



THE NEED FOR EFFECTIVE INFORMATION
TECHNOLOGY GOVERNANCE IN MALAYSIAN
HIGHER EDUCATION INSTITUTIONS: CASE
STUDY OF INTERNATIONAL ISLAMIC
UNIVERSITY, MALAYSIA

BY

BINYAMIN ADENIYI AJAYI

A dissertation submitted in fulfilment of the requirement
for the degree of Master of Information Technology

Kulliyyah of Information and Communication
Technology
International Islamic University
Malaysia

SEPTEMBER 2011

ABSTRACT

Information systems (IS) services have become a global phenomenon, not restricted to business oriented organisations but also to educational institutions as well. However, while other organisations have adopted continuous efforts in seeing to effective deployment of IT in Malaysia and around the world can such situation be true of the Universities which stand at the apex echelon of Higher Education Institutions (HEI). The focus of the study become necessary given the nature of IT funding in the last two decades and the resultant fears of organisation's Stakeholders to continue to invest hugely in that direction. In attempt to void this challenge, Information Technology Governance (ITG) evolved as a means by which Management exercise control on IT resources to align same with the business goals. This study explore the issues of ITG in the International Islamic University, Malaysia by conducting interviews sessions with the IT service provider (Information Technology Division) and extracting facts from available archives to carry out its finding. It was discovered that the Management control expected to be exercised on the IT resources of the university was somehow not there and this, has not given room for proper IT governance. The result has been that IT resources are not adequately monitored to enable the expectant IT performance.

خلاصة البحث

صارت خدمات أنظمة تقنيات المعلومات ظاهرة عالمية، وهي غير مقتصرة على المنظمات التجارية فحسب، بل امتدت إلى المعاهد التعليمية. إلا أنه عندما تواصل منظمات أخرى محاولتهم في تطبيق أنظمة تقنيات المعلومات مواصلة فعالة في استخدام أنظمة تقنيات المعلومات في ماليزيا والعالم كله، فإن الواقع يختلف في الجامعات النموذجية التي كانت في قمة المعاهد التعليمية العالية. وتهدف هذه الدراسة إلى معرفة طبيعة تمويل أنظمة تقنيات المعلومات من خلال العقدين الآخرين، وما توقعات أصحاب المنظمات في مواصلة استثمار المبلغ الهائل في هذا الاتجاه. حتى يتمكن إلغاء هذه التحديات، طُور مجلس التقنيات المعلوماتية التكنولوجية كوسيلة لإدارة الاتصالات التكنولوجية حتى يتمشى مع الأهداف التجارية. يدرس هذا البحث قضية مجلس التقنيات المعلوماتية التكنولوجية بالجامعة الإسلامية العالمية بماليزيا، وأقام الباحث المقابلات مع موظفي قسم تقنيات المعلومات التكنولوجية، كما استفاد بالحقائق المتوفرة في المكتبة ليؤيد بها محصلاته. وقد اكتشف عدم وجود إدارة التحكيم على مصادر تقنيات المعلوماتية التكنولوجية في الجامعة، وأدى ذلك إلى عدم وجود السيطرة اللازمة لتقنيات المعلوماتية التكنولوجية. وتوصل الباحث في نهاية المطاف إلى أن مصادر تقنيات المعلوماتية التكنولوجية بالجامعة لم تجد المراقبة اللازمة لتساعد النشاطات الاتصالية المنتظرة.

APPROVAL PAGE

I certified that I have supervised and read this study and in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a thesis for the degree of Masters of Information Technology

.....
Husnayati Hussin
Supervisor

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and in quality, as a thesis for the degree of Masters of Information Technology

.....
Muhd Rosydi Muhammad
Examiner

This dissertation was submitted to the department of Information Systems and is accepted as a fulfilment of the requirement for the degree of Masters of Information Technology

.....
Abu Osman Md Tap
Head of Department of
Information Systems

This dissertation was submitted to the Kulliyah of Information and Communication Technology and is accepted as a fulfilment of the requirement for the degree of Masters of Information Technology

.....
Mohd Adam Suhaimi
Dean, Kulliyah of Information
and Communication Technology

DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions

Binyamin Adeniyi Ajayi

Signature.....

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GOVERNANCE IN MALAYSIAN HIGHER EDUCATION INSTITUTIONS:
CASE STUDY OF INTERNATIONAL ISLAMIC UNIVERSITY, MALAYSIA**

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ACKNOWLEDGEMENTS

In the Name of Allah, the Compassionate, the Merciful, praise be to Allah, Lord of the Universe, and peace and prayer be upon His Final Prophet (S.A.W.) and Messenger. I am very grateful to Allah (SWT) for giving me the ability, strength, perseverance and guidance to complete this thesis. In no mean measures, some people have contributed towards achieving this feat in my academic sojourn. I beseech the Lord of the Throne to reward them all abundantly.

Foremost are my employer, Lagos State Government and Lagos State Scholarship Board for their support both logistically and financially. It also goes to my Supervisor; Assoc Prof Dr Husnayati Hussin, for her thoroughness and kind attention throughout the study. She has been very marvelous and it has been a rare experience indeed. Also is the rare opportunity given to me by Assoc Prof Dr Abdul Rahman Ahlan in conducting the study; despite his tight schedule he was ever ready to share knowledge just like he did during the class session I had with him. He was helpful. My thanks also to Sister Nurmaliza Binti Jumaat for the time and knowledge shared.

So many individuals have contributed to making this journey a reality and it will do me good to continuously beseech the Lord of the Throne to reward them all abundantly. From my family to my friends; May Allah takes charge of all your affairs in this world and in the next insha Allah. To all of you, I say: Jazakumullah Khayran Katheeran. Wa akhuru da'wana anil hamdulillahi r-Rabbul alameen.

TABLE OF CONTENTS

Abstract	ii
Abstract in Arabic	iii
Approval Page	iv
Declaration	v
Copyright Page.....	vi
Acknowledgements.....	vii
List of Tables	xii
List of Figures	xiii
CHAPTER ONE: INTRODUCTION	1
1.0 Background of the Study.....	1
1.1 Statement of the Problem.....	3
1.2 Research Questions	4
1.3 Research Objectives.....	5
1.4 Methodology	5
1.5 Limitations of the Study.....	5
1.6 Definition of Terms.....	6
1.6.1 Balanced Scorecard.....	6
1.6.2 Case Study.....	6
1.6.3 Control Objectives for Information and Related Technology	6
1.6.4 Enterprise Resource Planning Systems.....	7
1.6.5 IT Governance.....	7
1.6.6 Information Systems	7
1.6.7 Organisations Performance	8
1.6.8 Qualitative Research	8
1.7 Significance of the Study	8
1.8 Organisation of the Dissertation	10
1.8.1 Chapter One: Introduction	10
1.8.2 Chapter Two: Literature Review.....	10
1.8.3 Chapter Three: Research Methodology	10
1.8.4 Chapter Four: Case Organisation	11
1.8.5 Chapter Five: Analysis and Observation.....	11
1.8.6 Chapter Six: Discussion and Conclusion.....	11
CHAPTER TWO: LITERATURE REVIEW.....	12
2.0 Introduction.....	12
2.1 Universities as Public Organisations.....	12
2.2 IT Implementation in Higher Education Institution.....	15
2.3 IT Governance in Higher Education Institution.....	16
2.4 ITG: Definition and Concept	17
2.5 IT Governance Maturity and IT Governance Performance	21
2.6 IT Governance Frameworks.....	24

2.6.1 Grembergen et al.....	24
2.6.2 ITGI.....	26
2.6.3 CobiT	28
2.6.4 ITIL	30
2.6.4.1 Continual Service Improvement.....	31
2.6.4.2 Service Operation.....	32
2.6.4.3 Service Design.....	32
2.6.4.4 Service Transition.....	33
2.6.4.5 Service Strategy.....	33
2.6.5 Val IT	34
2.6.5.1 Value Governance	35
2.6.5.2 Portfolio Management.....	35
2.6.5.3 Investment Management	35
2.7 Balanced Scorecard: as an IT Governance Framework.....	36
2.7.1 Customer Perspective: How do customers see us?	37
2.7.2 Internal Business Process Perspective: What must we Excel at?	38
2.7.3 Learning and Growth Perspective: Can we continue to improve and create value?	38
2.7.4 Financial Perspective: How do we look to the shareholders?.....	39
2.7.5 Strategy	39
2.7.6 BSC for IT Governance in HEI.....	39
2.7 Challenges of Implementing ITG	41
2.7 Conclusion	43

CHAPTER THREE: RESEARCH METHODOLOGY45

3.0 Introduction.....	45
3.1 Information Systems Research.....	45
3.1.1 Qualitative Approach	46
3.1.2 Quantitative Approach	47
3.1.3 Mixed Method Approach.....	47
3.2 Case Study Method in Information Systems Research.....	49
3.3 Selected Research Method	51
3.4 Data Collection	52
3.5 Interview	54
3.6 Purpose of the Interview	56
3.7 Selection of the Respondents	56
3.7.1 Respondent One: The Head of ITG Department.....	56
3.7.2 Respondent Two: The ITD Director	56
3.8 Preliminary Interview	57
3.9 Conducting the Interview	58
3.10 Other Techniques of Data Collection	59
3.10.1 Historical Events.....	59
3.10.2 The Websites.....	60
3.11 Data Analysis	61
3.12 Conclusion	62

CHAPTER FOUR: DATA ANALYSIS AND FINDINGS.....	64
4.0 Introduction.....	64
4.1 IIUM: An Overview.....	64
4.1.1 Multi-Campus nature of IIUM.....	65
4.1.1.1 Gombak Campus.....	66
4.1.1.2 Kuantan Campus.....	67
4.1.1.3 The Kuala Lumpur Campuses.....	67
4.1.2 Strategic Business Units.....	68
4.1.3 Divisions and other Functions.....	69
4.1.4 University Organisational Structure.....	71
4.1.5 University Population.....	72
4.1.6 University's Mission.....	73
4.2 University-Level Performance Governance.....	74
4.2.1 The Perspectives of IIUM Using the Balanced Scorecard Metric.....	76
4.2.2 Performance Levels.....	77
4.2.3 Automation Phases.....	78
4.3 Information Technology Division (ITD).....	79
4.3.1 IT Governance Organisational Structure.....	79
4.3.2 Functions of ITD.....	80
4.3.3 Structure of ITD.....	81
4.3.4 Historical background of ITD.....	84
4.3.5 2009 to date in ITD.....	87
4.3.5.1 Project Monitoring Office.....	87
4.3.5.2 Redesigning of the IIUM Website.....	90
4.3.5.3 IT Balanced Scorecard.....	90
4.3.5.4 Setting up of Service Desk Unit.....	92
4.4 Information System and other it Services at IIUM.....	93
4.4.1 Academic-Related Information Systems.....	93
4.4.2 Student Information Systems.....	93
4.4.3 E-Learning facilities.....	94
4.4.3.1 Digital Library Services.....	94
4.4.4 ICS–Integrated Computing System.....	95
4.4.4.1 General Computer Labs.....	95
4.4.4.2 Printing and Scanning Services.....	95
4.4.4.3 MSDN Academic Alliance.....	95
4.4.4.4 MySMS@IIUM.....	96
4.4.4.5 Video and Tele-conferencing and Wireless Services.....	96
4.4.5 Student Affairs Systems.....	96
4.4.5.1 Student Residential Management Systems.....	96
4.5 Strategic and Collaborative Applications.....	97
4.5.1 MyIIUM Portal.....	97
4.5.2 Learning Management Systems (LMS).....	98
4.5.3 Electronic Document Management Systems.....	98
4.5.4 Electronic Meeting.....	99
4.6 Human Resource Management Systems (HRMS).....	99
4.7 Financial Systems.....	99
4.8 Conclusion.....	100

CHAPTER FIVE: ANALYSIS AND OBSERVATIONS	102	
5.0 Introduction	102	
5.1 ITD: Role and Structure	102	
5.1.1 The role of ITD	104	
5.1.2 The Impact of (De) Centralised IT Structure on ITG	105	
5.1.3 Empowerment and Awareness	106	
5.2 Top Management Perspectives	108	
5.1.1 Management Control.....	108	
5.1.2 The Management; in IT Committees and Decision-Making	109	
5.1.3 The Role and Impact of the Chief Information Officer (CIO).....	111	
5.3 Challenges Faced by ITD in Enabling IT Resources' Governance	112	
5.3.1 Effective Usage of Resources	113	
5.3.2 IT Policy Formulation	114	
5.3.3 ITD's Control and Enforcement Measures	115	
5.3.4 The Use of Tools and Best Practices	117	
5.3.5 Users' Relations: Feedback Mechanisms	118	
5.3.6 Manpower Management	120	
5.4 Conclusion	122	
CHAPTER SIX: DISCUSSION AND CONCLUSION.....	125	
6.0 Introduction	125	
6.1 ITG: A Recap	125	
6.2 Findings from the Study.....	126	
6.2.1 How has IT Structure Impacted on IT Governance in IIUM?	127	
6.2.2 How has IT Governance been viewed by the IIUM Management?	128	
6.2.3 How has the IT Structure and Management's Exercise of Control Impacted on Practices of ITG in IIUM?.....	131	
6.3 Implication of Study.....	134	
6.3.1 Theory and Knowledge	134	
6.3.2 Practice.....	135	
6.4 Limitation of the Study	136	
6.5 Further Study.....	137	
6.6 Concluding Remarks.....	137	
6.3.1 Suggestions	138	
BIBLIOGRAPHY	141	
APPENDIX A:	Letter of Introduction for Data Collection	146
APPENDIX B:	Prepared Questions for the Interview	147
APPENDIX C:	IIUM Organisational Structure	150
APPENDIX D:	Postgraduate Students Statistics	151
APPENDIX E:	IIUM Websites	152
APPENDIX F:	Students Resources.....	154
APPENDIX G:	Transcribed Interviews.....	158

LIST OF TABLES

<u>Table No.</u>		<u>Page No.</u>
2.1	Summary of ITG definitions	22
2.2	Generic IT Balanced Scorecard	40
4.1	Student Population classified by Programme Category and Nationalities	72
4.2	Staff population classified by Function	72
4.3	IIUM Balanced Scorecard Framework	77
4.4	Demography of Employees in ITD classified by Department	82
4.5	ITD Departments and their functions	83
4.6	List of Completed Project for the Year 2010	88
5.1	Summary of Issues emanating from the Transcribed Interview	123

LIST OF FIGURES

<u>Figure No.</u>		<u>Page No.</u>
2.1	IT Governance Maturity Operationalisation	23
2.2	Three Layers of Enterprise IT Governance	24
2.3	Structures, Processes and Relational Mechanisms for Enterprise Governance of IT	25
2.4	IT Governance Framework	27
2.5	Basic CobiT Principles	28
2.6	CobiT Content Diagram	29
2.7	ITIL Framework	31
2.8	Val IT Framework	34
2.9	Balanced Scorecard Diagram	37
2.10	Leavitt's Model of Organisational Change	42
4.1	IT Governance Organisational Structure	79
4.2	Organisational Chart of ITD	81
4.3	Cascaded Balanced Scorecard for IT	91

CHAPTER ONE

INTRODUCTION

1.0 BACKGROUND OF THE STUDY

Information System (IS) has become the bedrock of all organisations, especially nowadays which is by the day becoming a computer-based environment. By this, it is meant that computer technology is now been used or deployed in every aspect of organisations' businesses as it never done before. Such pervasiveness is not different with the realities obtainable in institution of higher learning. The fact is that the ability to utilise these facilities provided by technology places organisations in the right perspective of decision-making and serve as an important aspect in their day-to-day running of their affairs. That information technology aids the fast performance of activities and organisations' numerical output as well (Gold-Bernstein & Ruh, 2004) is becoming a fact we have to appreciate. Not only is this faster but also accurate; for it allows interpretation of vast amounts of data as quickly and efficiently as possible.

Educational institutions have also come to be adjudged on the same footings as other organisations in its business of service provision to 'customers' in this world of service orientation. Some literature have really dealt with issue relating to the similarities between universities and other organisations; Vathanophas and Stuart (2008) and Mudaliar (2009) have adjudged universities as having features typical of established organisations. This fact behind our mind is necessary in today's business world whereby the ability to control the market is now being hinged more on what level of services an organisation can offer to its consumers. This service orientation

paradigm has to do with the satisfaction directed from the organisation to; the customers, the employees as well as all the stakeholders.

The foregoing fact has been the focus of today's businesses and in fact, the paradigm is shifting towards efforts to get this done in a less stressed and cost-effective way through: the processing of transactions without human intervention, gathering of data from multiple sources, and integrating all these together or re-engineering the business processes. These processes form the basic requirements for success in today's environment (Gold-Bernstein & Ruh, 2004). Purposefully, the higher education institutions of learning are likewise concerned with the fact that employees (staff) as well as customers (student) and other stakeholder have to be satisfied. To achieve this, organisations employ several mechanisms, one of which is the way by which it manages and governs its information systems.

Organisations, thus, have recognised that dependence on Information Technology (IT), a term used to imply the infrastructure as well as the capabilities and organisation that establish and support it (ITGI, 2003), in the bid to achieve stated objectives, mission and goals and strategic positioning is now a necessity for successful leverage. In today's competitive market, it is clear that IT has become, not only a success factor for survival and prosperity, but also as a means to differentiate and achieve a competitive advantage. Leveraging IT successfully to transform the enterprise and create products and services with added value has thus become a universal business competency (Venkatraman, 1999). Hence, the IT departments have moved from a commodity service provider to a strategic partner (Venkatraman, 1999). It is therefore understandable that IT services availability have become 'mission critical' needed especially in areas such as finance, health, defense, and educational institutions and it is thus considered to be of great importance.

Management or governance of such resources or services as the case may be, in a broader perspective, will no doubt provide organisations with cutting-edge advantages among comity of equals once the right perspective of IT governance is maintained. This will, in the final analysis, enables the organisation a vantage position before its various stakeholder vis-à-vis government, employees, and customers. Thus IT governance which has to do with structures, processes and relational mechanisms for the IT decision making in an organisation (Grembergen et al, 2004) should necessarily exist in any organisations that deals with IT, though its extent and or quality may vary from one organisation to the other (Simonsson et al., 2010).

1.1 STATEMENT OF THE PROBLEM

IT governance (ITG) performance is about the quality of services that the IT organisations deliver, as seen from a business point of view (Simonsson et al., 2010). It is very important to note that it has become an accepted fact that ITG enables the organisation involved in its effective use to achieve the desired goal on investment (Weill, 2004).

International Islamic University, Malaysia (IIUM) is a unique Educational Institution posed to provide quality and up-to-date education to Muslims all over the world in general and Malaysian in particular. It is one of four of its kinds; IIUM is established in 1983 as the brain child of the 1977 conference of Organisation of Islamic Countries (OIC) held in Makkah (IIUM, 2011); with a focus on presenting alternative source of seeking knowledge; that is with an Islamic perspective. IIUM is unique as it enjoys a wide spread of audience from all nations of the world due to the encouragement from the Malaysian government with capacity of close to 20,000 students as at date.

In its efforts to regularly monitor its performance and to consolidate the strategic focus area, the management of IIUM implemented the Balanced Scorecard (BSC) metric of measuring performance. It took the bold step of fully deploying the balanced scorecard as its official strategic performance management framework in the year 2004. In a situation whereby it is very difficult to track the overall performance of the university; the BSC provides a better means in this regards. It sets both short and long term targets for its performance evaluations (IIUM, 2008).

Just like it is pertinent to measure performance of the organisation, so is the need to take a cursory look at how the IT resources has been governed in order to achieve such feat as that of the Balanced Scorecard (BSC); an administrative way of measuring the university's performances; now being automated. The automation was to enable a simplified working process in order to provide better services for the students, faculty research and teaching activities and staff development.

This study thus, investigates how the IIUM, as a Higher Education Institution outfit, sees the need to govern the utilization of IT resources in its bid to align IT with the overall mission and vision of the organisation. In this regard, the processes of its governance will be investigated thereby correlating how such have had impact on IT governance in the university; especially when viewed within the context of the recent recognition achieved in her implementation of the BSC metric. Thus, how the university has been able to govern the usage of its IT resources in ensuring a better organisation's IT performance will form the focus of the study.

1.2 RESEARCH QUESTIONS

The questions which this study seeks answer for are:

1. How has IT structure impacted on IT governance in IIUM?

2. How has the management exercised control on IT resources in IIUM?
3. How has the IT structure and management's exercise of control impacted on practices of ITG in IIUM?

1.3 RESEARCH OBJECTIVES

1. To determine the impact of the IT structure on ITG practices in IIUM.
2. To determine the level of managements' control on IT resources in IIUM.
3. To determine the impact of IT structure and management control on ITG.

1.4 METHODOLOGY

Interviews were conducted with stakeholders in the university environment precisely at the level of Information Technology Division. This is the division saddled with the responsibility of coordinating IT resources of the university. Analysis of results of the interviews was carried out in a way of digging from the wealth of experience of the practitioners on the field. Also the study was enhanced by exploring the archives of the division in particular and the organisation in general as well as its website in order to gain further insight on the study.

1.5 LIMITATIONS OF THE STUDY

The study will be based on a single case study of the International Islamic University Malaysia (IIUM) using, majorly, interview; a technique of qualitative method of research to gain insight into the questions raised. Added to the interview, is the archive of the case organisation as well as its website, this is to enrich the study. It will be limited by a way of choosing Information Technology Division to gain an insight to this.

1.6 DEFINITION OF TERMS

1.6.1 Balanced Scorecard

A strategic planning and management system used to align business activities to the vision statement of an organisation. More cynically, and in some cases realistically, a Balanced Scorecard attempts to translate the sometimes vague, pious hopes of a company's vision/mission statement into the practicalities of managing the business better at every level (McCarthy & Chapman, 2008-2009).

1.6.2 Case Study

An in-depth investigation of a discrete entity (which may be a single setting, subject, collection or event) on the assumption that it is possible to derive knowledge of the wider phenomenon from intensive investigation of a specific instance or case (as defined by Becker cited in Gorman & Clayton, p. 47, 2005).

1.6.3 Control Objectives for Information and Related Technology

CobiT as it is referred is an IT governance model that helps management to control and manage the information and related technology of their organisation. ITGI (2007) posit that CobiT provides good practices across a domain and process framework and presents activities in a manageable and logical structure. These practices represent the consensus of experts as they are strongly focused on control and less on execution. Accordingly, these practices help optimise IT-enabled investments, ensure service delivery and provide a measure against which to judge when things do go wrong.

1.6.4 Enterprise Resource Planning Systems

Enterprise Resource Planning systems (ERP) are universal software applications that integrate all basic functions of an organisation (Vathanophas & Stuart, 2008), through the use of a single system that can serve the needs of different functions. They are designed to correct lack of communication among the functional areas in an information system.

1.6.5 IT Governance

It is specifying the decision rights and accountability framework to encourage desirable behavior in the use of IT (Weill & Ross, 2004). IT governance is the strategic alignment of IT with the business such that maximum business value is achieved through the development and maintenance of effective IT control and accountability, performance management and risk management (Webb et. al., 2006). IT governance is the responsibility of the executives and the board of directors, and consists of the leadership, organisational structures and processes that ensure that the enterprise's IT sustains and extends the organisation's strategies and objectives (ITGI, 2010).

1.6.6 Information Systems

Information Systems (IS) is defined as a set of technical/scientific and human resources devoted to the management of information in an organisation which spells out the composite nature of the field (Arunthari, 2005). It is an organized combination of people, hardware, software, communications' networks and data resources that collects, collates, transforms and disseminates information in an organisation (Leon, 2008).

1.6.7 Organisations Performance

It comprises the actual output or results of an organization as measured against its intended outputs (or goals and objectives). It encompasses three specific areas of firm outcomes: (a) financial performance (profits, return on assets, return on investment, etc.); (b) product market performance (sales, market share, etc.); and (c) shareholder return (total shareholder return, economic value added, etc.) (Richard et al., 2009)

1.6.8 Qualitative Research

It is a process of enquiry that draws from the context in which events occur, in an attempt to describe these occurrences, as a means of determining the process in which events are embedded and the perspectives of those participating in the events, using induction to derive possible explanations based on observed phenomena (Gorman & Clayton, p. 3, 2005).

1.7 SIGNIFICANCE OF THE STUDY

It is no doubt that organisations have recognised the significance of IT in their efforts to achieve set mission and goals geared towards positioning themselves for competitive advantage. Thus, it is clear that IT has become not only a success factor for survival and prosperity, but also an opportunity to stand out amongst equals. International Islamic University, Malaysia, established in 1983 has made such a debut in higher education environment, striving towards impacting knowledge in the upcoming generation with an international scope in her bid to positively contribute to international nation building. Recently, in 2008, it was accepted into the Prestigious Palladium Balanced Score Card Hall of Fame. An award given by the Palladium

Group at the 25th September 2008 Asia- Pacific Summit based on quality performance (IIUM, 2011).

This study examines the current level of IT resources usage in this university, suggesting the importance of adopting IT governance philosophy in maintaining an edge. The study intends to know the extent to which IT governance has been given its right place in the university and how this has affected the IT performance of the institution as will be attested to by the practitioners on the field who are constantly in touch with these resources in carrying out their daily duty. The findings as well as the recommendations will be an eye-opener to the organisation as it strives towards achieving such great feat as in becoming a leading research institution, more so, in its bid to become a full fledged Research University by 2015.

It will amongst other things provide:

1. An insight into how a Malaysian University implements and practice IT governance.
2. An input on the level of management exercise of control on IT resources in order to enable proper and optimal usage
3. Represent a systemic study on ITG in IIUM which will provides documentation to the evolution and application of ITG at the university.

To get this done, the researcher embarked on a review of past literatures to see how information technology governance has evolved and more importantly its application into university as an organisation. This will be done in the next chapter with a view to see the gap in the implementation of ITG in a Malaysian University.

1.8 ORGANISATION OF THE DISSERTATION

The report of this study is organised into six chapters that addresses the concerns of the study; which is to discover the extent of use of IT governance principle in an education outfit. The summary of those chapters is hereby given:

1.8.1 Chapter One: Introduction

This chapter introduces the study by providing the purpose of study, the questions that begs the mind of the researcher with objectives of embarking on the effort. It also tells on the method of gathering information while espousing the benefits that this study brings as well as the limitations in carrying it out.

1.8.2 Chapter Two: Literature Review

Here we take a look at the previous works relating to the use of IT in higher education institutions vis-à-vis the application of IT governance in this context as well as relate frameworks on best practices and how adopting them is very essential. The chapter concludes with the depicting the dearth in the study of IT governance in the context of education institution in a developing nation like Malaysia.

1.8.3 Chapter Three: Research Methodology

Bearing in mind the gap in literature and thus the need for the research a single case study was embarked on. In order to have an insight to the purpose the study, the techniques that were embarked on in gathering necessary data was explained here.

1.8.4 Chapter Four: Case Organisation

This chapter was dedicated to explore the case study entity: information technology division ITD of IIUM. The history of the university and its administrative composition and spread were brought to limelight. This chapter then digs into the evolution of ITD and by extension the coordination of the use of ICT facilities and infrastructures in an education outlet that has a capacity of over nineteen thousands students and three thousands employees.

1.8.5 Chapter Five: Analysis and Observation

Here the themes that was uncovered from the interviews as a way of learning from the wealth of experiences of the practitioners in the field was presented. The analysis of the study follows a logical order of observing the pattern of the responses from the respondents and tying same to the imports from the literatures and the questions of the study.

1.8.6 Chapter Six: Discussion and Conclusion

A recap of the report on the state of process of information technology governance in academic environment was presented. The relevance of the questions of the study set at the beginning of the research was tied to the findings from the data thus gathered. The chapter brings forth some recommendations as well as highlights in what could be the implications of the findings to theory and practice. It also espoused the need for further study.