An Investigation into the Relevance and Applicability of University-wide Risk Awareness: Effect of Risk Policies and Procedures

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Abstract

In global educational context, adequate application of institutional-wide risk awareness (IRA) is recognised as crucial in efforts to achieve targets set in both mission and vision of respective Universities. But the situation in many African is that fewer Universities are pursuing the IRA. This study identifies one African University where, contrary to global trends in institutional-wide risk awareness is under-elevated in IRA. Using qualitative and quantitative methods, and guided by the Harvey & Green, Stoney, Higher Education Funding Council for England-HECFE and King report, the study investigated the risk awareness and the variables that impact on University-wide risk awareness. The data collection methods included interviews, questionnaire and document analysis. Significant conclusions based on the relationships between University-wide risk awareness and the risk variables emerged. The main conclusions of the study are (1) risk awareness does correlate with institutional preparedness. The two main forms of preparedness associated with risk awareness are, firstly, understanding and documentation of risk policies and practices (2) risk treatment (action) plan was found to be an important factor to consider in creating risk awareness.

Key Words: Risk, Institutional-wide risk, Risk awareness, Risk management, Quality enhancement, Higher Education Institutions.

1. Introduction

This study aims at investigating the current and emerging responsibility for institutional-wide risk awareness (IRA) in higher education institutions (HEIs) quality management enhancement. The concept of "quality" in education is highly contested and has multiple meanings. This study considers various conceptions of quality presently used in higher education, looking at their value as well as their shortcomings. It proposes the use of risk management model (risk awareness) in an attempt to compensate for some of the shortcomings of the conceptions presently used in HEIs. This introductory section though starts with the context of the study. This is focused towards addressing the position of the study in relation to the topic and research questions posed. In this paper, other issues of concern include University-wide risk awareness in perspective, the need for University-wide risk and its awareness. The final three sections include methodology, research results, lessons and conclusions drawn from the study.

2. Context of the Study

There is currently no common understanding of the concept of quality in higher education, and the more complex, 'many-folded' or abstract an entity under quality measurement is, the more difficult it is to come up with a satisfactory understanding. Relying on different authors (Stoney 2007; Higher Education Quality Committee- HEQC, 2004; Higher Education Funding Council for England-HEFCE, 2001; Green, 1994; Harvey & Green, 1993; Miller, 1992; King report[1]) the understanding of quality could be divided into the following categories: quality as 'threshold' quality as 'fitness for purpose'.

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[1] King Report (2009). King Committee on Governance: Draft code of Governeance Principles for South Africa. South Africa see also King I & II.

Quality as fitness for purpose: This is the definition used most frequently regarding higher education. According to this concept, institutions have to decide to what extent the service or product meets the goals set. Such a definition enables the institutions to define goals in their mission statements. Quality is then assessed and presented through mission statement and goal achievement. This usage of the concept concentrates on the meeting of the needs of the customers of higher education, i.e. interest groups. This definition takes into consideration the differences of institutions instead of making them artificially resemble each other. Thus, the definition assumes that the concept and goals of higher education need to be defined. The goals of any higher education institution are presented on a general level in the mission statement and on a more concrete academic level in the programme objectives and expected learning outcomes. In other words, the institution says what it does, does what it promises and proves it to the third party. In higher education, the quality of teaching is linked to the effectiveness and efficiency of teaching. Effectiveness is connected with the objectives of the course, whereas efficiency is connected with the resources used in order to meet the objectives. A weakness that can be pointed out regarding this conception is that while focusing on measuring of compliance goals, it can slip our mind to pay attention to whether the goal is relevant in the first place. This is the reason why, first, we should look at the relevance of the goal before we start analysing to what extent a goal has been met. It is only then Universities can depict the level of fitness to purpose of the institution. In this respect, the risk analysis concept may be used for analysis and to ensure the relevance of the goals.

Quality as threshold: In most South African higher education institutions (HEIs), specific standards and norms are defined (as in the HEQC, 2004). A threshold is set that the institution should cross in order to certify that instruction meets the quality standards. Standards help to rationalise the definition of quality, and make it more objective. The weakness of the above-described concept is that standards are difficult to apply under rapidly changing circumstances. Standards outdate as the reality changes more quickly than the standards are changed. Nevertheless, almost all South African universities apply minimum standards that ensure the level of quality, below which no institution offering higher education should go. Minimum standards also allow comparability in higher education system. At the same time, the assumption that all university units or curricula exceed minimum standards is a subjective one. While, goals have been set and 'quality increased' through meeting these goals, it may not be true in all instances that quality has improved. This could be attributable to different circumstances of the institutions. In this regard, it is important to investigate this kind of assumption not only from subjective position, but by using objective probability principles. That university units or curricula (as often declared by authorities such as the HEQC) exceed minimum standards should be shown by a system of measurement that incorporates the attributes of the different scenarios of the institution, by analysing the rate of meeting the minimum standard. This could be done using the risk analysis conception.

In addition to the shortcomings of the quality conceptions outlined, the final and important question is; what is institutional-wide risk awareness potential in quality strategic thinking? Following this question, it can be put in two sub-categories. Thus, one may be tempted to ask the questions (1) what is quality management enhancement and (2) what difference does it make in terms of risk management? It is important to acknowledge that the essence of the contestation here is not to establish a difference as it were, but to enhance quality using risk management techniques. Hence, whether or not there is a difference, it is important to note the enhancement of quality by using risk management models. Therefore to address the above question(s), the researcher explicitly follows Stoney's (2007) argument relating the need for risk awareness techniques to enhance quality in HEIs.

Stoneys (2007) noted that the HEI undergoes changes driven by the need to maintain and enhance quality. The author argues that the ability to identify risk factors and assess relevance and impact on a formal basis provides evidence for excellence in a competitive environment. Other authors (Standard & Poor, 2005; Nicholas, 2004) have expressed similar view. Stoney (2007) suggested that institutional-wide risk awareness (IRW) could be used as a tool to challenge strategy by providing a formal appraisal of the key aspects. IRW in strategic thinking constitutes the systematic application of risk management policies, procedures and practices to the tasks of establishing a context, identifying, analysing, evaluating, planning, monitoring and communicating risk to those who are potentially affected. Suggesting, as he maintained a more consistent approach across an institution and that provides the ability to compare different activities,

projects and initiatives and generate discussion on an informed basis across an institution.

Yet, some authors (Brookryk 2005; Vennaro, 2005; Alessandri, et al., 2004; Deloitte & Touche, 2003) have wondered how risk management for that matter awareness could be used in relation to the various quality processes. Stoney (2007) offers an answer with a prototype project. The project was called the HEFCE Good Management Practice 250 Project: Quality Risk Management in Higher Education (2005). This project was centred on the potential for institutions to develop their own risk based approaches for the purpose of assuring quality and standards of provision. It involved a range of institutions representing the diversity of the sector. The project involved four stages: the first being a survey of higher education institutions – establishing the extent to which HEIs have introduced risk assessment and risk management techniques in relation to quality and standards. The second was quality risk management methodologies – identifying the various factors that could place quality and standards of the provision 'at risk' and the risk indicators that might suggest when risks are being incurred. The third constituted the re-engineering of quality systems, while the fourth was the implementation of 'quality risk management' – leading to identification of issues that might be considered in securing integration of quality risk management systems with strategic planning and decision making.

The report[2] identified and implied that there were benefits to be gained from a quality risk management approach including evidence-based judgement, closer scrutiny and support of high 'risk provision', appraisal and treatment of institutional and environmental risks and supporting quality enhancement. Even so, Stoney (2007) noted that staff development was essential to equip staff with the knowledge and skills to assess and manage the range of risks that could impact on provision and that care needs to be taken to avoid a culture of blame and risk aversion. Moreover it was noted that risk management could be an approach, which demonstrates the efficacy of internal systems, and that institutions are taking full responsibility for managing the quality and standards of provision.

The above discussion of the (a) two quality conceptions (b) their usages (c) shortcomings (d) the proposed remedial model and (e) institutional-wide risk awareness (IRW) potential in strategic quality thinking shows that certain shortcomings could be over-come through the IRW process, which is related to quality assessment. These are related in a sense that to carry out risk management processes, one is obligated to ascertain the goals of an institution in the form of the mission statement and as well the academic level in the programme objectives and expected learning outcomes as found in quality assessment. But the difference between risk management and other quality assessment systems lies in the processes of modelling and measuring the goals. One outstanding difference is that whereas quality assessment is a predominantly subjective procedure, as demonstrated above, Nicholas (2004) argued that IRM processes[3], are polarised by both objective probability theories (mathematical model) and subjective probability theories.

In addition to the above discussion, there is yet a question of; in what context can HEIs support the selection of a risk analyst to champion the discussion, of risk and develop a common language for continuous consideration of institutional-wide risks in HEIs? But most importantly and for the purpose of this paper, the researcher posse's two main questions emanating from the research context , facts, contestations, concerns and the need to implement institutional-wide risk awareness programme in HEIs quality management.

In summary, risk awareness processes are needed when decisions need to be made that involve high stakes in a complex situation, as in the case of social settings where functions are being performed involving complex settings and interrelated factors. Following a comprehensive model and systematic methods are essential to mitigate against the weaknesses of the above quality conceptions and

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[2] For the entire detail of the report, see Stoney (2007), which provides a brief summary of the major findings within the case study.
[3]This paper cannot cover all the aspects of the vast and growing field of quantitative risk management. For further reading I refer readers to books of McNeil, Frey & Embrechts (Quantitative Risk Management: Concepts, Techniques, and Tools) or Crouhy, Galai & Mark (2001) (for institutional aspects of risk management).

contestations. These models and methods need to be crafted into policies and procedures of the institution. The researcher proposes, in this research, to carry out a case study showing how this can be done.

University-wide Risk Awareness in Perspective

There have been quite a number of contestations from literature (Stoney, 2007; Council on Higher Education -CHE, 2009; Standard & Poor, 2005; Power, 2004; Alessandri, Ford, Lander, Leggio, &Taylor, 2004; Brookryk 2005; Vennaro, 2005; Deloitte & Touche, 2003; HEQC, 2004; Green, 1994; HECFE, 2001; King report) regarding the definition of risk. Invariably, Nicholas (2004) comment's that there is the need to contestualise risk. A definition, Nicholas (2004) explains, is informed principally by the context in which, they (risks) are applied. This suggests that institutions need to adopt and adapt a definition that best contextualises risk in their specific environment. Generically though, Nicholas (2004:307) identified 'two distinct features of risk' which point to the fact that risk addresses; (1) the likelihood that some problematical event would occur and (2) the impact of the event if it does occur. The risk, Nicholas (2004) maintains, is a joint function of the two (likelihood and impact). This mathematically is expressed as: **risk= ƒ (likelihood, impact).** Where as Nicholas (2004) offers both theorist and practiioners the above definition, there is yet the view of HEFCE (2001). Following the description of HEFCE's (2001:4) assertion that risk is "…the threat or possibility that an action or event would adversely or beneficially affect an organisation's ability to achieve its objectives". It gives the researcher reason to identify what risk awareness and subsequently its management are. HEFCE (2001:5) notes that risk management is a process which provides assurance that; (a) objectives are more likely to be achieved (b) damaging things would not happen and (c) beneficial things would be or are more likely to be achieved. Thus, suggesting quality enhancement. This claim of HEFCE (2001) is congruent with Stoney's (2007) claim that risk awareness is the process whereby organisation methodologically addresses the risks. This risks as noted by Stoney (2007) are attached to their (institutions') activities with the goal of achieving sustainable benefit within each activity and across the portfolio of all activities.

Stoney's (2007) view, coupled with the above authors' assertion is a recipe for institutional-wide approach to awareness of risk. Stoney (2007) affirms that in all cases, the focal point of the above contestation of risk and risk awareness links to achieving objectives and also to identify that risk awareness is not just about recognising and mitigating a negative risk, but awareness and management of risk should be practised throughout the institution, which in this research is termed as institutional-wide risk management. The question then is-why the need for institutional-wide risk and its awareness in HEIs. This questions and other are as addressed below.

2.2 Need for University-wide Risk and its Awareness

As noted from some of the authors (King report; Standard & Poor, 2005; Power, 2004; Stoney, 2007; HECFE, 2001) above, there seem to be an indication that every institution functions most effectively, when each member and unit of the institution is involved in the risk management process. This is especially true in the area of risk awareness. Whether this is applicable in HEIs is a matter of enhancing quality as stressed by various authors (King report, Stoney, 2007, CHE, 2006). Implying that quality management as whole is not an event, but series of applicable processes.

Consistent with the above assertion of the authors, this research posits that risk awareness in an institution consists of the degree of institutional-wide responsiveness to risks. This responsiveness includes a level of preparedness to develop a game plan before or after occurrence of risks. In support of the above view, Standard & Poor (2005) note that the preparedness should direct the practice of risk processes and motivate all participants of the institution. In consequence, every member of the institution must have knowledge, understanding of the institutions' risks and as well work together to put the game plan into action.

However, as matter of caution, Standard & Poor (2005) note that (1) the perception of risk (2) the experience and (3) the knowledge of the stakeholders are the basis for their behaviour in risky situations.

This gives an impresssion that for the development of better strategies in risk awareness, it is thus important to be aware of these factors. Until now, research on risk awareness in Universities (Stoney, 2007; HEQC, 2006; King report; Standard & Poor, 2005) is mainly focussing on qualitative studies of these factors, thus interviews and documentary evidence. Literature (Stoney, 2007; HEQC, 2006; King report) reveals that one aspect, which still is sketchy is the (1) exploration and the connection between different variables in relations to risk awareness and preparedness (2) most studies include either the interviews and or documentary evidence, making it difficulty for meaningful statistical inferences. It is important to note however that this paper does not in anyway conderm the approach, but as an additional approach to enhance quality by exploring the factors that affect risk awareness. The present study is part of a larger study[4] and builds upon a quantitative study, which was previously conducted in a University in South Africa. Following the above contestations, it warranted a methodology to be devised to enable a more balanced approach. An approach that would not merely concentrate on interviews and document evidence, but interrogate the dynamics and functionalities of risk by addressing the below research questions. In relation to risk awareness as aforementioned, it was addressed in three ways (1) disaggregated level of risk awareness in the University under investigation in terms various sub-variables (2) composite risk awareness responses and (3) predictability of risk awareness from given variables.

Research Questions:

Is the responsibility for risk management understood and documented throughout the university?

What risk treatment (action) plan does the university employ

Does university recognise the importance of institutional-wide risk awareness for the achievement of its objectives

How does the University apply its risk awareness policy?

Does the university recognises the need for risk management skills

3. Methodology

Orientation: The following three-fold metatheoretical assumptions are applied within the context of this research study. The first two are to explore and understand the theory and practice of institutional-wide risk management using a case organization and literature. Given the context in which the research is taking place (cf. context of the study), the researcher has a third objective, an objective to explore an applicable and relevant (cf. research questions) risk awareness model for HEIs. To achieve the objectives, the researcher is framed by both positivist and interpretivist paradigms. In view of the metatheoretical assumptions, Brown & Forcheh (2008:5) explain that a combined, mixed-methodology approach 'facilitates a holistic view and strengthens the internal validity of the design'. For this purpose, the study employed a combined-methods design. Creswell (2007) developed a dominant- less-dominant framework for carrying out research using the mixed paradigm; this framework served as a guide to the study. Brown & Forcheh (2008:5) supported this kind of model; the 'dominant phase' in this study was the quantitative one, for the research was built around testing the relationships between variables influencing risk awareness (cf. research questions). The qualitative section was done as a follow-up to solicit clarification on the results of the quantitative. Mixed methods research has a range of strengths. It is particularly useful in survey, evaluation, field research and case study. The reason being that it has a broader focus than single method design and gathers more information in different modes about a phenomenon. Strength of mixed methods design is that the breadth of findings can bring value to the research process itself by highlighting the particular shortcomings in each of the methods used and compensating for them.

Research Design: During the one and half months of data collection, and to serve the purpose of research questions, the research was investigated from a questionnaire interview schedule and document

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[4] See Bayaga (2009)

analysis. The risk awareness variable consisted of (1) background information of sample and (2) subquestions addressing risk awareness in the University. The researcher used the University's General Prospectus (2009: 34-43) to identify the target population. In the data collection process these population included three different types of committees operating in the University. These were; (1) committees of senate (2) joint council and senate committees and (3) management committees. These three categories either had members who belonged to the executive committee of senate or non-executive committee of senate (cf. University General Prospectus, 2009:34-43). The reasons for this selection were in three folds. Firstly, the purpose of the research, notes that the functionality of risk awareness lies in a risk analyst's ability to predict and model quantifiable risk, based on appropriate polices and procedures. This, in this case is the responsibility of the various committees mentioned above. Secondly, the various committees assume a position of risk management in the institution and lastly to limit the study to respondents in management as well as decision making positions. Consequently, in further research studies, it is recommended that a wider sample (if available) other than the committees be considered. A qualitative research approach was used as part of this study, which tried to understand the reality in its social context through the analysis of interviews (Flick, 2002). While quantitative research was drawing on the description of what was happening, it is assumed that most research question could only be comprehensively answered, if additionally, a qualitative approach was used to find out why things happen (Black, 2002). The linking of multiple methods often referred to as triangulation, allowed greater confidence in interpretations due to a possibly better in-depth understanding and is a tool to strengthen completeness in answering research questions, to enhance validity and confidence in the results and to avoid systematic biases (Creswell, 2005; Ivankova, Creswell, & Stick, 2006; Flick, 2004). For this study though, six qualitative interviews were conducted in the University with a purposive sampling of participants to ensure a cross-section of the intended population. Meanwhile the sixty- four questionnaires were distributed using stratified random sampling due to the forms of committees. In the semi-structured interviews the participants were asked about their perspectives, beliefs and worries on the risk of University in relation to policies and procedures. Though, it was desired to hear what the interviewee has to say about the key topics, but some parts of the interview were open to be interviewee-led.

Criteria for the Selection of the Institution: There were three underlying criteria that were needed to be fulfilled for an institution to be selected. These criteria were important due to the fact that the case, which in this study was the risk/quality unit, needed to have come from within the institution. First, there would have to be a risk or quality management unit that oversees the institutional risk /quality issues. Second, the case institution should be certified by the Council for Higher Education (CHE)/HEQC or an appropriate statutory body to undertake degree/higher degree courses. Third, the time from be certified for such course/s should not exceed two years. The reason for the second criterion was that in order to study change processes related to risk/quality implementation, the case organisation should be relatively "green", which means it, should not have implemented a risk management system before the time frame. This criterion ensures better quality data and simplifies the awareness and identification of changes related only to CHE/HEQC implementation. The first and third criteria were important for obtaining the necessary information related to the implementation and operation process as the questionnaire and interviews depict. On the one hand, study participants should have recent memories about how the standards (policies and procedures) were implemented and operated. The above criteria delineate the process from cases, which had much longer (5-10 years) experiences with CHE/HEQC and have for the period set forth updated system for risk/quality issues. Again it is suggested another research be carrried out in this line of thought, thus considering a longer duration.

Data Analysis: When analysing the interview contents, it was taken into account that answers often over- or underemphasise their real meaning (Black, 2002). In the interview study an enormous amount of data was collected and it was not possible to use everything in the texts. Any reasonable technique of an analysis of interview data would therefore be a reduction and interpretation analysis, never a reproduction of the completeness (Creswell, 2007). The other analysis was quantitative data analysis.

Reliability Analysis: As noted ealier on, the paper emanates from a much bigger study. Apart from the risk awareness variable addressed, there were other variables which were consisdered. But for the purpose of this paper, the intention is to concentarte on the dynamics of one variable thus risk awareness.

Nonetheless, the researcher has endevour to provide other statistics of the complete intrument used. It is the researcher's intention to make public the other results chronologically. In order to justify the use of the instrument, reliability analysis was performed. For the risk awareness variables, a Cronbach's alpha Coefficient of 0.92 was obtained. For the identification and prioritisation of risks variables, an alpha value of 0.82 was obtained while 0.63 was attained for risk mitigation /mechanism variables. Other levels of reliability for the various variables included a 0.82 alpha value for risk management reporting and monitoring, while 0.60 was obtained for embedding risk management into planning and operation, lastly an alpha value obtained for risk quantification process was 0.84. Meanwhile, the instrument as a whole had a Cronbach's alpha of 0.72, whiles with standardised items, the value indicated 0.82. Thus high reliability was achieved for all variables. This fact together with a high Cronbach's alpha as seen in table 3.1 below means that statistically, a risk analyst can evidently reason that there is a high level of confidence associated with the various variables and the instrument[5] as a whole.

Table 3.1: Reliability Analysis

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items
0.716	0.821

4. Research results

There were two main methods (cf. methodology) of data analysis tailored towards addressing research the questions. Research question one sought to address whether the responsibility for risk awareness is understood and documented throughout the university. Meanwhile, research question two intended to address the question of whether the university recognises the importance of institutional-wide risk awareness for the achievement of its objectives. For this reason, the focal point was on both statistical and empirical evidence. The statistical models involved the use of descriptive, inferential analysis. The second was interviews, which concurrently served as supportive evidence for the statistical indexes. The following section begins with background of the respondents.

4.1 Background Information of Sample

In this section, the researcher starts by revealing statistically the components of the sample. This is followed by the composite nature of the sample as revealed in the University's General Prospectus (2009:34-43). The first part of the questionnaire addressed background information of the respondents. It consisted of the grade or simply the position in terms of rank in the University's organogram or structure. Simultaneously, the background information sought to confirm the respondents association with the committees cf. methodology.

In the outputs below, the information for each of the background information are as presented in table 4.1. The distribution of the table revealed that most (35.6%) of the respondents were managers who managed various faculties as well as units in the University as directed by the deans. These managers work closely with student as well as employee related issues. A small percentage (ranging from 14-1.6%) who responded was made up of lecturers, junior lecturers, and assistant grade 1-3 employees. This category of the assistant grade 1-3 employees comprised the bottom rank of the employees in the institution, who either were the secretaries of various units and or departments or security personnel. Proportionally speaking, 1.6% made up of a stratum of deputy vice chancellor (DVC), registrar, and chief financial officer (CFO) together with chief human resource officer[6] (CHRO). There was an appreciation of the category of professors and directors to 10.9%. Out of the 64 respondents, 23.4% consisted of associate professors and other managers as revealed in the distribution of respondents in table 4.1.

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[5] Th instrument could be requested from the author via abayaga@ufh.ac.za.
[6] It is important to note that even at the time of the entire research, the University had no CHRO within that stratum as the position was vacant. But, the human resource manager of the University acted in the capacity of the CHRO.

Table 4.1: Distribution of respondents by rank

	Frequency	Percent (%)
DVC/Registrar/CFO/CHRO	1	1.6
Directors/Professors	7	10.9
Associate Professors/Managers	15	23.4
Senior Lecturers/Managers 1 /Faculty Managers	23	35.9
Lecturers/	7	10.9
Junior Lecturers/	4	14.1
Assistant Grade 3	1	1.6
Assistance Grade 1	1	1.6
Total	64	100.0

Based on the various committees and reasons (mandate) sited above, a further analysis warranted the composite nature of the sample. As the distribution of figure 4.1.1 below revealed, out of the 64 respondents, 25 of them were members of executive committee of senate, while the other 39 constituted members of non-executive committee of senate. In terms of this composition, although both committees are mandated to under take risk management of the University as aforementioned, but it is important to note that the former takes the final decision on risk analysis and its awareness as mandated by the University policy[7] (cf. www.ufh.ac.za/institutional policies and procedures). A document analysis as evidence in the intranet revealed that the available policies did not include institutional-wide risk policies and procedures. A further analysis gave a conclusive evidence of labour and specific admission/academic related policies and procedures. The only apparent quality policies and procedures available predominately described the reporting quality assurance processes. These did not incorporate any institutional-wide risk policies of any sort.

Tabble 4.1.1: Distribution members in executive and non–executive committees of senate

	Executive committees of senate	Non Executive committees of senate
frequency	25	39

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[7] These are very confidencial documents and may only be viewed by readers with a special permission from University registrar.

4.2 Disaggregated level of risk awareness in the University

Table 4.2 below shows distribution of disaggregated level of risk awareness in the University. The table reveals that the modal response[8] was agreed for two sub-variables. These sub-variables were - the recognition the University has for the need for risk management skills. It was noted that the University does attach importance to the sub-variable. Although, this was the case, the interview revealed that the University needed to step–up its capacity of development in terms of integrated (institutional-wide) risk management skills. This particularly was raised by Lin, one of the respondents who noted that:

> …it is important the institution capacitates us as to how to manage risks and quality in our various units, for at the moment, it is assumed we all know how to manage risk.

Lin noted that the integrated risk management skills advances employees focus by strengthening decision-making in the private/public interest and placing more emphasis on consultation and communication. Similarly, it respects core private/public service values such as honesty, integrity and probity at all levels, and contributes to improved results by managing risk proactively. Integrated risk management as Lin noted also supports a whole of University view grounded in rational priority setting and principles of responsible spending.

The comment made above came as a surprise because, as reasoned above, the various committee members were mandated to manage risk. But if committee members are not equipped with the technical know how to manage risk, then it begged the question of the mandate[9] of the committee members as risk analyst of the University. This point was made much clearer statistically cf. table 4.2 below), when respondents strongly disagreed to the sub-variable that the responsibility for risk management was understood and documented throughout the university. In this instance, while the University recognises the need for risk management skills, there were no document evidence in terms of policies and procedures of the University-wide risk management as revealed in table 4.2 below. The table also showed that the was a disagreement in the University having a treatment (action) plan.

Table 4.2: Distribution of disaggregate level of risk awareness in the University

		The university has a risk treatment (action) plan	The responsibility for risk management is understood and documented throughout the university	The university recognises the importance of organisational-wide risk management for the achievement of its objectives	The university recognises the need for risk management skills
N	Valid	64	64	64	64
	Missing	0	0	0	0
Mode		2	1	4	4
Percentiles	25	4.00	3.00	2.25	3.25
	50	4.00	4.00	4.00	4.00
	75	4.00	4.00	4.00	4.00

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[8] The responses were categorised using a five-point likert scale where: Strongly agree = 5; Agree = 4; Unsure = 3 ; Disagree = 2 ; Strongly disagree = 1

[9] Firstly, the purpose of the research notes that the functionality of risk management lies in a risk analyst's ability to predict and model quantifiable risk. This, in this case is the responsibility of the various committees mentioned above. Secondly, the various committees assume a position of risk management in the institution and lastly to limit the study to respondents in management as well as decision making positions.

4.3 Composite risk awareness responses

As noted by Standard & Poor (2005), it is important that institutions create reasonable risk awareness in order to respond to the risks of the institution. Table 4.3 below shows different degrees of responsiveness. Thus, this table details how many individuals are aware of risks in the University-composite risk.

From table 4.3 below, it is observed that most respondents agreed (59.8%) that there were aware of risk in the University. Although, there were a few who disagreed (14.8%) with the awareness of institutional risk, this combined with the sample who strongly disagreed together with respondents who underscored that there were unsure amounted to a substancial figure of 30.1% (1.2 plus 14.8 plus 14.1).

Indeed, with the mandate of the committees in mind, if a risk analyst goes by the positive picture, this may indicate that institutional-wide, there is some good understanding of risk within the University, since, the composite of the agreed and strongly agreed generated an index of 70% (59.8 plus 10.2), but the 30.1% composite of negative response should be a matter of concern institutionally as well, since the committees are mandated to be aware and risk manage the University.

Table 4.3: University risk awareness composite response

Risk Awareness	Responses					Total
	SD	D	U	A	SA	
Frequency	3	38	36	153	26	256
Percentage (%)	1.2	14.8	14.1	59.8	10.2	100
Totals	4.7	59.4	56.3	239.1	40.6	400

Whereas the indexes in table 4.3 show a relatively positive side of risk awareness, nonetheless, there is the need to improve risk awareness and increase the University's employee participation. Regarding the above mandate of the committees, Standard and Poor (2005) cautioned that one elementary task for the University's' risk managers (in this case the committees) is creating and maximising risk awareness. But, it is a business imperative to cautiously note that risk awareness does not suggest instilling risk fear in to stakeholders who are potentially affected. Especially considering that a significant proportion (30.1%) was unsure of the University's risk. Thus, the risk awareness should be created adequately amongst committee members to enable them respond adequately and to communicate properly to the people who are potentially affected. The above therefore suggest that improving the committees understanding and ability to be aware and communicate risk across the institutional risk framework is an important issue for all stakeholders involved in risk. This view thus complements the initial definition of risk awareness. A particular challenge for the University though, is to strengthen employee participation in the establishment of future approaches to risk awareness. Thus, the encouragement of employee's participation can be a key element of 'good governance' of the University[10] in view of the mandate of any risk analyst.

4.4 Predictors of institltional-wide risk awareness

Following the purpose of the paper as stated above, there was the need to explore the relationship between some of the sub-variables. In this line of thought, there was the need to explore how the set of variables noted above, in this case the research questions are able to predict the level of risk awareness. So, in this instance, the intention is to explore how application /implementation of University risk awareness policy (AIRAP) and recognisation of the need for risk management skills (RNRMS) are able to predict the level of institutional-wide risk awareness-which constitutes institutional preparedness. To carry out this analysis, there was the need to identify an appropriate analytic tool. Thus, multiple regression and one-way repeated analysis of variance (anova) would provide the suitable information; indicating, how well a set of variables is able to

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[10] Governance is here understood as steering and regulating risk management systems, which are represented not only by the University' Management, but integrates concept of risk and risk management into job description.

predict a particular outcome. Hence the first question asked was: within the committee members, which is the best predictor of instititional risk awareness (CMRW):

Application /implementation of University risk awareness policy (AIRAP) or recognisation of the need for risk management skills (RNRMS).

To explore this question the researcher used standard [11]multiple regression.This involves independent variable (s) being entered into the equation (in this case, software) at once. The results would indicate how well this set of variables is able to predict institutional-wide risk awareness; and it would also tell how much unique variance each of the independent variables (AIRAP, RNRMS) explains the dependent variable.

The data was analysed by multiple regression, using regressors risk; AIRAP and RNRMS. The regression was a very good fit (R^2_{adj} = 76%), moreover, the overall relations was significant ($F_{2, 11}$ =4.32, p<0.05). With other variables held constant, risk awareness scores were postively related to AIRAP increasing by 0.16 for every response of AIRAP. Lecturers/Managers 1 /Faculty Managers tended to have higher responses than all the members of the committee by 3 reponses. This suggests that risk awareness is very much influenced by the application /implementation of University risk awareness policy (AIRAP) as evidenced in the above regression analysis.

On the other hand, a one-way repeated analysis of variance was also conducted to investigate impact of variables on institutional-wide risk awareness. Two variables (1) risk treatment (action) plan (RTAP) and (2) risk management is understood and documented throughout the university (RUDUT) were used. Thus impact of RTAP and RUDUT on institutional-wide risk awareness. Noting that in both analysis, preliminary assumption testing was also conducted to check for normality (N=64), linearity (a scater plot does not show any evidence of non-linearity), univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity, with no serious violations noted (see appendices 1 & 2). Secondly, in addition to the above, a further analysis revealed that there are quite different means of responses for the two variables (RTAP and RUDUT). The realised mean on variable RUDUT (M=0.580; SD=4.598) appears to have been different than the mean (M=1.470; SD=4.738) in variable RTAP. The question now is, was the difference statistically significant. The above is answered as shown below.

Letting μ_1 stand for the mean for variable RTAP and μ_2 stand for mean for variable RUDDUT.formulated hypothesis is as:

Ho : $\mu_1 - \mu_2 = 0$ versus Ha : $\mu_1 - \mu_2 \neq 0$.

Using N_A and N_B as number of sample sizes of variable of RTAP and RUDUT which equals 64 respectively and a formular $N_A + N_B - 2$ for number of degrees of freedom (df) . It implies that df = 130. Using a table of the students's t-distribution, the closest df to 130 is 120. Thus for a two-sided test, the rejection point is ± 1.980 for 0.05 level of significance for df = 120. To summarise, at the 0.05 level, we reject the null if t < -1.980 or t > 1.980. But with a t value of -1.477, the t is not significant at the 0.05 level. Therefore, we do not reject the null hypothesis at that level.

A confirmatory test was carried out. This revealed that there was no statistically significance difference between variable RTAP and that of RUDUT on the combined variables: F (22, 102), p= 0.35; Wilks' Lambda = 0.65; partial eta squared = 0.213. When the results for the dependent variables were considered separately, the only difference to reach statistical significance, using a Bonferroni adjusted alpha level of 0.031, was variable RUDUT: F(11, 52) = 1.184, p =0.321 as measured by the Levene's test of equality of error variances (cf. table 4.4). In conclusion the analysis reveals that both risk treatment/action plan (RTAP) and risk management being understood and documented throughout the university (RUDUT) are important in the institution. These variables influence the risk awareness of the institution.

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[11] Others are hierarchical or sequential and stepwise; there all serve similar purposes but to varying degrees.

Table 4.4: Perommes grade -Wilks' Lambda

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.896	218.593(a)	2.000	51.000	.000	.896
	Wilks' Lambda	.104	218.593(a)	2.000	51.000	.000	.896
	Hotelling's Trace	8.572	218.593(a)	2.000	51.000	.000	.896
	Roy's Largest Root	8.572	218.593(a)	2.000	51.000	.000	.896
Perommes grade	Pillai's Trace	.383	1.120	22.000	104.000	.339	.192
	Wilks' Lambda	.651	1.109(a)	22.000	102.000	.350	.213
	Hotelling's Trace	.483	1.099	22.000	100.000	.361	.195
	Roy's Largest Root	.319	1.509(b)	11.000	52.000	.157	.242

5. Discussion of Findings

Noting from the above qualitative data, disaggregate together with the composites of risk awareness and the inferencial analysis of the variables, there are two areas of concerns that the University lacks in terms of institutional risk awareness; firstly, the University does not address the responsibility of risk management such that it is understood and documented through out the University. But most importantly the application /implementation of University risk awareness policy (AIRAP) does influence institutional risk awareness compared to the recognisation of the need for risk management skills (RNRMS). Secondly, the data in disaggregated section also revealed that there was no University-wide risk treatment (action) plan. Contrary to absence of risk action plan, the data in table 4.2 also revealed that (1) the University recognises the importance of organisational-wide risk management for the achievement of its objectives and (2) the University recognises the need for risk management skills. The analysis revealed further that both (1) risk treatment/action plan (RTAP) and risk management being understood and documented throughout the university (RUDUT) were equaly important.

Coupled with the above analysis, the interview revealed that risk awareness failures continue to pose significant risks to the long-term health of the University. In this regard, Lin (respondent) noted that;

> *… risks often take the form of not meeting pass rate for a particualar year. More so, an area of concern was that risks most often manifest themselves as poor and or inadequate infrastructural base. Additionally, there was a concern of below target through put rate.*

The University's ability to recruit and educate members of the country, to participate in economically meaningful and even to socialise as a group of individuals are thus at risk. This was what a respondent (George) during the interview lamented as a result of poor institutional-wide risk management. George noted that:

> *… the University's very existence is jeopardised by poor risk management. This is why effective risk management is so important….*

As authors (KPMG, 2008; Standard & Poor, 2005; Nicholas, 2004) noted, such concerns have prompted several frameworks on the part of risk management. Among the most important responses for this research was risk awareness. Nicholas (2004) pointed out that as the risk awareness grows, so would its support of the Universitys' efforts to bring about an end to poor risk management and the threat it poses. Nicholas (2004) argues that this (risk awareness) could be established to support the risk management educational activities of the University; which may include but not limited to its student members, academics/staff and infrastructural base.   The contestation of the above authors resonated with the findings of the research. In this regard, the research noted with respect to risk awareness

that it was a business imperative to firstly address some concerns such as the responsibility for risk management such that it is understood and documented throughout the university: This process, as noted during the interview by Lin (a respondent):

> *... includes policies, procedures, and practices at every level of the University, and both management and risk managers must possess a thorough understanding of controls to document them.*

Authors (Standard & Poor 2005; Nicholas (2004) argued though that reasons for documentation vary, but often stem from regulatory requirements. They (authors) noted that for example, management in the University may be required to evaluate and document internal controls periodically to provide reasonable assurance regarding the reliability of financial reporting. In addition, the University may be required to periodically evaluate its adequacy of the organisational control systems, and, in many other institutions, management and other stakeholders may require an assessment of control effectiveness and efficiency. The research found that from the interviews, regulatory requirements, professional guidelines, and University mandates provide good reason for internal auditors to develop control risk documentation skills. This was evident as the inferencial analysis revealed. With the right methods and tools, as Lin (respondent) summarised;

> *....risk managers can achieve a better understanding of controls and help management determine which documentation methods might best serve organisational needs....*

The next concern from the disaggregate data and multiple regreesion analysis revealed that the University needs to address and have a University risk treatment (action) plans: This point was clarified by Lin (a respondent), who noted that:

> *In order for potential risks to be controlled, a risk treatment plan is necessary for avoiding, transferring, mitigating, and accepting risk. Here we discuss how to create an effective risk treatment plan. A risk treatment plan should be part of institutions' risk management plan....*

Authors Standard & Poor, 2005; Nicholas, 2004) explained that the treatment plan is how institution plans to respond to potential risks (pass rate, through put rate, infrastructural risk both staff and student retention rates). It outlines how risks would be managed whether they are low, high, or acceptable risks. The controls set in institutions risk management plan would assign team members or stakeholders the task of how they would respond to risk. The above authors argued that risk treatment plans are often referred to as risk assessment plans that identify how to avoid risk, transfer risk, mitigate risk, and accept risk. These are the responses or actions to help institutions deal with identified risks. As identified by literature, (KPMG, 2008; Standard & Poor, 2005; Nicholas, 2004), the four ways institutions can respond to risk that should be included in the institutions risk management plan are:

(1) Avoiding Risk - To avoid risks, Nicholas (2004) recommends that institutions could first identify them by past project experience and documentation of that experience. Analyse what risks may occur upfront at the project initiation meeting. Clarify if potential risks are low, high, or acceptable risks. If the institution could conquer any potential risk first, the insitution's response planning can help it avoid the risk altogether.

(2) Transferring Risk - Often, an identified risk during risk treatment could be transferred to a third party. Nicholas (2004) cautions though that when setting up institutions risk transference controls, it does not mean a risk would go away. It only means you have set a team or outside source to handle the risk. A good risk response plan would identify who certain risks would be transferred to and what the institution expects from them.

(3) Mitigating Risk - This is a control process that allow institution to stop a risk before it starts or bring it to an acceptable level. Nicholas (2004) explains that it identifies potential threats first its team (in this instance risk analyst) could take appropriate steps to keep the risk from triggering. A good way as the Nicholas (2004) proposed to mitigate risk is to set a contingency plan that would deal with the risk when it occurs.

(4) Accepting Risk - Accepting risks on the institutions' projects is a must for risk response planning. It is also a strategy of sorts and is only used when risks are considered low, or for small risks. Planning as Standard & Poor (2005) acknowledged includes recognising what they may be and adjusting small areas within a project, such as identifying a cost or schedule that might have been missed. Acceptable risk can also be considered passive where no action is taken at all. This should be done by equipping them with the requisite skills, such that all members are abreast with the University's risk management.

The above suggest that the Universities are changing at such a rapid pace today that it is not very wise for HEIs to ignore the risk awareness aspect. However, Universities should begin to turned risk consciously and team up to cope with all kinds of risks at every level of management and decision-making. As argued by a responednt, Xolani:

> Apart from the usual pass rate, through put rate risk, market risks, Universitties have political risk, legal risk, contract risk, strategic risk, operational risk, technology risk and a hundred other kinds of known, unknown, quantifiable and hypothetical risks lurking out there, waiting to catch Universities unawares. Risk management essentially is about perceptions and actualities....

According to one Standard & Poor (2005), institutional-wide risk awareness is not as simple as setting up a special cell for the purpose or acquiring off-the- shelf expertise to deal with it. It is not the sole headache of the management either. Standard & Poor's (2005) point was well articulated when Xolani (a responsdent) cautioned that:

> An institution can effectively control and manage risk for maximising value only if the entire organisation becomes risk conscious (aware) and risk responsive....

Most organisations as Xolani maintained, resort to quantifying risk and then cover themselves to limit its ability to affect the business adversely. But the problem with Universities being completely risk averse is that risks are generally too numerous to be fully covered; they are largely dependant on markets and factors over which organisations have little or no control. Most importantly, it could lead to lost opportunities; and the chances of survival of such risk-averse Universities in a highly competitive and constantly changing business climate are very slight.

The unknown and the unexpected could always pull the carpet from beneath any institutions feet. The best way to deal with such unexpected setbacks as argued by Nicholas (2004) is to first ascertain the expected setbacks or losses and then translate the information and experience so gained into a sound knowledge base that could be used for future benefit. Thus this warrants the need for a definitive institutional-wide risk awareness programme.

In the above regard, Standard & Poor (2005) explained that risk creates opportunities, which could be translated into value. When organisations concentrate solely on minimising risk though, they could end up minimising value. The first step towards risk management is to identify the risk factors. Standard & Poor (2005) noted that it is important to develop a comprehensive framework[12] that profiles risk; taking into account every major quantifiable factor concerning macroeconomics, political environment, competition, finance and revenue limitations, systems and legal compliance. The next step would be to prioritise these risk factors depending on their potential to inflict loss or damage. After that comes the 3M approach of measuring, monitoring and managing by system tools, models and making both management and employees responsible for managing risk. For this, risk awareness needs to be propagated to the employees through transparent communication of systems, processes and procedures. Noting that creating risk awareness does not imply creating risk fear and or panic as indicated earlier on.

Thus conclusively, a culture of risk awareness needs to be built up at every level of the organisation. Employees should be led by example and compensation and reward mechanisms should ideally be linked to risk awareness practices. Thus, risk awareness strategy is a double-edged sword; it needs to be handled with care. When put to use in a proper manner, it can result in optimum risk control and maximum capitalisation of

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[12] See details of this in Standard & Poor (2005) report on policies, Infrastructure and methodology (PIM) model to risk management..

opportunities, suggesting that Universities with better risk awareness strategies in place are able to consistently manage their intitutional value better than their less evolved contemporaries. This implies that they (Universities) could get better value for business with their clientele (student) base. Having or not having strategies suggest that Universities in terms of risk could be categories in to two forms-thus gross risk University or residual risk University. Gross risk University suggesting the absence of appropriate risk policies and procedures, in which instance, the case University of the paper epitomizes. In contrast, residual risk University have risk policies and procedures in which case the University have applied the appropriate policies and procedures but still need to undertake further risk analysis processes due to excess risk identified, since risk in social context can arguably not be completely eliminated but reduced.

6. Lessons, Conclusions and Recommendation

There are two sets of lessons and conclusive evidence from this paper. Firstly, noting from the above qualitative data, disaggregate together with the composites of risk awareness and the inferencial analysis in the University, there are two areas of concerns that the University lacks in terms of institutional risk awareness (1) the University does not address the responsibility of risk management such that it is understood and documented through out the University (2) the data in disaggregated section also revealed that there is no University-wide risk treatment (action) plan. The main implications that arise from the discussion are (1) risk awareness does correlate with institutional preparedness. The two main forms of preparedness associated with risk awareness are; firstly, understanding and documentation of risk policies and procedures (2) risk treatment (action) plan is also an important factor to consider in creating risk awareness. Secondly, following the conclusive remark of the discussion, the paper argues that risks could be categorised into gross risk and residual risk. Gross risk in this instance is the risk that a University is exposed to without any risk management system in place, while residual risk is the net risk after considering the risk management capabilities of an individual University. This suggest that it is important Universities set priorities and ascertain the effectiveness and adequacies of damage minimisation and control exercises via institutional-wide risk awareness. In which case the case institution posses to gross risks. It is quite essential case of the glass being half full or half empty, depending upon the opinion of the individual. Thus unlimited risk translates into unlimited opportunity, so if Universities intend closing their doors and shutting themselves out from all things risky, they could well be singing their own dirge.

An additional recommendation for an improvement in risk awareness is that higher awareness should be raised with adequate information and action plan. Moreover, it is important Universities identify their risk in terms of either being a gross or residual risk. This enables the institution to take decisive and strategic actions.

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Appendix 1: Scatter plot Linearity
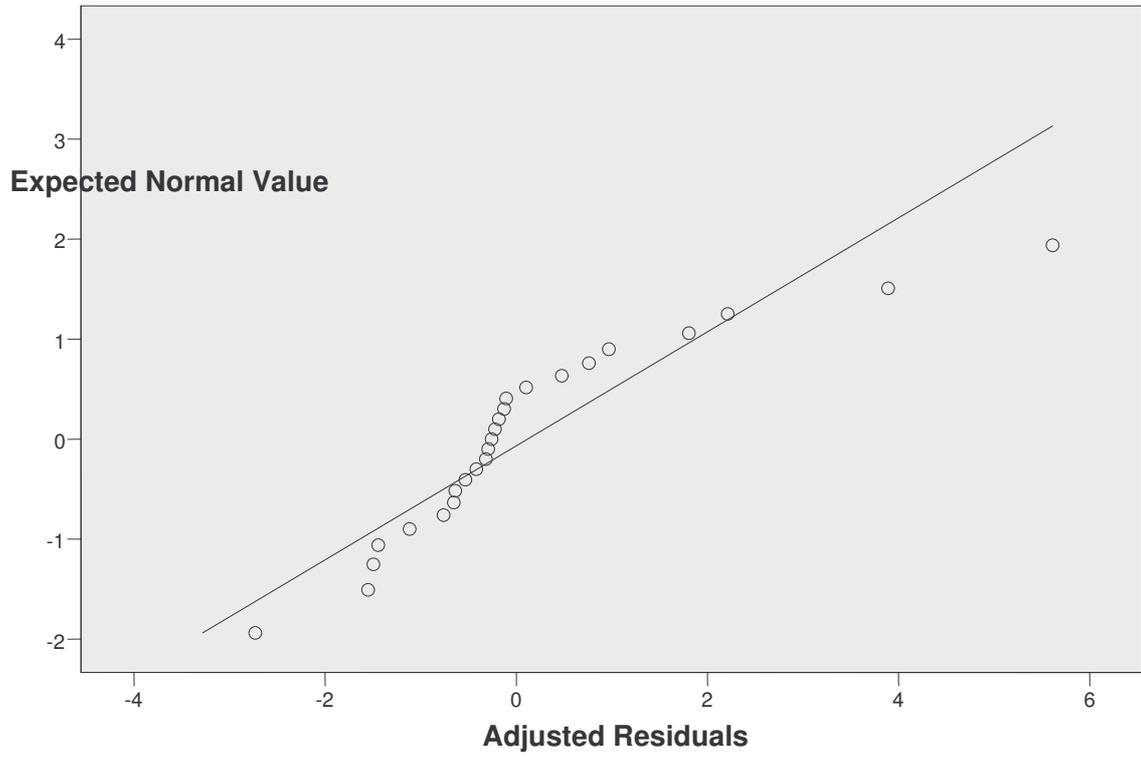
Appendix 2: Scatter plot Normal Q-Q Plot of Deviance Residuals