APPLICABILITY OF TELEMEDICINE IN SRI LANKA CARDIAC DIAGNOSIS AS A CASE STUDY

MASTER OF BUSINESS ADMINISTRATION

IN

INFRASTRUCTURE

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The Dissertation was submitted to the Department of Civil Engineering of the University of Moratuwa in partial fulfilment of the requirement for the Degree of Master of Business Administration.

Department of Civil Engineering
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DECLARATION

I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any University to the best of my knowledge and belief it does not contain any material previously published, written or orally communicated by another person or myself except where due reference is made in the text. I also hereby give consent for my dissertation, if accepted, to be made available for photocopying and for interlibrary loans, and for the title and summary to be made available to outside organizations"

M. D. Bandujeewa Dharmathilake (Candidate) Date 4/09/2006

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

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Prof. N.D. Gunawardene (Supervisor)

Abbreviations

ADSL	Asynchronous Digital Subscriber Line
AHB	Annual Health Bulletin
APDIP	Asia Pacific Development Information Programme
CT	Computerised Tomography
Df	Degree of Freedom
ECG	Electro Cardiogram
HIS	Hospital Information System
ICT	Information and Communication Technology
ISDN	Integrated Services Digital Network
ISRO	Indian Space Research Organisation
LAN	Local Area Network
LRH	Lady Ridgeway Hospital for Children
MOH	Ministry of Health
MRI	Magnetic Resonance Imaging
MRO	Medical Record Officer
NHSL	National Hospital of Sri Lanka
OTRI	On line Telemedicine Research Institute
ROI	Return On Investment
SHO	Senior House Officer
SLT	Sri Lanka Telecom Ltd
SSD	Standard Deviation of Sample
TM	Telemedicine
UNDP	United Nations Development Programme
URL	Universal Recourses Locator
WHO	World Health Organization

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Executive Summary

Access to reasonable health care throughout the country is very essential. It can be seen not only in Sri Lanka even in the developed world normally a satisfactory access to health care is mainly concentrated to the urban areas.

Normally those who are living in the rural remote area are the poor, who do not have sufficient income for enjoying the urban life. Therefore it is very essential for the development of the county to provide the requirements of health care for those who are unable to access it.

The aim of this study was to identify the possibility of applying the fast developing telemedicine application in the world to fill the gap of insufficient access to health care by the remote poor.

The technology is available in the world and continues to be popular. However, there are no positive signs of successful implementation in Sri Lanka. I have defined the applicability with four parameters in the Sri Lankan context, as; (1) Sufficient areas of clinical applications, (2) positive consent from the Clinical Consultants, (3) availability of the Technology, (4) benefits higher than the cost of implementation.

With the statistic data from the health care institutions and through the interviews, I have assessed the application areas. The consent of the consultant was accessed through a questionnaire targeting the applicability for cardiac diagnosis.

The main technical barrier is the high cost of access to broadband data transmission and the availability of the same throughout the country.

Most difficult and not yet definitely proven in the world is the economy of the application of this nature. It was identified the complexity of devising a system for the evaluation of the real benefits and cost of telemedicine.

However, as the final out come I could identify the benefits and cost factors to be considered for the evaluation before deciding to implement an ICT solution for Sri Lanka. The acceptances of these factors were verified with a questionnaire.

It could found that a health telemetric system has been already in place in the country as a pilot project, which has been donated by WHO. It could identify that this is too not put into the expected utilization due the required other recourses are not available.

Therefore, best solutions is the first put this pilot project in to maximum utilization after removing the barriers for the success and evaluate the benefits and effectiveness before deciding further projects.

Our neighbouring country India is presently using telemedicine extensively in the country and we can learn a lot on the feasibility of application of the same in Sri Lanka.

Acknowledgment

At this point I have to give my special thanks to all who helped me in different ways to make this study a success and finally submitting the completed thesis in this manner.

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