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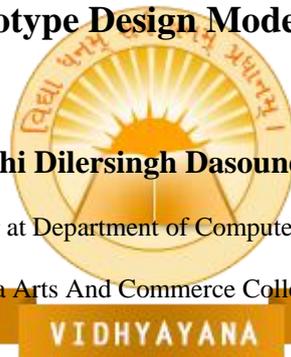
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Study and Analysis of Prototype Design Model for University Governance

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Abstraction

This research will make an emphasis on the need for implementing IT governance in Indian universities. In addition to that this research will give an insight of the benefits and challenges associated with implementation and adaptation of IT governance models. Finally, this paper also will explain the important factors that are to be present in an efficient IT governance model.

Keywords: University governance, IT governance, Universities.

Introduction

The prevailing doctrine concerning the organization and governance of universities have transformed over the decades a great deal. The mode organizational set up and management systems within universities are put in order diverge in relation to two open set of thoughts regarding university governance that might be termed the university as a state of scholars and as a stakeholder institute. University as a state of scholars implies that leadership and management are linked to collegial decisions taken by self-governing scholars; whereas university as a stakeholder institute is regarded as a base for strategic management by leaders who perceive it as their principal job to satisfy the wellbeing of foremost stakeholders and where the say-so of academics in the institutions is but one amongst quite a few stakeholders (Bleiklie and Kogan, 2007). It is in this background that the issue of governance of university takes significance and the study in hand endeavors to study and analyse of prototype design model for university governance.

The expression of governance is an old one and has had diverse connotations in the course of the centuries. Put in plain words plainly, "governance" in the present day implies not so much what organisations carry out but how they carry out it. Governance all concerns how an organisation maneuvers itself and the procedures and compositions utilized to accomplish its goals.

Governance is too significantly relates how organizations connect to each other and to their major stakeholders and as well how populace are given a voice (Edwards, 2000). Concerning university, Marginson and Considine (2000:7) define governance as "a system that covers internal relations, external relations, and the connection between them (p.7)". whilst throwing light on the intricacy of those relations, they put that governance all concerns to the fortitude of principles within universities, their structures of management and provision of resources, their mission and functions, the prototypes of power and hierarchy, and the relationship of universities as organizations to the diverse academic worlds inside and the worlds of government, business and society (Marginson and Considine, 2000:7).

Role of IT in University Governance

The emergence of information technology enables organizations around the in developing into more viable and is turning out to



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be an indispensable component for the success and survival, the universities cannot be the exception to this. The application of information and communication technology has enabled governance improved for both business organizations and general organizations such as universities. This is better understood as e-governance system, which as per Bhat nagar (2004) is the use of information and communication technology by the organizations and institutions to take on populace in the course of channel of communication and response to prop up their superior partaking in the procedure of governance of such organizations and institutions. Today it has come into the public domain as a well-known fact that information technology has develop into the engine that takes the contemporary organization including university.

Information technology led e- governance may well control harmonization commotions and its comparative costs. This relationship may well be looked at from the perspective two special theories namely the agency theory perspective and the transaction cost theory perspective. To put it precisely, as per agency theory, information technology may well cut internal coordination costs and may well control results. On the other hand, as per transaction cost theory, organizations and institutions wishing to cut down on transaction costs, much as they accomplish on production costs. In fact, e-governance not all concerns to what explicit decision are carried out, but rather it all concerns regarding who takes every sort of decision a decision correct, who has contribution to a decision an input accurate, and how individuals or groups are held answerable for their position. E-Governance allows fresh approaches for the involvement of populace and society (Rogers and Shukla, 2001; Gupta et al., 2004; Heeks and Nicholson, 2004).



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What is University Governance?

The university is the signpost of growth in civilization for the reason that it reflects human being advanced learning in several knowledge areas. It represents the advancement in human thinking, knowledge, and know-how in countless facets of life. In fact university has had been the foundation where scholarly citizens, distinguished citizens, select few, and cream of the crop come up as of. Even in our day, it is a foundation of the select little to pursue advanced education and superior living. Moreover, university today is an institution for the ceremony of passageway of selectiveness and official approval of superior intellect and specialized education. Obviously, no other institution of society has the dispensation and class of the university. Marginson and Considine (2000) define university governance as “governance concerned with the determination of values inside universities, their systems of decision-making and resource allocation, their mission and purposes, the patterns of authority and hierarchy, and the relationship of universities as institutions to the different academic worlds within and the worlds of government, business and community without (p. 7)”. On the other hand, Kezar and Eckel (2004) define university governance as “the process of



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policy-making and macro-level decision-making within higher education” (p. 375).

The role of governance in university is now changing considering privation and commercialization of the universities. It is in this context that now the universities are expected to put together competitive reactions to the vigor of materialism, consumerism, entrepreneurship, globalization, internationalization, and worldwide grade. These recent developments left universities no option but to have independent governance and administration. It is in this context that in recent times there has been an increasing trend of research and studies on the subject of university governance (Bleiklie and Kogan 2007; Kezar and Eckel 2004; Paradeise et al. 2009).

Problem Statement

The role of governance in university is currently shifting bearing in mind privatization and commercialization of the universities. It is in this background that nowadays the universities are expected to put together ready for action reactions to the dynamism of materialism, consumerism, entrepreneurship, globalization, internationalization, and worldwide grade. These recent developments left universities no option but to have self-determining governance and management. It is in this framework that in recent times there has been an growing trend of research and studies regarding the subject of university governance (Bleiklie and Kogan 2007; Kezar and Eckel 2004; Paradeise et al. 2009). However, in most cases these studies have been conducted in relation to universities in developed countries. There is scarce of research and study when it comes to universities in developing country. This study attempts to fill this gap conducting a study of university governance in India with reference to application of information technology models. Notably, the university education system in India is under constant demands from the State and an all the time more knowledgeable youth populace to accomplish numerous goals such as development, excellence and equitable obtainability. In order to arrive at these opinionated goals, state policymakers catch a forward looking approach, in the form of offering sufficient resources, facilitating privatization of university education, and so forth. In most recent tines, researchers and practitioners in university education system have concentrated on globalization and information technology effect on the position of the state, and how this interprets into the link connecting the state and private universities. In recent years, with rising curiosity in India’s economic pitch, a few outstanding analyses and reviews have as well been conducted regarding universities in India, the approach in which they are being expanded, and their eminence (Kapur, 2009; Sundar, 2010). Nevertheless, one of the predicaments with much of the analyses and reviews, consisting of the argument of all-purpose drifts in university organization, and the more explicit exertion in relation to universities in India is that they do not effectively handle general goals of university systems, and particularly how governance possibly will be affecting those goals. In this study, an attempt is made to fill this gap,



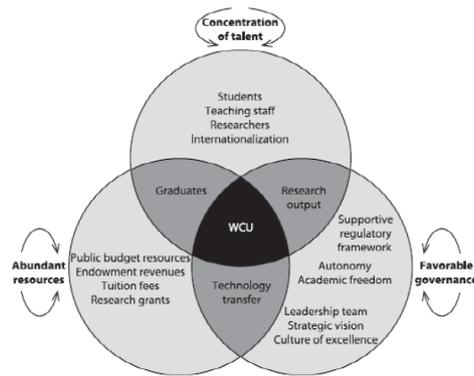
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focusing on how the governance and goals of universities in India have developed and how about the need and suitability of certain sophisticated models of university governance, specifically information technology models. As Dowse and Lewis(2009) argue there is an intensifying call wide-reaching for boards of directors and governing bodies in universities to get accountability for the governance of information technology possessions in much the similar mode as they run an organization's procedures relating to financial and other areas of management.



Elements of a World-class University

Source: Salmi, 2009: 8

Need for IT Model for University Governance

Information technology governance is defined as specifying the structure for decision rights and accountabilities to persuade enviable behaviour in the utilization of information technology. This definition point out that information technology governance is planned to make certain that the organization and its board of directors or governing body are cognizant of handling its information technology venture correctly, efficiently, and competently (ITGI, 2003). The research literature relating to information technology governance has been controlled making use of the five foremost mechanism acknowledged by the Information Technology Governance Institute (ITGI), and these five mechanism are strategic coalition of business and information technology structures, deliverance of value from information technology structures, risk management of information technology structures, information technology resources management and measuring the performance of information technology structures (ITGI, 2003). The research literature relating to information technology governance stems from the rising reliance on information technology resources of organizations and their rising requirement to direct and administer this momentous



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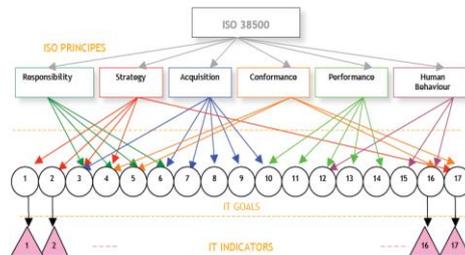
information technology venture in a superior manner (ITGI, 2007).



Information Technology Governance Framework

Source: JISC, 2007

An Analysis of Existing IT Models in Universities



Governance Framework for Universities (ITG4U)

Source: Yanosky and Borreson, 2008

Objective of Study

This study aims to explore and analyse of prototype design model for university governance. The study is conducted with reference to conducting a comparison of governance in Indian universities . The study attempts to accomplish following objectives:



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- To study all the process of university governance and information technology model
- To study information technology models implemented in governance of Indian and foreign universities
- To extend new and valuable information technology model of governance for Indian universities

Hypothesis

Hypothesis 1

1. **Null Hypothesis H_0 :** There is no reduction in IT related risks in universities after implementation of IT governance model.

Alternate Hypothesis H_1 : There is an ultimate reduction in IT related risks in universities after implementation of IT governance model.



Methodology

Research paradigm

The research paradigm can be defined as the wide structure which constitutes beliefs, perceptions and understanding of many practices and theories that are used to conduct a research (Cohen, Manion and Morrison, 2007). Research paradigms are categorized into 2 types such as (1) Positivism and (2) Hermeneutics.

Saunders, Lewis and Thornhill (2007) defined that positivism means scientific and positivist methodologies are possible and desirable to study social behavior in ways similar to those used by natural scientists to study behavior in the natural world.

Hermeneutics is the science of interpretation. Usually the hermeneutics word is applied to written documents explanation and therefore be more particularly referred as the science of author's language interpretation (Chalmers, 2004).

This study adapts positivism. Positivism in the social sciences which has been based heavily on the natural sciences scientific principles. Positivism is the view that the sociology must use the natural science methods. That does not mean using experiments because there are all kinds of ethical issues with doing that, but positivists believes that the sociologists must use quantitative methods and target to measure and identify social structures. Positivism is also referred to as quantitative research (Aguinis and



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Herman, 1993).

Research Design

Exploratory research design

Exploratory research is always conducted to explore the problem and is done usually when the alternative choices have not been defined clearly or their scope is unclear. Exploratory research permits the researchers to explore problems briefly to popularize themselves with the concept or issue to be studied.

Conclusive research:

Chisholm, Rupert, and Elden (1993) described that conclusive research is more likely to use advanced analytical technique, statistical tests and bigger sizes of samples compared with exploratory studies. Conclusive research is more likely to use quantitative rather than qualitative techniques. Conclusive research may be either descriptive or causal research design respectively.

Causal Research

Casual research is referred as the research design where the major emphasis is on deciding a cause and effect relationship (Churchill and Lacobucci, 2009). According to Mohan S and Elangovan R (2007) described that the descriptive research is the quick identifying investigation with sufficient interpretation. In this the researcher has to present the things which are existing.

Primary data collection method involved in this research

Srivastava (2011) says that Primary data does not actually exist until and unless it is generated through the research process as part of the consultancy or dissertation or project. Primary data is closely related to and has implications for the methods and techniques of data collection.

Closed ended questions are those that have their own predetermined response set. The major benefit of closed ended questions is that a big deal of time is saved in the data tabulation and coding it for computer analysis. Another major benefit is that closed ended questions with their response choices communicate similar reference frame to all respondents. The closed ended questions conduct quantitative analysis.

According to Khurana S K (2009) Secondary data is the data that were collected by someone else for a different purpose. When



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gathering secondary data every source of information used must be identified in the paper. Secondary data is often the starting point of data collection in as much as it is the first type of data to be collected.

Tools of Research used

The statistical tools that are used for the analysis of the primary data to be collected are

- i. Graphical method
- ii. Sample percentage method
- iii. Correlation test
- iv. Weighted Average Method

Sampling

Sampling Design

Sampling plan or design is the method used to choose significant participants from the accessible population. The sampling techniques are of 2 types such as probability sampling and non-probability sampling technique.

Probability sampling can be very easy or extremely critical, expensive and time consuming. Whatever the condition it is usually known method for choosing study tools. The methods of probability sampling are: 1) Simple random sampling; 2) Cluster sampling; 3) Systematic sampling; 4) Multi stage sampling; and 5) Stratified sampling (Henry and John, 1982).

Sampling unit

The sampling units are the 12 universities in India.

Target population

The target population in this research for quantitative study is 12 professors belonging to 12 universities in India

Sample size

For the quantitative study the sample size is 12.

Sampling plan

It has been schedules to gather data from 12 professors working in 12 different universities in India. The data must be gathered by handing out questionnaires to respondents to their corresponding places of work.

Data Collection Method

The research data is about observations or facts on which the argument or test is made. The research data may be categorized into 2 types such as primary and secondary data



Findings

Reason behind university implementing IT governance:

Reason behind university implementing IT governance	No. of Respondents	% Share
To utilize IT resources properly	3	25
To mitigate IT related risks	2	17
To enhance IT security	4	33
To improve IT related decision making process	2	17
All of the above	1	8



Various groups in universities' IT governance structure and what are their functionalities

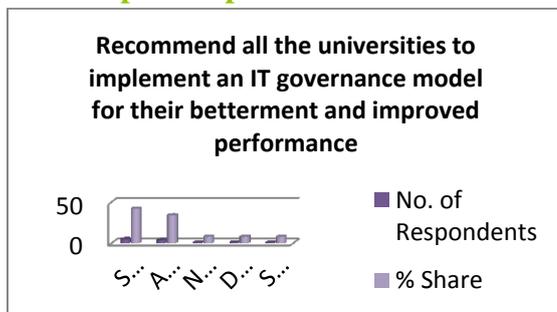
	Hemchandraji North Gujarat University	Gurudas University	Gujarat University	Mahatma Phule Vidyapeeth	Saurashtra University	Dr. Babasaheb Ambedkar Open University	South Gujarat University	Jawaharlal Nehru Krishi Vishwavidyalaya	Singhania University	Dr. Babasaheb Ambedkar Marathwada University	Rajasthan Vidyapeeth	Babasaheb Bhimrao Ambedkar University
IT Managers Group		✓	✓	✓	✓		✓	✓		✓	✓	
IT Steering Group	✓		✓	✓	✓	✓		✓			✓	✓
IT Strategy Working Group		✓	✓		✓	✓		✓		✓		✓
Web Steering Group	✓	✓		✓		✓	✓	✓			✓	✓
IT programme board	✓		✓	✓	✓		✓	✓	✓	✓		✓
Advanced Computing Group	✓	✓		✓	✓	✓			✓		✓	
Others, if any			✓				✓					



There is a better utilization of IT resources in university after implementation of IT governance model:

There is a better utilization of IT resources in university after implementation of IT governance model	No. of Respondents	% Share
Strongly agree	5	42
Agree	4	34
Neither agree/disagree	1	8
Disagree	1	8
Strongly disagree	1	8

Recommend all the universities to implement an IT governance model for their betterment and improved performance:



Test of Hypothesis

Hypothesis

Null Hypothesis Ho: There is no reduction in IT related risks in universities after implementation of IT governance model.

Alternate Hypothesis H₁: There is an ultimate reduction in IT related risks in universities after implementation of IT governance model.



(Q1) Implementation of IT Governance model Vs. (Q9) Reduction of IT related risks	Yes	No
Strongly Agree	4	1
Agree	3	0
Neither Agree/ Disagree	2	0
Disagree	1	0
Strongly disagree	1	0

Calculating the value of correlation coefficient using statistical calculator, the following result is obtained.

Correlation Co-efficient Calculator

To Calculate Correlation Co-efficient:

X Value	Y Value
4	1
3	0
2	0
1	0
1	0

Add More... Fewer...

Calculate

Results:

Total Numbers:	5
Correlation:	0.7717496331412898

The value of correlation coefficient “r”, obtained using the statistical calculator is **0.7**. It means that the two variables usage of IT governance model and reduction in IT related risks are positively correlated. Hence the null hypothesis is rejected and the alternate hypothesis, “There is an ultimate reduction in IT related risks in universities after implementation of IT governance model”, is accepted.



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Conclusion

This study will give a comparative analysis of IT governance models used by twelve different universities across India. This research will make an emphasis on the need for implementing IT governance in Indian universities. In addition to that this research will give an insight of the benefits and challenges associated with implementation and adaptation of IT governance models. Finally, this paper also will explain the important factors that are to be present in an efficient IT governance model.

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