have been a great source of motivation and inspiration.

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ABSTRACT

This research study is based on the indigenous medicine practice in Sri Lanka. This system of medicine still uses traditional methods for treatments and has a long historical background with conventional development also taking place. As of late 2011, there are 62 Ayurveda hospitals, 208 Dispensaries, and 231 Free Ayurveda dispensaries for indigenous healthcare delivery. These 501 Ayurveda healthcare delivery centers are functioning under the government sector. With the ongoing recognition of immense benefits in indigenous medicine and treatments, a local as well as a global demand for the indigenous system of medicine is increasing rapidly. The current means of indigenous healthcare delivery and management has been unable to meet this growing demand in an effective manner. In addition, there has been no concentrated effort to adopt modern technological practices to cope with that demand for indigenous medicine and treatments.

The main objective of the research work presented in this thesis was to explore the approaches and mechanisms required for introducing an e-health records system to the indigenous medical practice and consequent implications to practitioners and the field of indigenous medicine. The generally identified problems hindering the adoption of modern technological capabilities in indigenous medicine practice were the use of informal medical record systems that are paper-based and the non-availability of standard lists of Classification of Diseases, Medicinal Plants, and Prepared Drugs. This research study focused on the means necessary to overcome these main problems and to identify the perception of Ayurveda medical officers towards the use of ICT and their tendency to adopt modern practices.

This thesis also analyzes the experiences of several other countries in the adoption of ICT in healthcare sector through a detailed literature review. Based on the literature study, a theoretical model to study adoption of ICT technologies and mechanisms was selected and modified according to the local requirements. Using this model, termed the Fit Individual Task and Technology (FITT) model, an empirical research study was conducted through a questionnaire-based data collection. The theoretical

model allows the study of three variables, Attitudes Towards Use of ICT (ATUI), Perceived Usefulness (PU), and Perceived Ease of Use (PEU) to understand the implications of technology adoption in a hitherto non ICT-oriented sector. In the study, a random sample of 302 was drawn from an approximate population of 1,400 indigenous medicine practitioners and administrators. From this sample, 280 respondents provided empirical data for a statistical analysis and demographic data for a thorough understanding of the indigenous healthcare sector. An overwhelming majority of 267 respondents positively identified with initiatives for an e-health system for the indigenous medicine sector.

This research study revealed the need for a coding system for all classifications of data sets in the indigenous medicine sector and an outcome of the study was such a coding system prepared through the perusal of many Ayurveda textbooks, other publications relevant to coding and classification systems, and interactions with pioneers in the sector of indigenous medicine. It is expected that the availability of a standard coding scheme would spur the introduction and wide adoption of an e-health Records System to indigenous medicine sector by modifying existing software systems for the western medicine practice.

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LIST OF ABBREVIATIONS

WHO	World Health Organization
ICT	Information and Communication Technology
EHR	Electronic Health Records
EPR	Electronic Patient Records
ICD	International Classification of Diseases
CMR	Computerized Medical Records
ERHA	Electronic Health Records Architecture
HIPF	Health Information Profiling Framework
HL	Health Level
ITU	International Telecommunication Union
MOH	Medical Officer in Health
FPS	Family Physicians System
NHDD	National Health Data Dictionary
CDA	Clinical Data Architecture
MHD	Minimum Health Data
FMIS	Family Machine Information System
HCRS	Health Coding Reference Server
IEP	Integrated Electronic Prescription
COAS	Clinical Observation Access Services
DCM	Domain Concept Model
RHIN	Regional Health Information Network
HCIS	Healthcare Information System
ITPOSMO	Information Technology-Process –Observation & Value, Staff& Skill, Management & Other Resources
TAM	Technology Acceptance Model
TRA	Theory Reasoned Action
ISRO	Indian Space Research Organization
PMS	Patient Management System
HIS	Health Information System

FITT	Fit Information Task and Technology
TTF	Technology Task Fit
HR	Human Resources
AHC	Ayurveda Healthcare
PHC	Primary Healthcare
PEOU	Perceived Ease of Use
PU	Perceived Usefulness
NITM	National Institute of Traditional Medicine
MO	Medical Officer
H1	Hypothesis 1
H2	Hypothesis 2
ICD –CM	International Classification of Diseases- Clinical Modification
BMARI	Bandaranaike Memorial Ayurveda Research Institute

ANNEXURES