The Impact of Corporate Governance on the adoption of Enterprise Risk Management at Institutions of Higher Education

أثر الحوكمه على تبني إدارة المخاطر المؤسسية في مؤسسات التعليم العالي

by

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ABSTRACT IN ENGLISH

The Impact of Corporate Governance on the adoption of Enterprise Risk Management at Institutions of Higher Education

Ahmed Eltahir[1]

Corporate governance has emerged during the last two decades as one of the main concerns in higher education sector. Researchers and practitioners perceive that maintaining best practice of corporate governance should result in a better institutional performance and subsequently bring back shareholders values benefits over a long term. Though the term "Corporate Governance" has been widely researched in public and private enterprises, little attention has been given to examine governance practices and structures in higher educational institutions (HEIs). On the other hand, the topic of "Enterprise Risk Management" has become vitally important during decades between scholars, institutions and politicians around the world. Scholars call for an integrated and interrelated process of examining, assessing and managing risks, uncertainties with a prospect of considering both negative and positive impacts on the organization's projects, before, within and after their deployment. This research aims at contribute to the literature by providing empirical evidence of examining the internal and external factors for good governance and their impact on the successful adoption of Enterprise Risk Management at institutions of higher education in a local context of the UAE. The results of the study reveal that the variables "governance board process" and the "influence of regulatory authorities" have significant positive relationship with the successful adoption of enterprise risk management. The study also demonstrates that other governance variables identified in the study such as "governance board composition" and "expectations of stakeholders" don't have significant relationship with the successful adoption of enterprise risk management. The study calls for further qualitative studies to further investigate closely those factors.

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ABSTRACT IN ARABIC

نبذة مختصرة

برزت حوكمة المؤسسات خلال العقدين الماضيين باعتبارها واحدة من الاهتمامات الرئيسية في قطاع التعليم العالي. ويدرك الممارسون والباحثون أن الحفاظ على أفضل الممارسات لحوكمة المؤسسات يجب أن يؤدي إلى أداء مؤسسي أفضل وبالتالي إعادة قيمة الفائدة لأصحاب المصلحة على المدى الطويل. على الرغم من أن مصطلح "حوكمة المؤسسات" قد تم بحثه على نطاق واسع في المؤسسات التجارية العامة والخاصة ، فقد تم إعطاء القليل من الاهتمام لدراسة ممارسات وهياكل الحوكمة في مؤسسات التعليم العالي. من ناحية أخرى ، أصبح موضوع "إدارة المخاطر المؤسسية" في غاية الأهمية خلال عقود بين الباحثين والمؤسسات والسياسيين في جميع أنحاء العالم. ويدعو الباحثون إلى عملية متكاملة ومترابطة لفحص وتقييم وإدارة المخاطر وأوجه عدم اليقين مع احتمال النظر في كل من التأثيرات السلبية والإيجابية على مشروعات المؤسسة قبل وخلال وبعد تطبيقها. ويهدف هذا البحث إلى المساهمة في الأدبيات من خلال تقديم دراسة تجريبية عن العوامل الداخلية والخارجية للحوكمة الرشيدة وأثرها على الاعتماد الناجح لإدارة المخاطر المؤسسية في مؤسسات التعليم العالي في سياق محلي لدولة الإمارات العربية المتحدة. وتكشف نتائج الدراسة أن المتغيرات "عمليات مجلس الإدارة" و "تأثير السلطات التنظيمية" لها علاقة إيجابية كبيرة مع النجاح في اعتماد إدارة المخاطر في المؤسسة. وتوضح الدراسة أيضًا أن بعض المتغيرات الأخرى للحوكمة والتي تم تحديدها في الدراسة مثل " تكوين مجلس الإدارة" و "توقعات أصحاب المصلحة" ليس لها تأثير كبير في الاعتماد الناجح لإدارة مخاطر المؤسسة. وتدعو الدراسة لمزيد من الدراسات النوعية من أجل التحقق عن كثب عن تلك العوامل.

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I would like to extend my heartfelt gratitude and appreciation to all those who stood by my side during this dissertation journey. First I would like to acknowledge my supervisor Professor Halim Boussabine for his extensive and valuable professional advice and direction which has provided me an in-depth engagement in this research area and has subsequently enabled me to successfully complete this study.

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Last but not least, I am obliged with much of love and gratitude to my wife who always supported me to encounter difficulties and challenges all through this journey. Without my family' everlasting care, help and patience it wouldn't have been possible to complete this study.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction

1.1 Research Background

Global Challenges in Higher Education

Education in the world has been traditionally understood as an important phase in preparing for building and developing human life and the eagerness to embark on the process of social and economic change and adapt to the needs of this change. Higher education in specific has been undergoing tremendous changes and transformation around the globe since 1980s. Some of the major challenges facing higher education sector are mainly due to increased accountability from regulatory authorities and shareholders, new form of competitions, and new market requirements and lack of political support (Jasinski 1999). *The World Declaration on Higher Education for the 21st Century* report of the UNESCO confirms that higher education is facing considerable challenges including, changes in the internal structures of universities, changes in education models, changes in teachings and learning approaches that embrace innovation and creativity, and changes in disseminating knowledge and knowledge transfer (UNESCO 1998). According to this declaration, strengthening higher education and financing systems requires robust governance systems that integrate social vision, understanding global issues with efficient managerial skills. The declaration calls upon active participation of students, faculty and staff of higher education in universities governing bodies (UNESCO 1998).

Globalization in recent decades has deeply affected higher education sector in various aspects such as; internationalization of universities and new advancement in information and communication technology. Government and public entities must ensure that necessary funding is provided to higher education institutions in order to carry out their function to serve the society. Quality assurance, accountability and governance at these universities must ensure that public funds are properly used to provide the community members with outstanding services that

meet or exceed their needs and expectations to contribute the workforce development. However, higher education institutions, as any other organizations, encounter a set of risks due to new technology advancement, economic and market changes, and globalization; consequently, higher education institutions started to encounter an increased accountability pressure from different entities and stakeholders such as; government, public and other community members (The Advisory Board 2008). Orr (2004) cautions that if certain precautions are not taken, education may cause people to deliberately destroy or damage public or private holdings. Therefore there should be serious considerations to urgently address all changes and difficulties facing the higher education sector at the local, regional and global levels and provide the best educational services to the members of the community looking for knowledge and community service.

Challenges in UAE higher Education

According to the UAE portal for the Sustainable Development Goals (UAESDGS), the UAE's education sector is considered as one of the fastest growing sectors in the region. In the academic year 2016-2017 there are about 1.03 million students enrolled in both public and private schools. By the year 2020, the total number of students in schools and universities is projected to grow annually by 4.1 per cent. With the government support to adopt huge reforms in education at the UAE, the ministries cabinet has approved a total federal budget of AED 48.7 billion for the year 2017. Among all other sectors, education has received the maximum share of the budget allocation with20.5 per cent, which is equivalent to AED 10.2 billion (UAESDGS 2018). The key achievements of these reforms in UAE education are presented as follows:

- Allocating about 20 per cent of the government's major spending for adopting reforms to the education system
- Offering free education to UAE citizens in both schools and higher education

- Providing diverse systems both public and private consisting of more than 16 curricula targeting multi nationalities in the UAE

- Providing a wide range of international accredited universities at both public and private levels

- Maintaining special facilities for adults learning, continuing education

- Decreasing the illiteracy rate in the UAE to less than 1 per cent

- Signing an agreement with software company Microsoft to follow best practices in education to support smart education programs

- Signing the UN's Convention on the Rights of Persons with Disabilities and Optional Protocol.

The tertiary education in the UAE has enormously expanded during the last decades due to the high increase in both number of students and higher education institutions. According to the UNESCO Institute for Statistics, the growth enrollment ratio has grown with an average annual rate of 14.01 per cent form from 3.5 % in 1982 to 22 % in 2014. The total enrollment in tertiary education, as shown in Figure 1, presents more than 20% of the total population of the five-year age group following on from secondary school leaving.
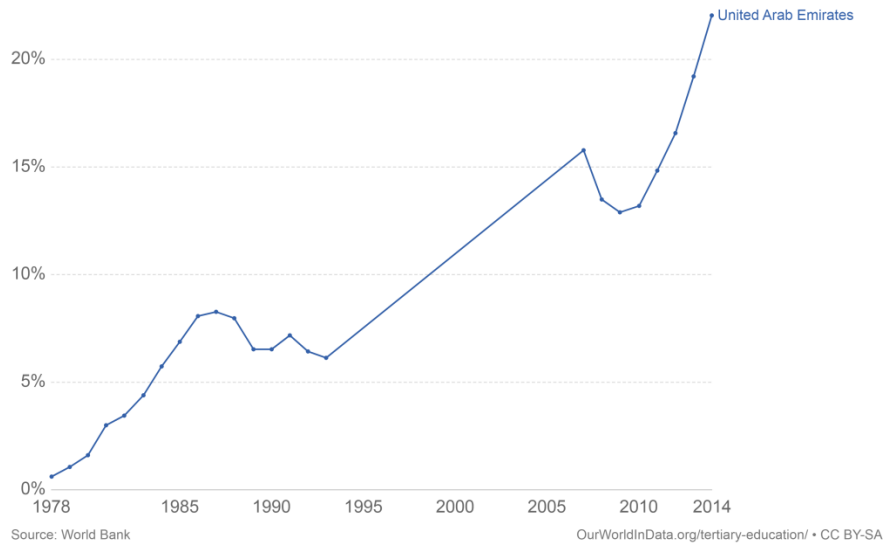
Figure 1: Gross Enrollment ratio of tertiary education in the UAE

(Source: UNESCO Institute of Statistics)

According to the statistics of the Ministry of Education, the highest federal entity in recognizing and accrediting HEIs, the number of HEIs has reached to 87 institutions in the academic year 2016-2017. The total number of students studying at different federal and private institutions in the UAE has increased from 128,279 students in 2013-2014 to 137,255students in 2016-2017. The number of faculty members at federal and private higher education institutions in the UAE has increased to 6,981 faculty members in 2016-2017 (UAE Ministry of Education 2018).

Despite this growth in enrollment, there exists a considerable gap between the labor market needs and the quality of graduates in the disciplines of knowledge studied at higher education institutions (OECD, 2012). The UAE ranking on the global innovation index in 2018 has shown a negative assessment of tertiary education as well as research and development recording 56.6 and .20.3 respectively (Global Innovation Index 2018).Moussly (2010) has noted that the supply of seats in higher education in the UAE exceeds demand with number of private higher education institution including branches of international universities causing unbalance

between supply and demand and this should not be the case for any efficient market. The number of private institutions to the public ones has become disproportionate constituting about two-thirds of the total institutions in the UAE (UAE Ministry of Education 2018). With this huge number of private higher education providers, quality assurance issues pertaining to academic programs and services have arisen where HEIs strive to distinguish their offerings and maintain competitiveness and sustainability.

Governance and Enterprise Risk Management in UAE Higher Education

All these challenges have steered the UAE government agenda to seriously consider adoptions of best higher education models emphasizing best leadership practices in governance and risk management approaches in order to attain competitive advantage, improve performance of higher education sector and subsequently provide a better value for wellbeing of the society. The Commission for Academic Accreditation (CAA) was first established in 2000 by the UAE Ministry of Higher Education & Scientific Research (recently renamed as the Ministry of Education) with the a promising mission to promoting educational and learning excellence among diverse higher education providers in the UAE. The CAA has the sole authority of licensing non-federal institutions to grant academic qualifications and awards and accrediting academic programs of all institutions. The CAA has adopted a rigorous quality assurance system benchmarked with international standards for institutions licensing, and academic programs accreditations. The CAA has licensed 76 higher education institutions up-to-date including public and private institutions. The commission has also accredited 945academic programs at undergraduate, post-graduate and graduate levels. The CAA aims at providing privileged education opportunities in the UAE mandating institutions to maintain high quality and effective systems for continuous improvement but valuing the diversity of education providers and

encouraging innovation and creativity in implementing educational strategies by individual institution (CAA Standards 2011).

The CAA Standards published in 2011makes significant reference to the practice of governance to be adopted at the institutions. The first Standard of the CAA licensure and Accreditation Standards of the CAA "Mission, Vision and Governance" mandates all institutions seeking institutional licensure or programs accreditations to develop, implement and evaluate their governance systems to have an appropriate organizational structure and a governance system that facilities the achievement of the institution's mission. The governance systems should clearly distinguish lines of authorities, roles & responsibilities of the governing board, administration, faculty and staff. The CAA Standards also address issues arising from the adoption of risk management at HEIs in the UAE. The second standard of the CAA Standards for Licensure and Accreditation ascertains risk management as one of the key critical components of the institution's quality assurance. This standard requires every institution to develop a risk management plan that identifies different-source risks, assesses risk severity, and adopts strategies to, avoid, reduce or mitigate them. The plan should delegate clear responsibilities for risk management, and it should be approved by the governing board at least on biannual basis (CAA Standards 2011).

1.2 Problem statement

The board of directors/board of trustees of any organization, either public or private, plays a vital role in provision of direction, control and decision making process for any strategic change and improvement. The presence of governance structure is very crucial to provide various stakeholders reliable information about the value of the institution and to motivate administrators and staff to stay focused on the institution mission, not on any other personal objectives. Enterprise Risk Management (ERM) was implemented to provide more detailed

information about organization's risks which should result in better management, more informed

management, and better decision making (Lenkus 2001). The consequences of not implementing

good corporate governance lead to severe consequences such as vulnerability and poor

performance (FRC, Combined Code June 2008). That is to say, effective corporate governance

might require effective risk management practices, or the other way around.

This research is conducted in light of the increasingly ongoing debate and discussion on

topics related to corporate governance and its effect on enterprise risk practices. The research is

aimed at examining the impact of university governance on the successful implementation of

enterprise risk management. The research aims to contribute to the current knowledge through

studying the relationship between corporate governance and enterprise risk management in

higher education context.

1.3 Research Aim & Objectives

The main aim of this research is to examine the impact of university governance on the

successfully adoption of enterprise risk management in higher education sector. The research

aims at achieving the following objectives:

1. Review the literature of organizational governance and ERM in higher education sector

2. Identify the key governance factors and in particular those related to higher education
   sector

3. Ascertain factors affecting enterprise risk management at higher education sector using
   international codes and standards

4. Examine the impact of the internal and external governance factors on the successful
   adoption of enterprise risk management

1.4 Research Questions

The research specific questions are as follows:

1. What are the key internal and external factors for assessing a good governance practice at institutions of higher education?

2. What are the key success factors for adopting enterprise risk management at higher educational institutions?

3. To what extent these governance internal and external factors can affect the successful adoption of enterprise risk management at institutions of higher education?

1.5 Significance of the study

There has been little work made with regard to earlier theoretical and empirical research that focus on the main topics of this study; university governance and enterprise risk management at HEIs. The researcher has first made a repeated searched on the full-texts and the peer-reviewed journals through "Education Research Complete" database regarding the topic "governance in higher education" for the period of 1972 till 2018. The results of this search yields 205 academic journals, 27 reviews, and 2 conference papers. The researcher then searched for the topic "risk management in higher education" for the period of 2002 till 2015. The repeated search shows only 7 academic journals. The researcher then searched repeatedly for "governance and risk management in higher education" and the results yield only 2 academic journals during the period of 1980 till 2018. This shows an obvious lack and shortage of previous research and studies in these vital fields of knowledge. The findings of this research target to cover the existing gap in the literature by ascertaining the key characteristics for good governance and the success factors of enterprise risk management in higher education context.

The current research attempts to examine the impact of governance on the successful adoption of enterprise risk management at institutions of higher education in a local context of

the UAE. The research recommends areas for further research by studying and examining governance factors and their impact on the implementation of risk management framework based on qualitative research. It is worth noting that this research aims to respond to the latest challenges facing institutions of higher education in the UAE concerning governance compliance standards and risks management requirements by various regulatory authorities. For higher educational institutions and particularly to those in the UAE, the findings of this research would contribute in raising the awareness about these vital fields of the study and provide an essential platform to build and instill a good governance practice and a successful implementation of risk management. This can be reflected upon providing the community with a high quality education that equips the graduates with the skills and competencies needed in the job market.

1.6 Scope and Limitations

The scope of this research is to study the relationship between corporate governance and the adoption of enterprise risk management at HEIs. The study seeks to obtain perceptions and input from the constituents of the universities and colleges in the UAE at different levels about the practice of governance and the implementation of enterprise risk management at their perspective institutions. The targeted population for this study are; members of board of trustees, chief executive officers, deans and heads of academic departments, senior administrators, faculty members and administrative staff.

The study was limited to some private and public universities in the UAE and couldn't cover all, as the accessibility of data and information from other universities has always been a great challenge to this study. It is worth noting that the study did not validate the results of the quantitative analysis by other forms of qualitative research methods such as face-to-face interviews where the researcher could personally obtain the subjects' perceptions and investigate more closely the conclusions drawn. Therefore the researcher of this study calls for further

research to consider both research techniques; a questionnaire and interview which will allow more systematic and logical theming of the input in order to provide better significant and meaningful conclusions. The in-depth qualitative research will prominently add more value to the current quantitative findings of this study.

1.7 Organization of Dissertation Chapters

A framework showing the flow of various organization steps is established in order to illustrate the flow of information in the respective chapters of the study as shown by the following diagram:
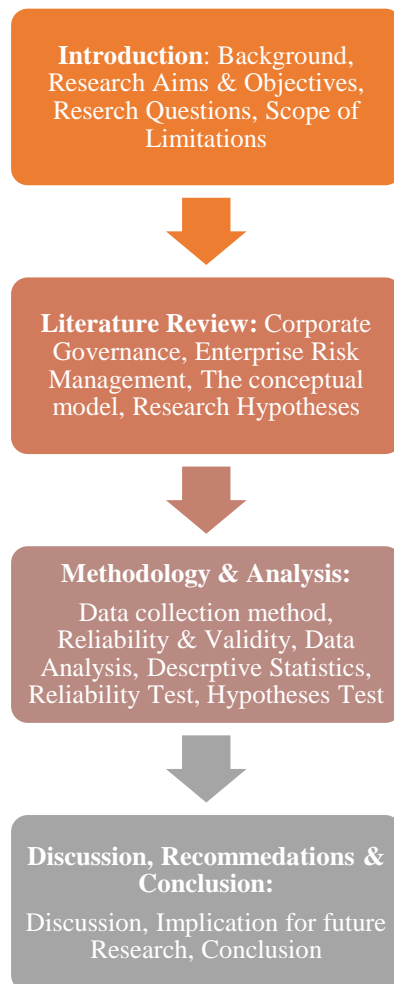

Figure 2: **Organization of the Dissertation Chapters**

As shown in Figure 1, the first chapter of this research will be dedicated to review topics on higher education, as well as its challenges both globally and in the UAE. This is followed by a review on corporate governance and enterprise risk management in the context of higher education. The researcher formulates the problem statement from the review of the primary source documents such as; newspapers, reports of the Ministry of Education, Commission for Academic Accreditation Standards, statistics, and other related information. Research aim, research objectives and research questions are established and the significance of the study is indicated. This chapter also includes various limitations to the research.

The second chapter includes a thorough critical literature review on study main topics; corporate governance, corporate governance in higher education, enterprise risk management, enterprise risk management in higher education. The established theoretical framework integrates all conceptual thoughts collected from the scholarly review.

The third chapter focuses on the methodology and analysis of the data. The data instrument (a self-descriptive questionnaire) is built based on the conceptual framework and the literature review. The questionnaire is automated with Surveymoneky.com with a secured password. The purpose of the questionnaire is to ascertain with universities constituents the key characteristics of good governance practice and the key success factors of adopting enterprise risk management at institutions of higher education. A pilot study is conducted before the questionnaire goes live to test the reliability and the validity of the questions. Data analysis section contains the results of the statistical tests using SPSS software including descriptive statistics, Cronbach alpha test, correlation, and regression analysis to test the hypothesis of the study.

The fourth chapter presents a discussion of the findings and their implications compared to the findings of previous research and empirical studies conducted on the studies topics. The study concludes with a set of recommendations including implications for future research.

Chapter 2: Literature Review

2.1 Corporate Governance

Corporate governance is one of the vital topics that are being widely studied among scholars, practitioners and regulators in different industries around the globe throughout the past decades. Various studies indicate that adopting good governance practice is seen as the key success factor for any public and private enterprise. Theoretically, it may be argued that good governance implies successful adoption of enterprise risk management; however this must be supported with empirical evidence which is the main purpose of this study. While topics of governance and enterprise risk management in the literature have received great attention in public and private enterprises, there has been very little research and empirical evidences in the context of higher education. The debate on the definition of the term "corporate governance" is on-going as this term may have various interpretations and difference analyses including diverse disciplines and approaches (Keasey et al. 2005). The different views among scholars' on the definition are likely attributed to different management schools of how they perceive the underlined and grounded theories of corporate governance.

One of the perceptions for corporate governance from agency theory is founded on the adequate control and monitoring mechanisms in place to protect shareholders from management's conflict of interest where the board of directors acts as the highest control body to monitor the actions of the top management (Fama and Jensen 1983). Tricked (1994) mentions that a common definition of corporate governance is to address the issues facing the board of directors which implies that roles and responsibilities of the stakeholders at the institutional levels must be clear. Similarly the Steward Theory for corporate governance, a normative alternative to agency theory, assumes that members of senior management or CEOs of the organization protect interests of the enterprise shareholders and claim the responsibility for

taking decisive actions on their behalf in order achieve sustainable development, corporate social responsibility and accountability of the organization (Davis 1997). Another perception of corporate governance is grounded on the institutional theory which explains the pressure from governance agencies to influence the organizations (Wicks 2001). In the relevant literature, the Cadbury Report on the Corporate Governance (1992) in the United Kingdom recommends a concise definition to corporate governance which this study tends to agree with. The definition states that "Corporate Governance is the system used by organizations to direct and control their business" (The Cadbury 1992).

2.2 Governance in Higher Education

Though most of the earlier studies were focusing on the issues of governance in private and public enterprises, the recent discussion on governance in higher education sector has become relatively popular during the last decades. Coaldrake et al. (2003) declare that 'universities have been on the caught up in the international surge in governance of organizations'. Armsrtong and Francis (2004) reveal that corporate governance describes the structure and the process for decision making, control and behavior and accountability at the top level of the organizations. In other studies, Armstrong and Unger (2009) define governance as "The system or structure of rules and relationship, supervision and control of those who exercise the authority, accountability, stewardship, leadership, direction and control that aims to ensure accountability and efficient use of resources in balancing the achievement of goals, society and individuals". Several issues on governance structures and processes were highlighted by different scholars recommending changes in the university council structure and composition process, changes in the size of the governing boards and requiring further clarifications to the role of the governing boards (De Silva 2011).

Significant reforms on governance in universities took place in a few western countries such as Australia, the USA, the United Kingdom and others with the aim of providing higher education institutions adequate competiveness to maintain international standards and acquiring the ability to practice academic freedom and to become more autonomous for better transparency and accountability (Nelson 2003). Fielden (2008) presented four institutional governance models that can fit public institutions of higher education in various countries, these are; (1) a state control model where it can be an agency of the Ministry of Education or a state-owned university and this is mostly adopted in Malaysia (2) a semi-autonomous model where it can be an agency of the Ministry of Education or a state-owned university or a statutory body – a body which drives its power and authority from a law or a statute, this is mainly adopted in countries like New Zealand and France, (3) a semi-independent where it can be a statutory body, a charity or a non-profit entity subject to the control of Ministry of Education, this is mainly adopted in Singapore, (4) a statutory body, charity or non-profit entity with no government participation and control on its strategies and operates only on public funding.

In the UAE, HEIs follow different governance structures according their legal status; therefore, this could have effect on the governance model they adopt. The UAE Ministry of Education classifies HEIs into; (1) Federal HEIs which are UAE University, Higher Colleges of Technology, Zayed University, (2) Public non-profit HEIs and (3) Private HEIs.

The governance model followed by the federal universities is typically a state-owned model. The public non-profit universities follow the independent model with their own board of trustees that are accountable to some government funding agencies. The Commission for Academic Accreditation of the Ministry of Education, through its (CAA Standards 2011), is responsible for ensuring all quality assurance aspects of private higher education institutions that are licensed by the CAA. The institutions must demonstrate full compliance to develop governance structure and

process, role and protocol of the governance board, and to evaluate the effectiveness of their own board performance on regular basis. The By-laws of the governing board, which must be developed by every institution, contain specific stipulations that control the governing board operation comprising those relating to the board membership, board protocol, and specific responsibilities of the governing board. The Standards requires institutions to assign a clear role to faculty, staff and students for the institutional governance. Institutions are required to develop these By-Laws based on the following requirements: The section of the By-Laws covering membership and protocol must ensure that: (1) the board consists of at least five duly appointed or elected members in accordance with the policies and procedures of the institution; (2) membership includes an appropriate balance of individuals with the range of expertise necessary to guide policies and strategic planning of the institution (i.e. a mix of academic and professional expertise); (3)there are members representing the UAE community; (4) the term of office for board members is stipulated; (5) there is a written statement concerning conflict of interest, including prohibitions and limitations on financial dealings between board members and the institution; (6) board meetings are held at least twice annually; (7) official records of all board meetings are maintained. The section of the By-Laws covering responsibilities must cover the following: (1) appointment of the chief executive officer and annual evaluation of his/her performance; (2) approval of general institutional policies, on the basis of recommendations from the chief executive officer; (3) approval and periodic review of the institutional mission and strategic plan; (4) approval of educational programs of a quality consistent with the institution's mission; (5) conferral, or the authorization of the conferral, of qualifications including honorary degrees; (6) securing of financial resources to adequately support the institutional mission and goals; (7) approval of the annual institutional budget; (8) approval of major facilities, contracts and campus plans unless otherwise delegated; (9) ensuring that the institution is subject to an

annual external financial audit; (10) approval of the selection of an external auditor; (11) receipt of the auditor's report, including management letters and other supporting information, and follow-up action as appropriate (CAA Standards 2011).

2.3 Enterprise Risk Management

The increasing pace of changes in daily life has made individuals and organizations exposed more frequently to risks and uncertainties in different ways. Various risks may arise due to political, legal, environmental, economic, financial, social, technological or maybe from other types of risks. Merna & Al-Thani (2005) in their book "Corporate Risk Management – 2ndedition" add that the first major appearance of the concept of risk management in corporate governance is quite ambiguous". Traditionally, organizations used to manage risks in isolation with the organizational control review process. The ongoing debate about enterprise risk management shows that corporate governance has undergone a fundamental change during the period 1980's in the US and the UK where number of initiatives were brought such as the Tradeway Commission which found that 50% of business failure was because of breakdown in internal control. Another important emerged initiative in the UK was the establishment of several committees to provide compulsory recommendations with provisions on risk management. One of these committees is the one prepared by Sir John Cadbury in 1992 on corporate governance which calls for a process to identify risks for major business and ensure effective control system is in place (Cadbury 1992). The codes provided by these committees were later called the "Combined Code" which all business firms registered by London Stock Exchange must adhere to (Merna et al. 2005). DiPiazza (2004) further explains that "today's' risks have more flavors than ever; these flavors can be represented by thread of terrorism, wars, unpredictable economic revolution, corporate scandals and tighter regulations".

Scholars and practitioners reveal that "risk management is a formal process that enables the identification, assessment, planning and management of risks at all levels of an organization" (IRM 2002). It should be noted that the main aim of any organization is to offer and maintain over a long term value and benefits for its internal and external stakeholders. Therefore the enterprise must be in a positive to recognize all uncertainties and decide on the extent of which it can accept these uncertainties in order to expand the outcomes and benefits for its stakeholders. COSO (2004) defines enterprise risk management as "a process, affected by an entity's board of directors, management, and other personnel, applied in strategy setting across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives. Merna & Al-Thani (2005) define risk management as "an art to identify risks that are specific to organizations, and respond to them in an appropriate way" which the researcher found suitable to agree with for the purpose of this research.

2.4 Enterprise Risk Management in Higher Education

The context of higher education institutions differ from other business oriented organizations in many aspects. Gio & Thomas (1996) found that there were measures used in business entities such as profit, return which may not be relevant to higher education specially those public ones. Other measures such as the university reputation and international ranking could be more critical to the university mission. The literature has very little to tell regarding application of enterprise risk management in higher education sector. Frazer et al. (2010) recognizes that the impact of corporate culture on enterprise risk management and practices is not well addressed in the relevant literature. One of the objectives of this study is to contribute to the existing knowledge of enterprise risk management in the context of higher education through examining the key success factors for adopting ERM at institutions of higher education.

Abraham (2013) determines that risks at institutions of higher education may be due; safety and security, compliance from regulatory authorities, academic affairs, research and scholarly activities, information technology, financial matters, human resources, and facilities management. He adds that examples of top risks that are specific to HEIs include economic conditions, political change, financial stability, student enrollment, information technology and physical infrastructure, attracting and retaining talent, regulatory compliance, and building and protecting the institution's reputation (Abraham 2013).

The mission of the University Risk Management and Insurance Association [URMIA] is "to promote the advancement of application of set or risk management principles and practices across higher education institutions". The URMIA affirms that "higher education institutions are not exceptional from the challenges caused by government, regulatory authorities, public and other community members to manage risks". The URMIA calls upon HEIs to set an institutional strategy to manage this wide range of risks in diverse areas. It discloses that "managing risk in higher education is an enterprise wide in initiative that includes every department and individual; risk managers get to cross campus silos as they initiate risk mitigation strategies that can impact a college freshman all the way up to the institution's president" (URMIA 2007). North Carolina State University and Protiviti in 2015 identified, in a survey, the major risks according to the perception of executive officer at their perspective organizations, and these are as follows; regulatory changes, economic conditions that restrict growth, attracting and retain talent, inability to identify risks, cyber threats, managing unexpected crisis, sustaining customer loyalty, resistance to change that restricts the ability adjust business models, and not meeting performance expectations (Protiviti 2015). Deck (2015) studied how management of higher education supports enterprise risk management. The findings of the study reveal that success factors that drive higher educational institutions to adopt enterprise risk management are; (1)

regulatory compliance, (2) increased accountability, (3) improved performance and decision making, (4) pressure from the internal and external stakeholders, (5) better understanding of organizational risks, and (6) improved ability to navigate crises (Deck 2016).

2.5 The Conceptual Framework

This research aims to examine the relationship between corporate governance and the successful adoption of enterprise risk management in the context of higher education in the UAE. The conceptual framework is designed based on the on the relevant review literature of the main corporate governance theories; stakeholder theory, institutional theory, agency theory and stewardship theory. The study extends its scope to explore empirical studies and best practice reports as a grey literature since information on the implementation of Enterprise Risk Management in Higher Education sector is very limited. The study has reviewed the report *"A Wake-up Call: Enterprise Risk Management at Colleges and Universities Today"* published by the Association of Governing Board of Universities and Colleges and the United Educators (AGB & UE, 2014) which has lots of insights about the use of enterprise risk management in universities. The framework of (COSO, 2004) is also reviewed to identify various risk components required for successful adoption of Enterprise Risk Management (ERM).

The conceptual framework as outlined below shows the impact of higher education institution board structures, processes and practices on the successful adoption of enterprise risk management in higher education sector. The conceptual framework of this study is adapted from similar previous work of Chen, Elder and Hsieh (2005) and Weir, Laing and McKnight (2002) who all classified corporate governance variables into internal and external variables. The independent variables relevant to internal governance are represented by; the board composition includes; the board size, the board structure and the board independence. The board

process includes; the board meetings, and the transparency of the board reporting (Khanchel 2007; Shivdasani and Zenner 2004). The external governance variables are represented by; the influence of the stakeholders on institutions of higher education, and the influence of the regulatory authorities of institutions of higher education (Khanchel 2007; Bhagat and Black 2002).

The dependent variables are risk components of ERM framework, adopted from (COSO 2004) and these are; institutional environment, influence of risk manager, engagement of the governing board in risk monitoring, compliance with the requirements of the authorities, discussion of institutional risk, board information on risk, auditability and accountability (Abraham, J. M.2013; AGB &UE 2014; Arena et al. 2011; Gates 2006).

In table (1), the independent and dependent variables that are used to construct the conceptual framework and the hypotheses of the study, are shown as follows:

Independent Variables	Dependent Variables

1. Internal Board Governance variables:
  1.1. Board Composition (Size, Structure & Independence)
  1.2. Board Process (Board meetings &Board Reporting& Transparency)
2. External Board Governance variables:
  2.1 Stakeholders Expectations
  2.2 Regulatory Authority Influence on the Board
	Enterprise Risk Management Successful Factors

Table 1: **The independent and dependent variables of the conceptual framework**

Table 2 shows the summary of the constructs of the conceptual model and their reference sources from the literature review:

Constructs of the Conceptual	Construct Description	Source from the Relevant

	Model		Literature
	Board Size	Is measured by counting the number of council members who are appointed, elected, and ex-officio members.	Chen, Elder and Hsieh (2005); Weir, Laing and McKnight (2002).
	Board Structure	Is measured by how clear is the board criteria of selection, appointment & evaluation, board roles and responsibilities, and expertise and skills of the board members.	De Silva (2011); Armstrong (2004); Nelson (2003)
Internal Governance Board Composition	Board Independence	Is measured as a percentage of external members to the total members of the board and non-interference on day-to-day management operations.	Chaganti, Mahajan & Sharma (2007); Eisenberg, Sundgren & Wells (1998); Bhagat & Black 2002).
	Board Meetings	Is measured by number and quality of Board meetings held during a year assuming that the max. Number of meetings during a year should be 12.	Bhagat and Zenner (2004); Khanchel (2007).
Internal Governance Board Process	Board Reporting and Transparency	Is measured by using the depth and the extent of information disclosure in the annual reports of the universities in addition to fulfilling the mandatory requirements in reporting to government agencies.	Khanchel (2007); Kolk (2008); Ryan & Ng (2000).

		Model		Literature
External Governance	Variables	Stakeholders Expectations	Is measured by the extent of stakeholders' expectations and confidence on the reputation and performance of the	Bhagat and Black (2002); Hallowell et al. (2013); Kallenberg (2009)

		universities.	
	Regulatory Authorities Influence	Is measured by extent of the universities' assurance compliance with the Regulatory authorities	Arena et al. (2010); Arnold et al. (2011); Hayne &Free (2014); Huber & Rothstein (2013).
Enterprise Risk Management	-Institutional Environment -Influence of Risk manager -Engagement of the Governing Board in Risk Monitoring -Compliance with authorities requirements -Discussion of Institutional Risks -Board information on Risks -Auditability -Accountability	Are measured by aggregate of successful factors as outlined in reports of AGB & UE.	Abraham, J. M. (2013); AGB &UE (2014); Arena et al. (2011); Gates (2006)

Table 2: Constructs of the Conceptual Model and source from the relevant literature review

2.6 Research Hypotheses

The conceptual model as outlined in Figure (3) contains independent and dependent variables that are used to constitute the following hypotheses:

*H1: There is significant relationship between the **Board Composition** and successful adoption of ERM at higher educational institutions?*

*H2: There is significant relationship between and the **Board Process** and successful adoption of ERM at higher educational institutions?*

*H3: There is significant relationship between the **Stakeholders Expectations** and successful adoption of ERM at higher educational institutions?*

*H4: There is significant relationship between the **Regulatory Authority Influence** and successful adoption of ERM at higher educational institutions?*

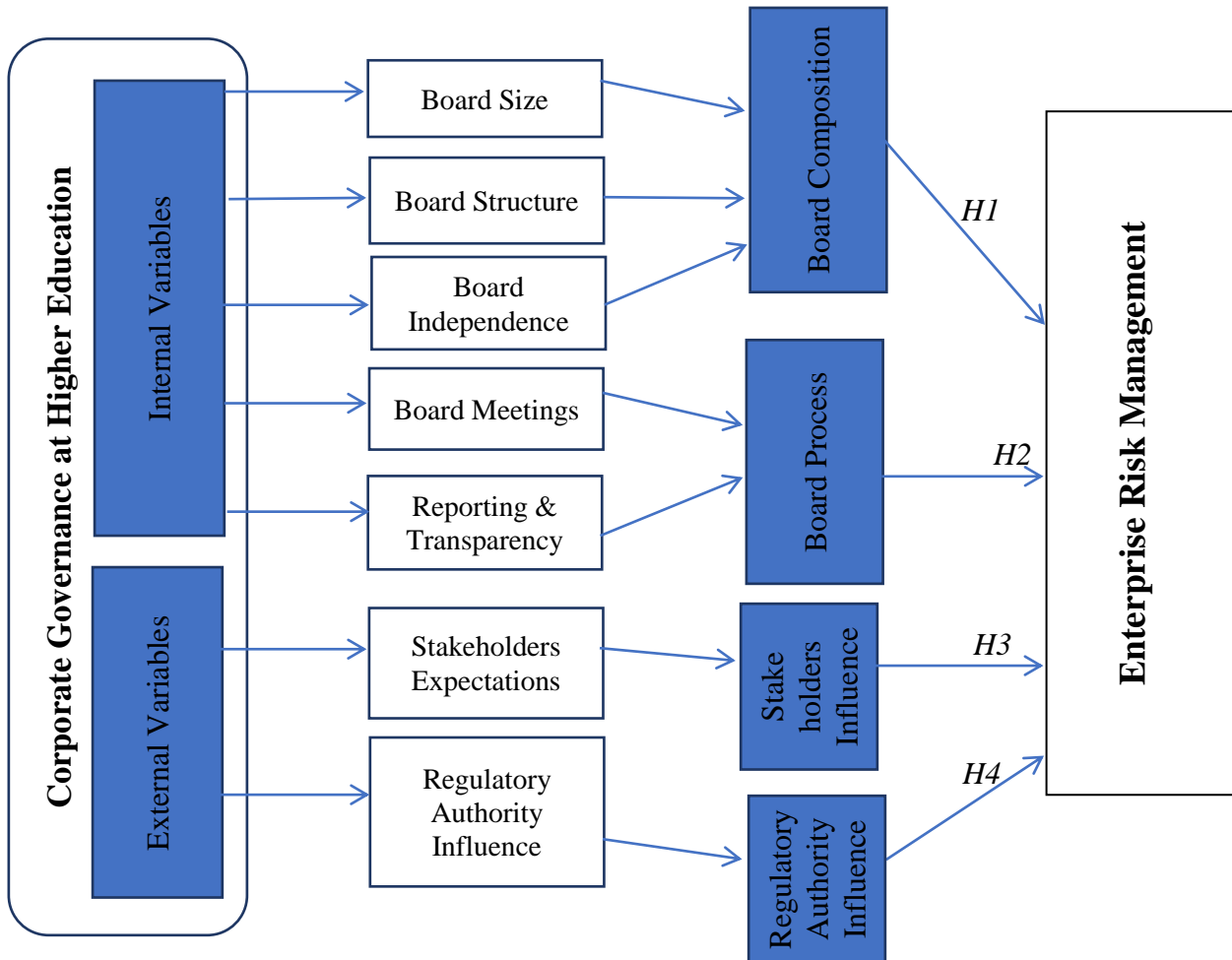The conceptual framework can be depicted as follows:

Figure 3: The Conceptual Model for Governance & Enterprise Risk Management in Higher Education

Chapter 3: Methodology& Analysis

3.1 Data Collection Method

The research is conducted in a deductive approach following a survey strategy. A questionnaire was used to collect quantitative cross-sectional data that is needed to address the questions of the research and attain the research objectives as stated in Chapter two. In social science, questionnaires are usually used as the only method for data collection, while in some other sciences questionnaires are used in parallel with other data collection tools (Sarantakos 2005).The detailed description of the questionnaire used in this study is illustrated as follows:

Questionnaire Instrument

The questionnaire generates online surveys administered by the software"SurveyMonkey.com". The introduction section of the survey has included a confidentially section to ensure that data collected will be secured and treated on aggregate basis for the purpose of this study only. The survey consists of the introduction page in addition to sections A, B, C & D. All these items were adopted from the scholarly review as mentioned in table (2) of Chapter two. Section A of the survey contains the subjects' demographic information. Section B contains questions relevant to independent variables, the Governance internal variables: "Board Composition"& "Board Process". Section C includes questions relevant the independent variables, the Governance external variables "Stakeholders"& "Regulatory Authorities. Section D includes questions relevant the dependent variable of the adoption of the Enterprise Risk Management. The subjects are asked to rate their perceived opinion in each section with 5 choices to select from; "Strongly Agree=4", "Agree=3", "Disagree=2", "Strongly disagree=1" and "Unable to Evaluate=0". The subjects will be given an additional space to provide their feedback and comments that may think important. The survey is enclosed in the appendices.

3.2 Reliability and Validity

The targeted subjects of this study are the employees working at different universities in the UAE representing public and private higher education institutions. A survey was sent randomly, as online format, to the selected employees. Sixty completed surveys were received with a completion rate of 92%.The study has emphasized testing of reliability and validity since this study has opted to use a quantitative research method. Yin (2003) reveals that "the general way of approaching the reliability problem is to make as many steps as operational as possible and to conduct research as if someone was always looking over your shoulder". In order to further enhance the reliability of this study, the research purpose, research goals, and research questions are subject to a thorough examination and refinement. Yin (2003) explains that "validity is equally significant aspect of a quantitative research method since it provides accuracy, trust and credibility. He has noted three approaches to increase and construct validity: 1) use multiple sources of evidence, 2) establish a clear chain of evidence, and 3) have consultants to help review the initial analyses and findings (p. 34). In the current research there was provision to include comments and observations by the subjects in the questionnaire. The study included only one researcher over all stages of the study; hence there exists a good chain of evidences for all the data. The questionnaire was designed and deposited through SurveyMonkey.com where all the data is saved in a secured server of this "Surveymonkey" website which accessible only through username and password. In order to confirm validity to the content, the questionnaire was reviewed by a penal of academics from various institutions. The survey questions were subject to various amendments and rectifications which were used to improve the content of the survey. In addition to this, simple English was used in the questionnaire and a translation to Arabic language is also provided to prevent misunderstanding in respondents who are not native English speakers.

3.3 Data Analysis

Surveymonkey.com services are used to collect and store data. The primary statistical tool used for carrying out statistical tests and analysis is SPSS version 23.0. The data received is referenced and items are coded for consistent data entry. Statistical tests such as; Cronbach alpha, Kappa test are used to produce evidence that all items in the questionnaire have appropriately inter-correlation and that the grouped factors can measure the underlying independent and dependent variables of the study. The hypotheses of the study are tested using both correlation test and regression analysis to provide concrete results that can support or reject the propositions made in the hypotheses.

3.4 Descriptive Statistics

This section includes demographic data of the subjects participated in the study. The demographic data of the questionnaire has information about the job level, gender, marital status, age, level of education, length of work service, type of the institution, size of the institution and level of academic qualification.

The results of the analysis of the job levels show that 33% of the subjects are working as administrators, 28% work as senior management, 25% are faculty members, 10% are holding the position of President or Chief Executive Officer and 5% are member of the board of trustees as shown below in figure 4:
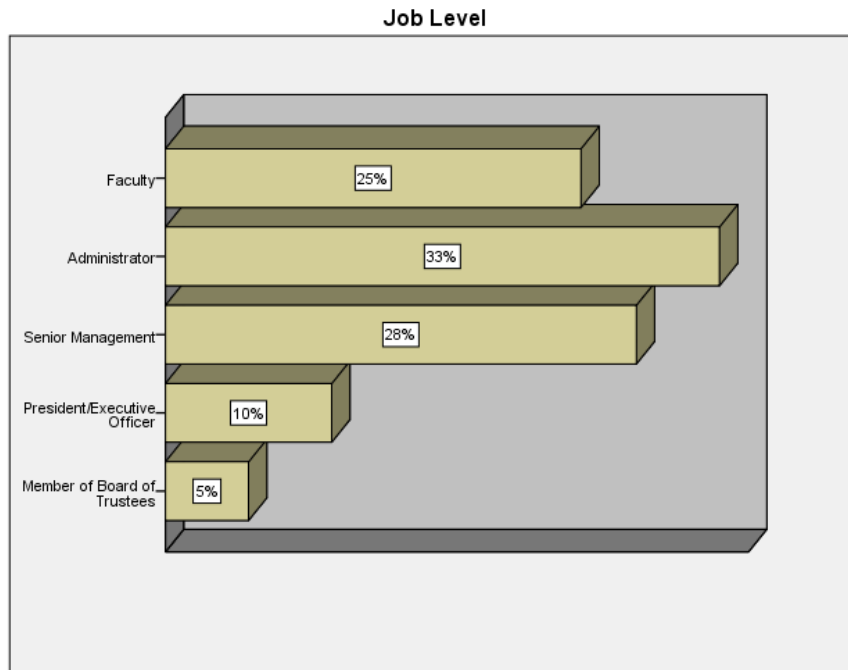
Figure 4: Subjects Job Levels

Male subjects make out a 75% of the respondents, whereas females are 25% as shown in Figure5:
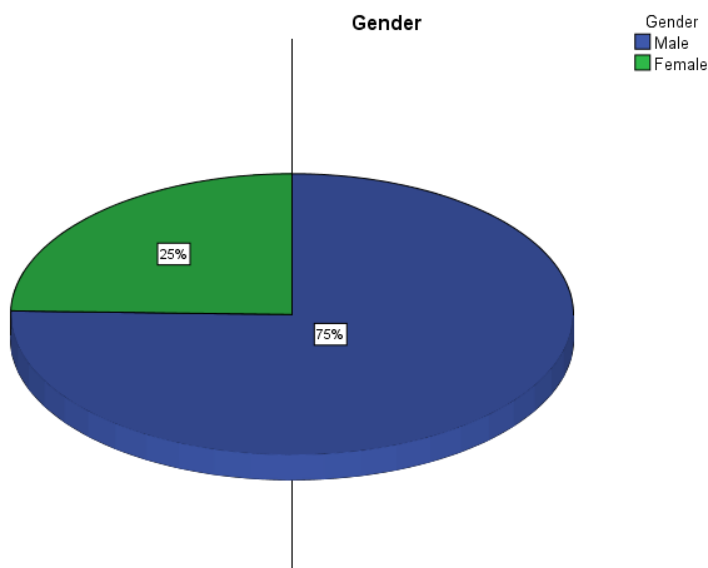

Figure 5: Gender of the Participants

The gender status results show that 85% of the subjects are married whereas; only 15% are single as shown in the Figure 6:
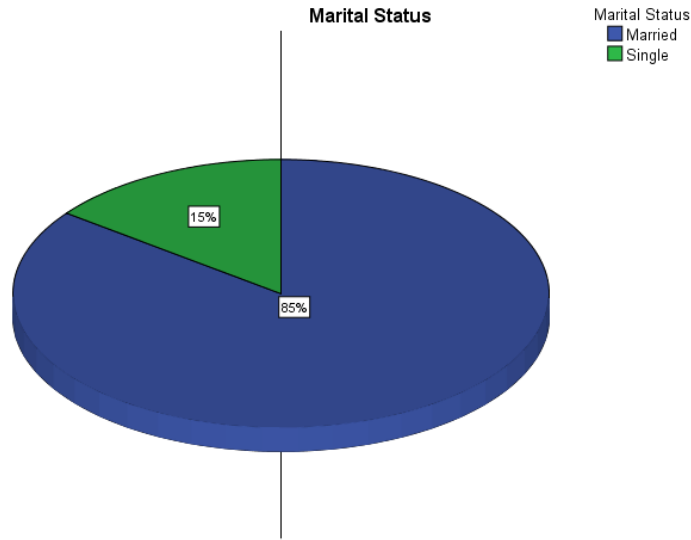
Figure 6: Subjects' Marital Status

The results of the subjects' age show that 41% have the age within the range between 25 and 39 years (41% have age between 40 to 55, and about 18% of the subjects are more than 55 years). Figure7 below shows details of subjects' age:

Figure 7: Distribution of Subjects' Age

The results of the subjects' level of education show that the majority of the respondents 51% hold doctorate degrees, 41% hold Postgraduate masters and 8% hold undergraduate degrees as shown in Figure8:
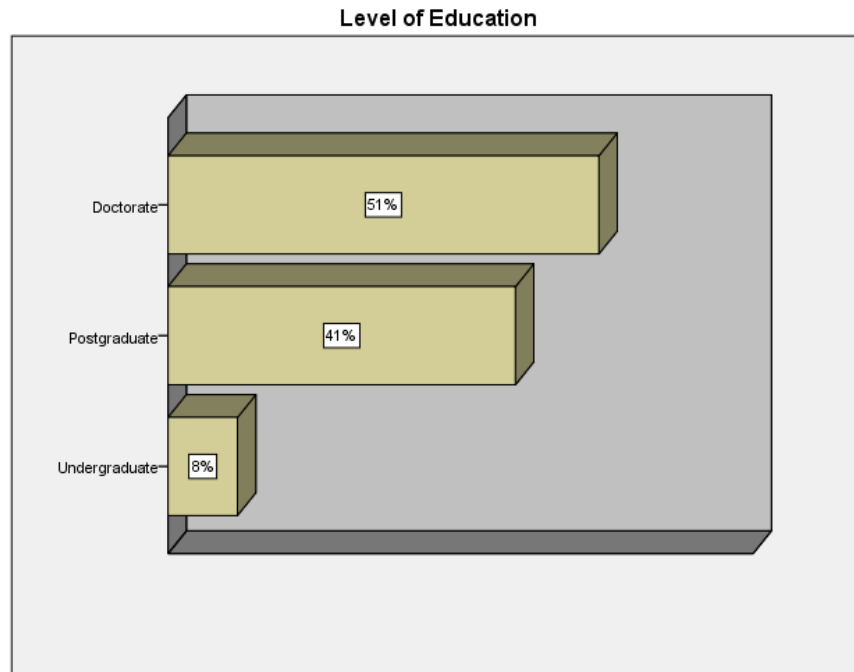
Level of Education

Figure 8: Distribution of Subjects' Level of Education

82% of the Subjects are non-UAE, and 18% are UAE nationals. Figure 9 illustrates details of the subjects' nationality:
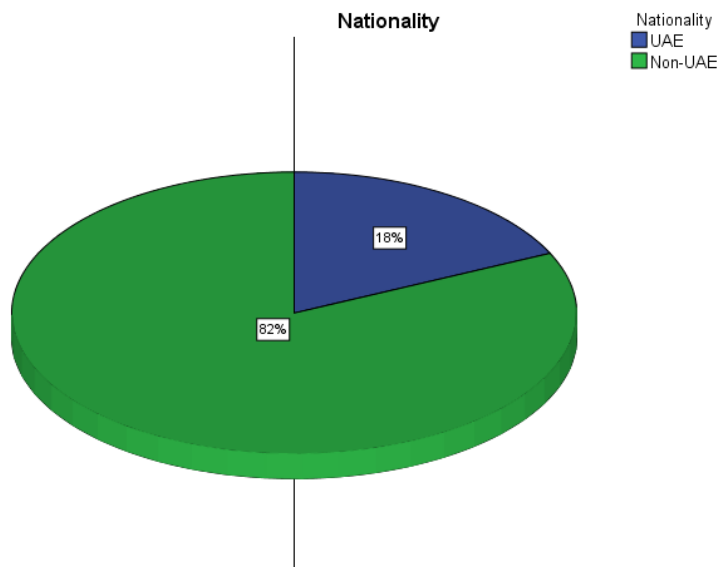

Figure 9: Nationality of Subjects

The results pertaining to the type of the institutions where the subjects work, show that 70% of the Subjects work in private higher education institutions and the remaining 30% work in public institutions as shown in Figure10:
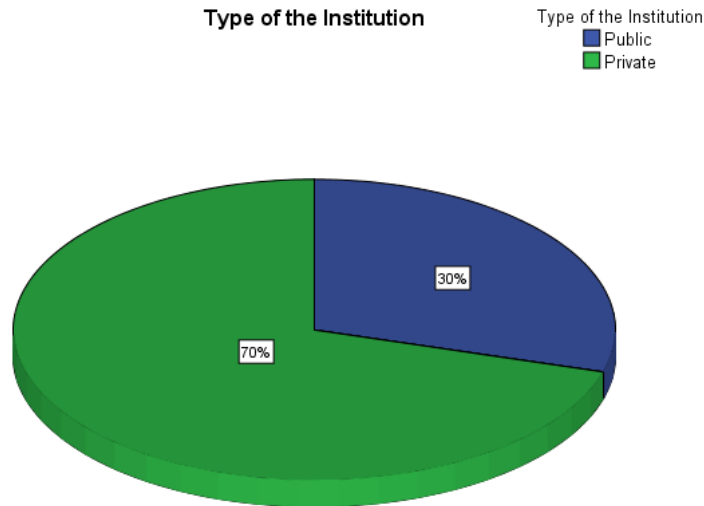

Figure 10: Type of Institution

The results of size of the institutions where the subjects work, show that51% of the Subjects work in institutions where there are 1000-5000 students, 44% work in institutions that have less than 1000 students and the remaining 5% work in institutions where there are greater than 5000 students as shown in Figure11:
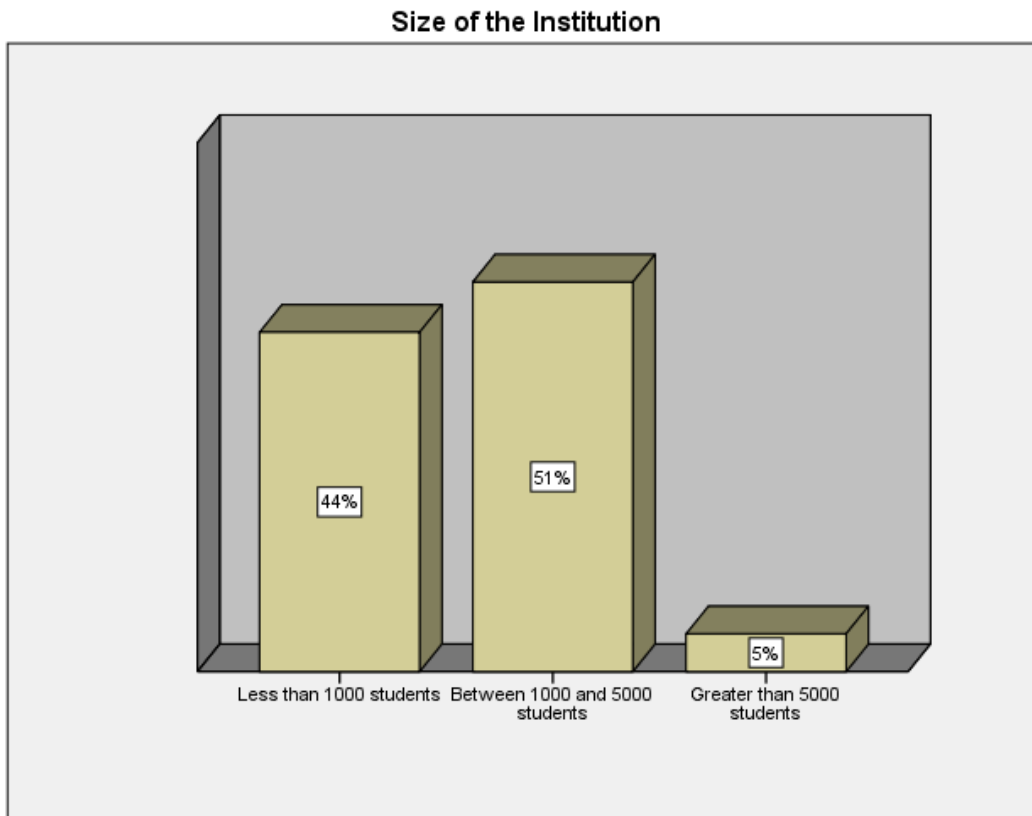
Size of the Institution

Figure 11: Size of the Institution

Figure12 shows the level of academic programs offered by higher education institutions where the subjects work. The results show that majority 49% work in institutions offering bachelor degrees only, 46% work in institutions offering bachelor and masters and the remaining 5% work in institutions offering Bachelor, Master's and Doctorate programs.
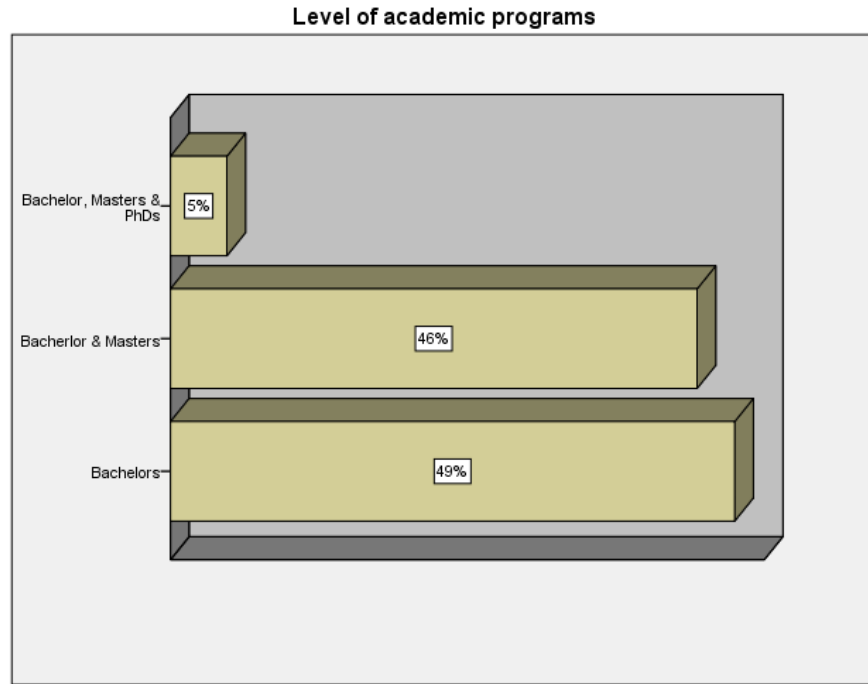
Figure 12: Level of Academic Programs offered by the Institutions

3.5 Reliability Test

Reliability test is conducted using Cronbach's alpha test which is run on the data collected by the respondents. Cronbach's alpha is a common measure to test the internal consistency of the data items and to identify the reliability of multiple questions of the questionnaire on Likert scale. Field (2009) explains that "A reliability coefficient (alpha) of 0.70 or higher is considered acceptable reliability".

Reliability test is conducted for all the 44 items of the study and the result shows that a high value for Cronbach's alpha value of0.975is recorded as shown below:

Case Processing Summary

		N	%
Cases	Valid	61	100.0
	Excluded[a]	0	.0
	Total	61	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.975	44

Table 3: Reliability Test

Another split half test is carried out to confirm that the two values are closer to each other, and the results reveal that part 1 value is 0.953 and part 2 is 0.962 as shown below:

Reliability Statistics

Cronbach's Alpha	Part 1	Value	.953
		N of Items	22[a]
	Part 2	Value	.962
		N of Items	22[b]
		Total N of Items	44
Correlation Between Forms			.809
Spearman-Brown Coefficient		Equal Length	.894
		Unequal Length	.894
Guttman Split-Half Coefficient			.892

Table 4: Split half test

In social studies alpha value above 0.7 is usually considered as highly reliable. According to the above reliability results, we can conclude that the survey instrument that is used in this study is of high reliability.

3.6 Hypotheses Test

This section contains the four hypotheses that are tested through correlation test and regression analysis in order to provide statistical evidence of whether there is a relationship between the independent and the dependent variables.

3.6.1 Correlation Test

In order to gain an understanding of the nature represented by significance, strength and direction of the relationship between the interdependent variables, Pearson Correlation test is used. The test aims to assess whether the dependent variable "The adoption of Enterprise Risk Management" vary along with the independent variables; the Governance internal variables: "Board Composition"& "Board Process" and the Governance external variables "Stakeholders expectations"& "Influence of Regulatory Authorities". In social science research value obtained from Pearson's test should be between 0.01(99%) and 0.05(95%), otherwise there would be no relationship of statistical evidence.

In table (4) as shown below, relationships are examined for the dependent variable "The adoption of Enterprise Risk management" and the independent variables "Board Composition", "Board Process", "Stakeholders" and "Influence of Regulatory authorities".

Correlations

		Board_Composition	Board_Process	Stake_Holders	Influence_Reg	ERM_Factors
Board_Composition	Pearson Correlation	1	.817**	.645**	.582**	.553**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	61	61	61	61	61
Board_Process	Pearson Correlation		1	.739**	.757**	.710**
	Sig. (2-tailed)			.000	.000	.000
	N		61	61	61	61
Stake_Holders	Pearson Correlation			1	.858**	.699**
	Sig. (2-tailed)				.000	.000
	N			61	61	61

Influence_Reg	Pearson Correlation					1	.734**
	Sig. (2-tailed)						.000
	N					61	61
ERM_Factors	Pearson Correlation						1
	Sig. (2-tailed)						
	N						61

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5: Correlation Test

The Pearson Correlation test between the "Board Composition" and the "adoption of Enterprise Risk Management" shows that there is a positive correlation Governance Board Composition and Enterprise Risk Management at the level of 0.01 (2-tailed).

The test reveals that there is a positive correlation between governance the "Board Process" and the "adoption of enterprise risk management" at the level of 0.01 (2-tailed). Likewise, a positive correlation test exists between the governance "stakeholder's expectations" and the "adoption of Enterprise Risk Management" at the level of 0.01 (2-tailed). Finally, there exists a positive correlation between the governance "Regulator Authorities Influence" and the "adoption of enterprise risk management" at the level of 0.01 (2-tailed).

3.6.2 Regression Analysis

Regression Analysis is a statistical test used to predict a value of a variable based on a value of another variable. In this study, regression analysis is used to predict the value of the dependent variable "Enterprise Risk Management" from overall value of the independent internal and external variables of institutional governance which are represented; the "board governance composition", the "board governance process", the "stakeholders' expectations", and the "regulatory authority influence".

From the correlation test carried out as shown in table (4), there exists a strong positive correlation between the governance internal & external independent variables and the dependent variable the adoption of enterprise risk management.

Table (5) represents ANOVA table of regression where F is the overall significance of regression and the adjusted R square value is the percent that independent variables (governance board composition, board process, stakeholders expectations and influence of regulatory authority) explains the variance in the dependent variable "the adoption of Enterprise Risk Management".

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.775[a]	.601	.573	7.02832

a. Predictors: (Constant), Influence_Reg, Board_Composition, Stake_Holders, Board_Process

b. Dependent Variable: ERM_Factors

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4171.819	4	1042.955	21.114	.000[b]
	Residual	2766.246	56	49.397		
	Total	6938.066	60			

a. Dependent Variable: ERM_Factors

b. Predictors: (Constant), Influence_Reg, Board_Composition, Stake_Holders, Board_Process

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Co
		B	Std. Error	Beta	t	Sig.	Lower Bou
1	(Constant)	5.113	2.704		1.891	.064	
	Board_Composition	-.058	.135	-.065	-.427	.671	
	Board_Process	.284	.135	.384	2.102	.040	
	Stake_Holders	.482	.503	.169	.960	.341	
	Influence_Reg	.707	.381	.336	1.855	.069	

a. Dependent Variable: ERM_Factors

Model		B	95.0% Confidence Interval for B		Correlations			Collinearity Statistics		
			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	5.113	-.304	10.529					
	Board_Composition	-.058	-.328	.213	.553	-.057	-.036	.311	3.211
	Board_Process	.284	.013	.555	.710	.270	.177	.213	4.695
	Stake_Holders	.482	-.524	1.489	.699	.127	.081	.231	4.332
	Influence_Reg	.707	-.056	1.469	.734	.241	.157	.218	4.595

Table 6: Regression Analysis

From table (6) it is shown that R^2 and adjusted R^2 values are 0.601 and 0.573

respectively, which are representing a high degree of fitness for the regression model. The value

of R^2 indicates that 60.1% variations in the dependent variable "Enterprise Risk Managements"

can be explained by the independent variables governance Board composition, Board process,

Stakeholders expectations, and Influence of regulatory authorities. Changes in F value is

significant from zero, and F-ratio shows a value of 21.114 which is significant at p =0.000. This

shows that the regression model predicts very well the dependent variable "Enterprise Risk

Management".

Table (6) also demonstrates that only "board process" and "influence of regulatory

authorities" have significant impact of .040 and .069 respectively. Tolerance <.1 and VIF > 10
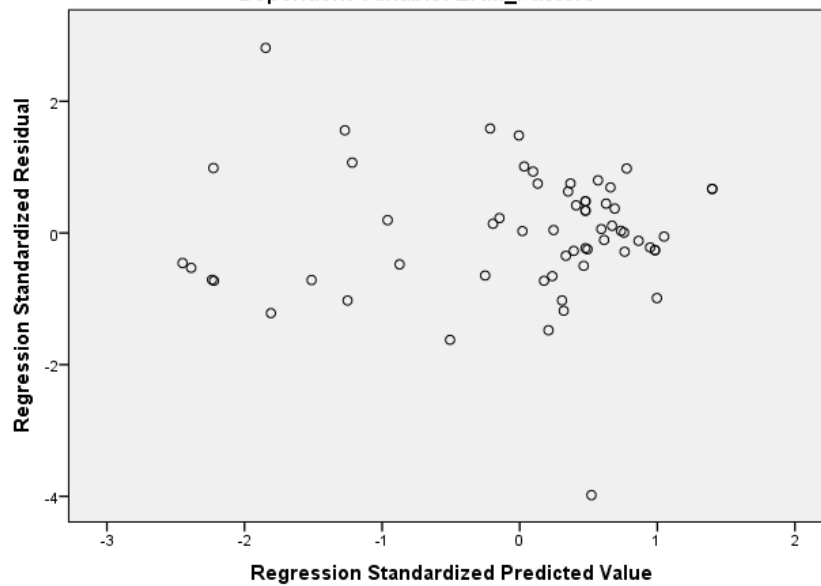
indicates multicollinearity.

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: ERM_Factors
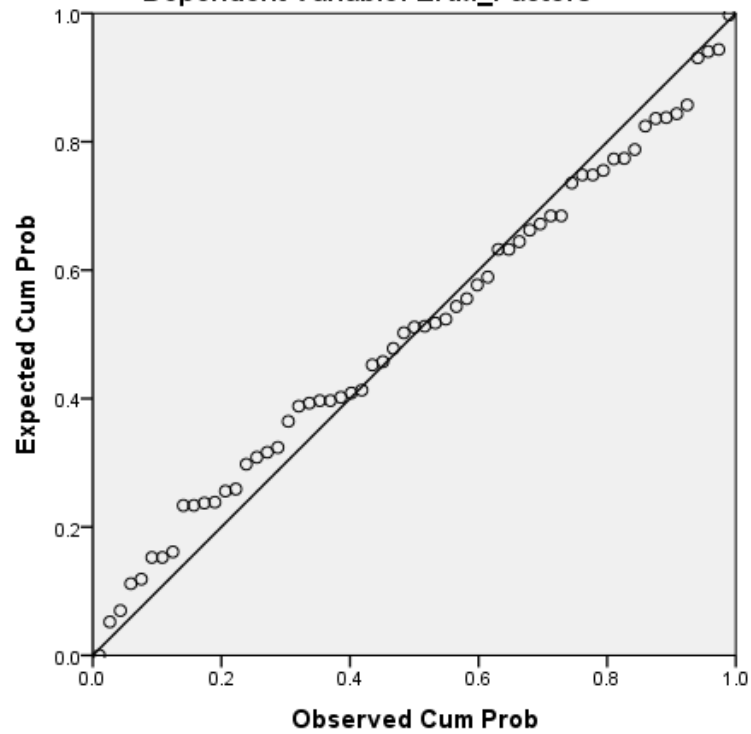
The normal P-P plot shows that residuals have normal distribution. They are non-normal if the points substantially deviate from the diagonal line.

Scatterplot

Dependent Variable: ERM_Factors

The above scatter plot shows assessment of normality, linearity and homoscedasticity of residuals. An absence of clear pattern of data spread indicates all four assumptions above are met.

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.2127	35.2993	23.6393	8.33848	61
Std. Predicted Value	-2.450	1.398	.000	1.000	61
Standard Error of Predicted Value	.964	3.808	1.871	.747	61
Adjusted Predicted Value	4.2365	35.0018	23.5740	8.37718	61
Residual	-27.98657	19.75329	.00000	6.79000	61
Std. Residual	-3.982	2.811	.000	.966	61
Stud. Residual	-4.065	2.967	.004	1.013	61
Deleted Residual	-29.16070	22.01919	.06534	7.47958	61
Stud. Deleted Residual	-4.798	3.203	-.003	1.079	61
Mahal. Distance	.145	16.631	3.934	4.020	61
Cook's Distance	.000	.202	.021	.044	61
Centered Leverage Value	.002	.277	.066	.067	61

a. Dependent Variable: ERM_Factors

Table 7: Residuals Statistics

Residual Statistics table shows that Mahal distance is to be compared with critical X^2 table with df = k. Multivariate outlier may be present if critical Mahalanobis exceeds critical X^2. Cook's distance > 1 warrants a closer inspection. Multivariate outlier may be present. Therefore, it can be concluded from the regression test of this study that the independent variables "board process" and "influence of regulatory authorities" are the only independent variables that have significant impact on the successful adoption of enterprise risk management. Therefore, Hypothesis 2 and Hypothesis 4 are accepted in this study whereas other hypotheses, Hypothesis 1 and Hypothesis 3 are rejected.

Chapter 4: Discussion, Recommendations & Conclusion

4.1 Introduction

The main aim of this research is to investigate the impact of university governance on the successfully adoption of enterprise risk management in institutions of higher education. The research aims at achieving the following objectives:

1. Identify the key characteristics for a good governance practice at higher education sector.

2. Ascertain success factors affecting adoption of enterprise risk management at higher education sector using international codes and standards.

3. Examine the impact of the internal and external governance characteristics on the successful adoption of enterprise risk management.

The specific questions this study attempts to address are:

1. What are the key internal and external characteristics for a good governance practice at institutions of higher education?

2. What are the key success factors for adopting enterprise risk management at higher educational institutions?

3. To what extent these governance internal and external characteristics can affect the successful adoption of enterprise risk management at institutions of higher education.

Upon addressing the research objectives and questions, numbers of assumptions are formulated investigation. The hypotheses made in this study are as follows:

*H1: There is significant relationship between the **Board Composition** and successful adoption of ERM at higher educational institutions?*

*H2: There is significant relationship between and the **Board Process** and successful adoption of ERM at higher educational institutions?*

*H3: There is significant relationship between the **Stakeholders Expectations** and successful adoption of ERM at higher educational institutions?*

*H4: There is significant relationship between the **Regulatory Authority Influence** and successful adoption of ERM at higher educational institutions?*

4.2 Discussion

The discussion of the research objectives reflects on both, findings from the literature review and the results & analysis chapters.

Research Objective 1: Identify the key governance characteristics and in particular those related to higher education sector.

The conceptual framework of this study is developed based on the literature review of corporate governance theories such as; agency theory, stewardship theory stakeholders' theory and institutional theories. This has been supported with a grey literature focusing on the applications of enterprise risk management in the context of higher education sector. The study has identified two broad governance factors that can effectively contribute to a good governance practice in institutions of higher education; these are internal and external governance factors. One of the internal governance factor identified in this study is the independent variable, the governance board composition constituting characteristics such as; the board size, board structure and board independence. Another important internal governance factor is allied to the governance board process constituting characteristics such as; the board meeting, the board transparency and the board reporting. The external governance factors are identified as the expectations of the stakeholders of higher education institutions and the influence of the regulatory authorities.

The board size is measured by counting the number of appointed, elected and ex-officio members in the university governance council (Chen, Elder and Hsieh 2005; Weir, Laing and McKnight 2002). The board structure is measured by how clear is the board criteria of selection, appointment & evaluation, board roles and responsibilities, and expertise and skills of the board member (De Silva 2011; Armstrong 2004; Nelson 2003). The board independence is measured as a percentage of external members to the total members of the board and non-interference on the day-to-day management operations of the institution (Chaganti, Mahajan & Sharma 2007; Eisenberg, Sundgren & Wells 1998; Bhagat & Black 2002). The board meeting is measured by number and quality of the board meetings held during a year assuming that the maximum number of meetings during a year should be 12 (Bhagat and Zenner 2004; Khanchel 2007). The board transparency and reporting is measured by using the depth and the extent of information disclosure in the annual reports of the university in addition to fulfilling the mandatory requirements in reporting to government agencies (Khanchel 2007; Kolk 2008; Ryan & Ng 2000). Expectations of the stakeholders are measured by the extent of stakeholders' expectations and confidence on the reputation and performance of the universities are met (Bhagat and Black 2002; Hallowell et al. 2013; Kallenberg 2009). Influence of the regulatory authorities is measured by extent of the universities' assurance and compliance with the Regulatory authorities (Arena et al. 2010; Arnold et al. 2011; Hayne & Free2014; Huber & Rothstein 2013).

Research Objective 2: Ascertain success factors affecting enterprise risk management at higher education sector using international codes and standards.

The researcher has considered both scholarly review and empirical studies to identify success factors for the adoption of enterprise risk management at institutions of higher education. The success factors of ERM in this study are adopted from the Association of Governing Boards

of Universities and Colleges (AGB) and United Educators Insurance (UE). AGB is serving more than 1,250 member boards, 1,900 institutions, and 36,000 individuals, and it is the only national organization in the USA providing university and college presidents, board chairs, trustees, and board professionals of both public and private institutions and institutionally related foundations with resources that enhance their effectiveness. United Educators Insurance (UE), a Reciprocal Risk Retention Group, is a licensed insurance company owned and governed by more than 1,200 member colleges, universities, independent schools, and public school districts throughout the USA. The success factors for adopting enterprise risk management at institutions of higher education identified in this study are; institutional environment, influence of risk manager, engagement of the governing board in risk monitoring, compliance with the requirements of the authorities, discussion of institutional risk, board information on risk, auditability and accountability (Abraham, J. M.2013; AGB &UE 2014; Arena et al. 2011; Gates 2006).

Research Objective 3: Examine the impact of the internal and external governance factors on the successful adoption of enterprise risk management.

The results obtained from the statistical tests such as the correlation test and the regression analysis run to examine the impact of the aforementioned internal and external governance factors on the adoption of enterprise risk management, demonstrate a positive relationship at a significant level of less than 0.01 between the internal factor the **governance process** including the characteristics; board meetings, governance board reporting process, and governance transparency, with the adoption of enterprise risk management at higher educational institutions in the UAE. These findings are consistent with similar findings of earlier researches such as (Khanchel 2007; Shivdasani and Zenner 2004).

The results also reveal that there is a strong positive relationship at a significant level of less than 0.01 between the external governance factor, the **influence of the regulatory**

authorities and the successful adoption of enterprise risk management at higher educational institutions in the UAE. These findings are supported by results obtained from earlier studies and researches of (Hayne & Free2014; Huber & Rothstein 2013). According to the findings of the hypotheses testing, hypothesis 2 and hypothesis 4 of this study can be accepted.

However it is be noted that the results obtained from regression analysis of this study show that other internal governance factor studied as governance **board composition** with the characteristics; board size, board structure, board independence don't seem to have a significant positive relationship with the successful adoption of enterprise risk management. Though earlier studies reveal that this factor is significantly essential for good governance practice at institutions, the subjects of this study don't seem to relate this factor to the successful adoption of enterprise risk management. For instance, Anand (2005) suggests that the definition of corporate governance should be extended to include additional dimensions such as the disclosure of board composition constituting number of independent committee members and the segregation of the chair of the board and the executive office of the institution.

In this study, the researcher suggests to further carry out qualitative studies including face-to-face interviews with subjects concerned in order to further investigate the enlightenments of insignificance relationship between the board composition and the successful adoption of the enterprise risk management taking into consideration the distinct and unique organizational structure of institutions of higher education. Similarly in contrast to the findings of the reviewed studies from the literature, the results of the regression analysis don't confirm that external governance factor, **expectations of the stakeholders** of the institutions, to have a positive significant relationship with the successfully adoption of enterprise risk management. In earlier studies, Luo (2005) proposes that corporate governance ensures that all stakeholders receive reliable information about the value of the institution and encourage management to maximize

the institutions value instead of pursuing personal objectives. One of the recommendations of this study is to examine these factors more closely with constituents of higher education institutions in the UAE through qualitative studies in order to clarify why the relationship between the expectations of the stakeholder and the successful adoption of the enterprise risk management is not significant. The findings from hypotheses testing show that hypothesis 1 and hypothesis 3 are rejected.

It is to be noted that considerations for demographic factors such as the type and size of higher education institutions, the nature of the work, the gender and the nationality of the sample population may attribute to explain the reasons of this disparity in findings of this study and earlier studies. For instance the current study has included 70% of private higher education institutions and only 30% public education. Similarly the population sample has included 75% of males and 25% of females. Investigating the above demographic factors in future studies may probably lead to different conclusions if the population sample becomes more proportional and representative. Therefore, the results obtained for this study may be taken with cautious when making generalization.

4.3 Implication for Future Research

The problem statement in the first chapter reveals that there is a scarcity in literature to examine the relationship between corporate governance and the implementation of successful enterprise risk management at higher educational institutions. The findings of this study adds to the existing gap in the literature regarding corporate governance and enterprise risk management in higher education sector through affirming that the governance board process with the characteristics; board meetings, governance board reporting process, and governance transparency and the external governance factor of influence of regulatory authorities are seen as

crucial factors while successfully adopting enterprise risk management. The research results disclose that there is no significant relationship between governance board composition including characteristics such as; board size, board structure, board independence and the expectations of the stakeholders with successful adoption of enterprise risk management at institutions of higher education, an area that this study suggests for further qualitative research.

4.4 Recommendations

This study provides new assumptions about corporate governance and enterprise risk management in the context of higher education. The study demonstrates characteristics for good governance, and ascertains the success factors for adopting enterprise risk management at institutions of higher education. This study investigates the impact of governance characteristics on the successful adoption of enterprise risk management at institutions of higher education. It is evident from this study that there are areas where future research can be founded on. According to the findings, the following recommendations can be made:

Recommendation 1

The finding of this research provides a recommendation to adopt a good governance practice at institutions of higher education. The internal governance factors are; (1) Governance board composition with the characteristics; board size, board structure, board independence, and (2) Governance board process with the characteristics; board meeting, transparency and the board reporting. The study also reveals that the external factors for good governance practice in institutions of higher education are; (1) Expectations of stakeholders, and (2) influence of regulatory authorities.

Recommendation 2

The study recommends considering the following success factors while adopting enterprise risk management at institutions of higher education; institutional environment, influence of risk manager, engagement of the governing board in risk monitoring, compliance with the requirements of the authorities, discussion of institutional risk, board information on risk, auditability and accountability.

Recommendation 3

The findings of this study confirm that there is a significant positive relationship between governance process, influence of regulatory authorities and the successful adoption of enterprise risk management at institutions of higher education. Therefore, it is highly recommended to consider governance internal factor, governance process with the characteristics; board meeting, transparency and the board reporting, as well the governance external factor, influence of regulatory authority in order to adopt an enterprise risk management approach for better organizational learning and resilience of the university.

Recommendation 4

The findings of this research show that there is no significant relationship between governance board composition, stakeholder expectations and the successful adoption of enterprise risk management. These can be attributed to the unproportioned sample of population and the demographic factors of the study. Thus the researcher of this study recommends widening empirical applications of the study on a wider sample of population through a further qualitative study to identify and analyze these factors such as face-to-face interview and reexamine the impact of these factors.

4.5 Conclusion

The main aim objectives of this study are to identify the important factors of good corporate governance, the success factors of adopting enterprise risk management and to examine the impact of university governance on a successful adoption of enterprise risk management at institutions of higher education. The study reveals from the relevant scholarly review that the internal factors for good governance practice are; (1) Governance board composition with the characteristics; board size, board structure, board independence, and (2) Governance board process with the characteristics; board meeting, transparency and the board reporting.

The study also reveals that the external factors for good governance practice in institutions of higher education are; (1) Expectations of stakeholders, and (2) influence of regulatory authorities. The study ascertains the success factors for adoption of enterprise risk management from the relevant literature at institutions of higher as; institutional environment, influence of risk manager, engagement of the governing board in risk monitoring, compliance with the requirements of the authorities, discussion of institutional risk, board information on risk, auditability and accountability. The results of the study reveal that **Governance board process** and the **Influence of regulatory authorities** have significant positive relationship with the successful adoption of enterprise risk management.

The study also shows that other governance factors identified in the study, **Governance board composition** and **Expectations of stakeholders** don't have significant relationship with the successful adoption of enterprise risk management. The study calls for further investigation and qualitative studies on these factors for future research.

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Appendices

Questionnaire for Corporate Governance and its relation on Enterprise Risk Management at Institutions of higher Education

Dear valued Administrator and Faculty members of Higher Education Institutions,

We kindly request you to participate in this questionnaire which aims at investigating the impact of university governance on the adoption of enterprise risk management. Please note that by accepting to answer the following questions at your esteemed university, you will be consenting in this research study. Please rest assured that all information collected from this questionnaire will be maintained highly secured and confidential and will be used for the purpose of this research only. The data collected from this questionnaire will be compiled and computed based on aggregates and not on individual bases and will not be linked directly to the subjects of this questionnaire.

Section A: Demographic Information

Date of Completing the Questionnaire: _____/_____/____

1) Please select one option from the following levels the best describes your job level:

☐Member of Board of Trustees

☐President/Executive Officer

☐ Senior Management

☐Administrator

☐Faculty Members

☐ Other: Please specify:_____

2) Gender: ☐ Male ☐ Femlae

3) Marital Status: ☐ Married ☐ Single

4) Age: ☐ Less than 25 ☐ 25-39 ☐ 40-55 ☐More than 55

5) Level of Education:☐ High Secondary School ☐Undergraduate ☐ Post Graduate ☐ Doctorate

6) Length of work service: ☐<5 year ☐ 5-10 years ☐> 10 years

7) Nationality: ☐ UAE ☐ Non-UAE

8) Type of the institution

☐Public Institution

☐ Private institution

9) Size of the institution

☐ Less than 1000 students ☐Between 1000 and 5000 students ☐ Greater than 5000 students

10) Level of academic programs offered by the Institution (Select all that apply)

☐ Undergraduate   ☐ Post Graduate   ☐ Doctorate

Section B: Governance Internal Variables

In this section, you will be asked to rate your opinion about the internal variables of the university governance represented by "Board Composition" & "Board Process". For each statement, you will be presented with 5 choices to select from; "strongly Agree=4", "Agree=3", "Disagree=2", "Strongly Disagree=1", and "unable to evaluate=0". You will be given a provision to include additional comments you may think important at the end of the section.

#	Statement	Strongly Agree 4	Agree 3	Disagree 2	Strongly Disagree 1	Unable to Evaluate 0
(I) Board Composition (Structure, Size & Independence)						
1.	The board of Directors/Trustees has an adequate and sufficient number of members suitable to the level of the institution.	☐	☐	☐	☐	☐
2.	The education and experience of board members are appropriate to their role in governance of an academic institution.	☐	☐	☐	☐	☐
3.	The board protocol has a term limit specifying years of board service and replacement (a standard term is 4 years)	☐	☐	☐	☐	☐
4.	The majorities of the board members are external members and have no fiduciary investment in the institution.	☐	☐	☐	☐	☐

No.	Statement					
5.	The members of the governance board are elected and appointed according to the protocol and bylaws of the institution.	☐	☐	☐	☐	☐
6.	The board understands and fulfills its roles and responsibilities	☐	☐	☐	☐	☐
7.	New board members receive orientation to board roles and the institution.	☐	☐	☐	☐	☐
8.	The board regularly reviews and adheres to its code of ethics or standards of practice	☐	☐	☐	☐	☐
9.	The board members avoid conflict of interest and the perceptions of such conflicts.	☐	☐	☐	☐	☐
10.	Except for officers who are board members by the virtue of their position at the institution (*ex officio*), no board members of the institution are involved in its day-to-day operation.	☐	☐	☐	☐	☐
11.	Board members refrain from attempting to manage employee work.	☐	☐	☐	☐	☐
12.	The board respects faculty, staff, and student participation in institutional decision making.	☐	☐	☐	☐	☐
13.	There exists an independent audit committee to review performance and effectiveness of the board on regular basis.	☐	☐	☐	☐	☐
(II) Board Process: (Board Meetings, Reporting & Transparency)						
14.	The board assures that there is an effective planning process and is appropriately involved in the process.	☐	☐	☐	☐	☐

15.	Board meetings are conducted in an orderly efficient manner.	☐	☐	☐	☐	☐
16.	Board meeting agendas and conduct provide sufficient information and time to explore and resolve key issues.	☐	☐	☐	☐	☐
17.	There exists standing committees representing faculty, staff and students to provide input to the board meetings.	☐	☐	☐	☐	☐
18.	The board sets clear expectations and effectively evaluates the CEO/President of the institution.	☐	☐	☐	☐	☐
19.	Board policies assure effective fiscal management and internal controls.	☐	☐	☐	☐	☐
20.	The board reviews and approves the Institution's Risk Management plan at least on a biennial basis.	☐	☐	☐	☐	☐
21.	The board measures its accomplishments against board goals and evaluates its effectiveness.	☐	☐	☐	☐	☐
22.	The board reviews the annual audit and monitors responses to recommendations	☐	☐	☐	☐	☐
23.	The board relies on board policy in making decisions and in guiding the work of the institution.	☐	☐	☐	☐	☐
24.	The chair of the board stimulates debate by ensuring that each member on the board contributes to the discussion.	☐	☐	☐	☐	☐
25.	The board considers input and feedback of faculty, students, and staff in making strategic decisions.	☐	☐	☐	☐	☐
26.	The board discloses information of the	☐	☐	☐	☐	☐

	institution as per the institution's policies & procedures.				
27.	The board publishes institutional information such as Annual Report and financial reports regularly through its website and official publications.	☐	☐	☐	☐	☐

Section C: Governance External Variables

In this section, you will be asked to rate your opinion about the external variables of the university governance represented by "Board Meetings" & "Board Reporting & Transparency". For each statement, you will be presented with 5 choices to select from; "strongly Agree=4", "Agree=3", "Disagree=2", "Strongly Disagree=1", and "unable to evaluate=0". You will be given a provision to include additional comments you may think important at the end of the section.

(III) Stakeholders Expectations

28.	Board Members represent the interest of the institution's stakeholders in their area and constantly protect its reputation.	☐	☐	☐	☐	☐
29.	The board effectively monitors the quality and effectiveness of the educational program and services provided to the institution's stakeholders.	☐	☐	☐	☐	☐
30.	The board conducts regular general meetings with the stakeholders to understand and respond to their needs and expectations.	☐	☐	☐	☐	☐

(IV) Influence of Regulatory Authorities

31.	The board advocates on behalf of the institution to local, state, and federal government authorities.	☐	☐	☐	☐	☐
32.	The board ensures that the institution fosters an open, cooperative, and	☐	☐	☐	☐	☐

	collegiate relationship with the Commission, the Ministry and other regulatory Authorities.					
33.	The Board ensures that the institution policies and practices are in full-compliance with the Commission, the Ministry of Education and other Regulatory Authorities	☐	☐	☐	☐	☐
34.	The board provides reports to the Commission, the Ministry of Education and other regulatory authorities as requested, and in a timely manner.	☐	☐	☐	☐	☐

(V) Please provide additional comments on other factors they may have impact on good governance practice and have not been addressed by the aforementioned questions:

_____
_____
_____
_____
_____
_____
_____
_____

Section D: Adoption of Enterprise Risk Management

In this section, you will be asked to rate your perceived opinion about the adoption of "Enterprise Risk Management" at institutions of higher education. The Success factors of ERM are adopted from a survey of the Association of Governing Boards of Universities and Colleges (AGB)2 and United Educators Insurance (UE)3. For each statement, you will be presented with 5 choices to select from; "Strongly Agree=4", "Agree=3", "Disagree=2", "Strongly disagree=1"

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[2] AGB is serving more than 1,250 member boards, 1,900 institutions, and 36,000 individuals, and it is the only national organization in the USA providing university and college presidents, board chairs, trustees, and board professionals of both public and private institutions and institutionally related foundations with resources that enhance their effectiveness. https://www.agb.org/

[3]United Educators Insurance (UE), a Reciprocal Risk Retention Group, is a licensed insurance company owned and governed by more than 1,200 member colleges, universities, independent schools, and public school districts throughout the USA. https://www.ue.org/

and "Unable to Evaluate=0". You will be given a provision to include additional comments you may think important at the end of the section.

Definitions:

Enterprise Risk Management **(ERM)** is defined as **"**_the process, affected by an entity's board of directors, management and other personnel, applied in strategy setting across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives"._

"**Risk appetite** is the balance the organization chooses between growth, risk, and return; and **Risk tolerance** is the level of variation it accepts to achieve its objectives(COSO, 2004)".

#	Statement	Strongly Agree 4	Agree 3	Disagree 2	Strongly Disagree 1	Unable to Evaluate 0
1.	Oversight of institutional or enterprise-wide risk management is a priority at my institution.	☐	☐	☐	☐	☐
2.	The institution has conducted ERM process in the last two years.	☐	☐	☐	☐	☐
3.	ERM at the institution is part of the planning process where Administrators establish a regular practice of identifying, assessing, and planning for mission-critical risks, and reporting their findings to the governing board.	☐	☐	☐	☐	☐
4.	The institution is less likely to use an ad-hoc approach to discussing institutional risks.	☐	☐	☐	☐	☐
5.	The institution's risk tolerance and appetite guide strategic and operational decisions by the governing board and senior leadership.	☐	☐	☐	☐	☐
6.	The primary responsibility of ERM is assigned to shared leadership with two	☐	☐	☐	☐	☐

	or more senior administrators.					
7.	When risk management discussions occur in board committees, they are most commonly conducted by the audit committee.	☐	☐	☐	☐	☐
8.	The institution's administrators identify, assess, and report to the governing board the risks associated with new programs or initiatives.	☐	☐	☐	☐	☐
9.	The governing board members and senior leadership regularly consider and assess the likelihood and impact of expected and unexpected events.	☐	☐	☐	☐	☐
10.	The governing board and the institutional administrators are provided enough information about institutional risks to meet their legal and fiduciary responsibilities.	☐	☐	☐	☐	☐

(I)   Please provide your feedback on other factors of Enterprise Risk Management that have not been addressed by the aforementioned questions:

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