

**A STUDY ON NATURE AND APPLICATION OF INFORMATION
TECHNOLOGY IN UNIVERSITY UNDERGRADUATE
PROGRAMMES**



MUTHUCHCHAMY SRIMAYAMAYURAN

964



Project Report
Library - EU/SL

**DEPARTMENT OF MANAGEMENT
FACULTY OF COMMERCE AND MANAGEMENT
EASTERN UNIVERSITY, SRI LANKA**

- 2007 -

Abstract

The importance of Information Technology (IT) in the modern world can not be over-emphasized. The impact of Information Technology on Education is expedient so as to objectively determine Nature and Application on University Undergraduate Programmes, this Study therefore assesses the Determinants of Application of Information Technology in University the environment.

To study the Nature and Applications on undergraduate programmes special reference given to the Faculty of Commerce and Management of the three Government Universities; Eastern University, University of Colombo and South Eastern University and were selected for the study.

Data were collected from Undergraduates representing four years of study. The collected data were analyzed using Statistical Package for Social Science (SPSS 11.0) to decide on determinants of application of Information Technology in University Undergraduate Programmes based on the analyzed data.

There are Six variables considered for the study which include Information Technology resources, Control and Management of resources, Students' Competency, Curriculum Contents, Usage and Motivation, and Institutional Responsibility. On the three scales decision rules, the impact of Information Technology in University Undergraduate Programmes was moderate level and there are differences among the Universities in application of Information Technology in terms of analyzed variables.

The study recommended that there should be provision for the Information Technology resources in different accessibility levels because which are the dominant determinants for the Application of Information Technology. And necessary measures should be taken for enhancing Students' Competency to benefit from the both computational and Communicational capabilities of the Information Technology.

Key Words: Information Technology, Application, University, Undergraduate programmes

CONTENTS

	Page
Acknowledgement	i
Abstract	ii
Table of Contents	iii
List of Tables	x
List of Figures	xii
Meaning for the List of Abbreviation	vi

Chapter	1. An Introduction To The Study	1-8
	1.1 Introduction	1
	1.2 Background of the study	1
	1.3 Problem statement	3
	1.4 Research questions	5
	1.5 Objective of the study	5
	1.6 Significance of the study	6
	1.7 Scope of the study	7
	1.8 Assumptions	7
	1.9 Summary	8
Chapter	2. Literature Review	9-30
	2.1 Introduction	9
	2.2 2.2.1 Information technology	9

2.2.1.1 Information technology and communication technology	9
2.2.1.2 Information technology today	9
2.2.1.3 Information technology in Sri Lanka	10
2.2.1.4 Computer based information system	11
2.2.1.5 Education Technology	12
2.2.1.6 Historical Development of Education Technology	12
2.2.1.7 Computer literacy	14
2.2.2 Definition of education	14
2.2.2.1 Concepts & types of education	15
2.2.2.2 Undergraduate degree program	15
2.2.2.3 Efforts in higher education	16
2.2.3 Organizational theory and structure	16
2.2.3.1 Faculty Technology & Learning paradigm	19
2.2.3.2 Industrial technique and technologies	20
2.2.3.3 Faculty usage of IT	21
2.2.4 Information and communication Technology in Education	22
2.2.4.1 Basic concepts of IT	22
2.2.4.1.1 Word processing	23
2.2.4.1.2 Working with A Spread sheet	23
2.2.4.1.3 Working with A data sheet	23
2.2.4.1.4 Computers and Communication	24
2.2.4.1.5 World Wide Web	24
2.2.4.1.6 Jobs and/ with ICT	25
2.2.5 Concepts used for research analysis	25
2.2.5.1 IT support to learning	25
2.2.5.2 Support of IT for learning/ Teaching	25
2.2.5.3 Interactivity	26
2.2.5.4 Gender	26
2.2.5.5 Age	27
2.2.5.6 Time spending	27

2.2.5.7 Availability of Hardware	27
2.2.5.8 Student Computer Experience / skills	27
2.2.5.9 Literacy and language skills	28
2.2.5.10 Peers influence	28
2.2.5.11 Curricula contents & technological matching	29
2.2.5.12 Employability	29
2.3 Summary	30

Chapter 3. Conceptual Framework and Operationalization	31-39
3.1 Introduction	31
3.2 Conceptualization	31
3.2.1 Students' level Resources	33
3.2.2 Classroom Level Resources	33
3.2.3 Classroom Level Resources	33
3.2.4 Improve interactivity	33
3.2.5 Administration	34
3.2.6 The Time factor	34
3.2.7 Resources Maintenance	34
3.2.8 Curriculum contents	34
3.2.9 Students Competency	35
3.2.10 Peers usage	35
3.2.11 Peers Support	35
3.2.12 Lecturers Usage and Support	35
3.2.13 Facilitating Learning	35
3.2.14 Personal Interest	36
3.2.15 Family Support	36
3.2.16 Special Projects	36
3.2.17 Response to job requirements	37
3.2.18 Scope for the Business students' application in IT	37
3.3 Operationalization	37
3.4 Summary	39

Chapter	4. Methodology	40-49
	4.1 Introduction	40
	4.2 Study Setting, Design type of data and Method of survey	40
	4.3 Population and Sampling	41
	4.4 Method of Data Collection	42
	4.4.1 Primary data	42
	4.4.2 Secondary data	42
	4.5 Questionnaire	42
	4.6 Data Analysis	47
	4.7 Method of Data Evaluation	47
	4.8 Research constraints	48
	4.9 Data Presentation	49
	4.10 Summary	49
Chapter	5. Data presentation & Analysis	50-93
	5.1 Introduction	50
	5.2 Personal Information	50
	5.2.1 Gender	50
	5.2.2 Year of Study	52
	5.2.3 Background of Information Technology course Followed	56
	5.2.4 Discipline of study	59
	5.2.5 Duration of Computer Usage	63
	5.3 Research information	71
	5.3.1 Information Technology (IT) Resources	71
	5.3.1.1 Students' level resources	71
	5.3.1.1.1 Personal computers for student usage	72
	5.3.1.1.2 Students interaction	72
	5.3.1.2 Specific computer laboratory for faculty usage	72
	5.3.1.3 Classroom level information technology Resource	73
	5.3.2 Control and management of IT resources	73

5.3.2.1 Operating hours	73
5.3.2.2 Inconvenience opposed by computer unit administration	74
5.3.3 Course structure	75
5.3.3.1 First year curriculum	75
5.3.3.2 Second, third, and fourth year curriculum	75
5.3.3.3 Special applications	76
5.3.3.3.1 Specialization curriculum contents	76
5.3.3.3.2 External Learning	76
5.3.4 Students' Information Technology Competency	76
5.3.4.1 Information Technology competency	77
5.3.4.1.1 Students' competency	77
5.3.4.1.2 Facilitating learning	77
5.3.4.2 Peers Influence	78
5.3.4.3 Peers' Support	78
5.3.5 Motivation and Usage	78
5.3.5.1 Lecturers' usage	79
5.3.5.1.1 Lecturers' usage	79
5.3.5.1.2 Lecturers usage simplify learning process	79
5.3.5.2 Lecturers' motivation for out of classroom Usage	80
5.3.5.3 Personal Interest	80
5.3.5.4 Family Support	80
5.3.6 Institutional Responsibility	80
5.3.6.1 Faculty Responsibility	81
5.3.6.2 Special Projects	81
5.3.6.3 Scope of Information Technology	82
5.4 Cross Tabulation on each University	86
5.4.1 Variable 01: Information Technology Resources	86
5.4.2 Variable 02: Control and Management of Information Technology Resources	87
5.4.3 Curriculum contents	88
5.4.4 Course Structure	89

	5.4.5 Variable 05: Motivation and Usage	90
	5.4.6 Variable 06: Institutional Responsibility	91
	5.5 Overall Analysis on Total variable	92
	5.6 Summary	93
Chapter	6. Discussion	94-116
6.1	Introduction	94
6.2	Discussion On Personal Information	94
	6.2.1 Gender	94
	6.2.2 Year of Study	95
	6.2.3 Type of Course Followed	96
	6.2.4 Discipline of Study	97
	6.2.5 Duration of Computer Usage	98
6.3	Discussion on Research Information	101
	6.3.1 Specific faculty usage of Computer laboratory (Faculty Level)	101
	6.3.2 Classroom Availability of Information Technology resources (Classroom Level)	101
	6.3.3 Students level Information Technology Resources (Students Level)	101
	6.3.4 Operating Hours	102
	6.3.5 Inconvenience	102
	6.3.6 Computers and System Failures	103
	6.3.7 Quality and Speed	103
	6.3.8 First Year Curriculum Contents	103
	6.3.9 Second, Third, and Fourth Year Curriculum	103
	6.3.10 Specialization curriculum contents	104
	6.3.11 Appropriateness of Curriculum Contents	104
	6.3.12 Students' competency	104
	6.3.13 Peers Influence	105
	6.3.14 Peers' Support	105
	6.3.15 Lecturers' usage	105

	6.3.16 Lecturers' motivation for out of classroom usage	106
	6.3.17 Personal Interest	106
	6.3.18 Family Support	106
	6.3.19 Faculty Responsibility	107
	6.3.20 Special Projects	107
	6.3.21 Scope of Information Technology	107
6.4	Application of Information Technology in University Undergraduate Programmes	108
6.5	Summary	116
Chapter	7 Conclusion and Recommendation	117-126
	7.1 Introduction	117
	7.2 Conclusion arrived	117
	7.3 Recommendation	119
	7.4 Suggestion for future research	123
	7.5 Implication	124
	7.6 Constraints	125
	7.7 Summary	126
Appendix	References	I
	The Questionnaire used for the study- English	II
	Glossary of Terms	III