

## **Influence of Leadership on adoption of Information Technology in Administration of Higher Education Institutions**

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**Abstract:** *This paper examines the influence of educational leaders on adoption and acceptance of Information Technology in administration of higher education institutions. This study was conducted in different higher education institutions based in city of Lucknow, Uttar Pradesh, India. Forty questionnaires were administered and collected, containing 10 questions. By using this study, we will be able to understand different types of owners and promoters of higher education institutions. It will also help in analyzing how these different management structures in higher education institutions is affecting the level of adoption information technology systems.*

**Keywords:** *Leadership, Influence, Adoption; Administration, HEIs*

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### **I. Introduction**

Embracing of developing technologies prior to their established worth is both normal and natural in current globalized economic scenario. Organizations that reject to modification of their approach face decreasing sales, obsolescence, and probable bankruptcy. In this regard, academic establishments are no different. Information Technology is a significant asset for higher education organizations, which can help institutional strategic goals such as staffing and admission. (Oblinger, 2008; Tanner, 2011). The implementation of information technology in business is largely studied but the research related with the study of the adoption of information technology in higher education institutions is inadequate. Therefore, this study will emphasize on adoption of information technology by higher education institutions with a focus on affect of higher education leaders on adoption these technologies. It will deal with quantitative analysis of the aspects associated with background of higher education leaders and its influence on to the adoption of information technology. (Then & Amaria)

The usage of information technology in higher education is likely to solve numerous challenges by increasing productivity of managers; providing better approach to research for both teaching faculty and students; and assist students from various demographic, social, and geographical background which will result in boost to higher education institution's overall competitiveness (Eynon, 2008). The use of information technology for education and research largely supplements, but does not substitute, prevailing teaching techniques and practices (Eynon). There are current reports that evaluate the rate, basis, or sustainability of implementing information technology emerging technologies by higher educational institutions such as using of data warehousing for making decision, student facilities and college registration procedures; and the effect of technology on college libraries (Heise, 2006; Ball, 2002; Moore, 2006).

### **Leadership in Higher Education Organization**

The leadership in Higher Education organizations has been under growing scrutiny since the last two decades post liberalization. The establishment of new colleges and higher education institutes, increasing no. of student numbers, more funding for student domiciles, improved student choice, and ongoing globalization of the education sector has put a huge pressure on institute administrators. In this scenario of transformation, it has become vital for higher education establishments to consider development of their leaders and improvement in their performance in order to adjust to these new environments. It is possible to categorize further complexities in the growth of Higher Education managers by comparing several paradigms of leadership confronted in the Higher Education sector with established leadership practices and theories. (Black, 2015)

Transformational leadership is a practice that can be effortlessly adapted for any educational establishment (Leithwood, 1992b). It occurs when leaders are more worried about gaining staff support and active involvement than completing particular tasks. Leaders in any field who undertake methods of transformation are dedicated to change, advancement, research, and taking risks. They have understanding of the association between the culture of their organization and the recognized management structures that will contest

the process of change (Fullan, 2001). Leaders should have concern about the consequences that any institutional alterations produce on the association between the market and the organization. (Markova,2014)

At the moment, transformational leadership is extremely significant to the domain of education. The institutional culture and ingenuity produces thought-provoking workplace projects that involve influential and not positional authority. Itsupportsguidance and self-development, and rewardsfor those who promote leadership (Latchem and Hanna, 2002). Higher education institutes functioning are closely tied to proficientorganization, efficientexecution, and dynamic management (Mitchell, & Tucker, 1992)

Information technology basedapplications in educational domain like email, virtual conferencing, blogging, social media, MOOCs, educationanalytics and knowledge design, to name but a few advances, are increasingly making a decisiveinfluence on the way leadership is hypothesized and practicedthroughout higher education establishment. The complex collaboration between leadership and innovative information technology is both affecting and being affected by developing new administrativebehaviors. Managers themselves now have numerousoccasions to develop knowledge and expertise in collaboration with students and staff to enhance the affordances of learning technologies. Leadership is critical for accomplishment in any project (Albright &Nworie, 2008). In coming future, leadership through technology initiatives will drive substantial transformations in the administration of higher education institutes. The administrators have the essential function of supervising the enterprise technology, and managing the technology resources into which their organizations have heavily spent. Their management must remain committed to the achievement of the capabilities of technology in education (Nworie, 2009). According to Hope (1997), leadership is anessentialprerequisite for an institute'sdevelopment and performance in higher education.

The prospectiveeffects and implications of information technology on the professional lives of administrators in higher education, and the responsibility of leadership in incorporating educational technology, presents a range of complex challenges.

### **Information Technologyin Higher Education**

Higher education organizations will not increase their commitment to information technology without tough leadership. Generally issues related to vision and supervisionare frequently crucial in determining fruitfulapplication of information technology. Regulated, closely focused applications should beapplied at a grassroots level in an institute and effectively applied, but when applications demand complex collaborations across—and possibly beyond—the institution, the skills and abilities of each participant must be supplemented by strong organizational leadership and a collective vision of what the institute is trying to achieve.

In current educational environment, the role of information systems has become critical and strategic in nature ashigher educational institutions plan for the upcoming challenges,find new business prospects, and apply new practices for connecting with prospective and current students, mange operations inventories and finances. As a result, information technology is increasingly identified as key requirement for strategic implementation of higher educational institutes management. In fact, Peter Drucker has advocated that information and supplementary technologies are becoming so significant to strategy that the leader of the future will be the information officer. (Drucker, 1999). Numerousfindings across various industries have verified a connection between the efficiency of an institutions application of Information Technology and the authority of a leading, strategy oriented executive (CHIME, 1998; Earl and Feeney, 1995; Kilbridge et al., 1998; McKenney et al., 1995; Ross et al., 1996; Sambamurthy, 1996).

Educational organizations need to understand the significance of information technologyadministration. Certainly there are key educational issues: educational leaders must be acquainted with the central role that they must to play in their institutes, and an sizeable team of potentialleaders must be developed who have a blend of technical and administrative skills together withunderstanding of educational environment and its complicated cultural limitations. The effectiveimplementation of information technologiesfor higher education administration, and its usage for greatly leveraged functions and tasks, will necessitate an investment and pledge from educational organizations and creative leadership from administrators who recognize the strategic function of the technology and the gain on investment, which can be anticipated.

Two keydevelopments haveassisted in defining the IT leader of nowadays. The first is exclusive to higher education: There has been progression in the business of higher education, with organizationsrequiring to implement new models to remain competitive and concentration on results, economical soundness, and receptiveness. The second development has been felt at eacharea of society: the persistent nature and quick advancement of technology. As far as higher education is considered, technology's increased presence influences all levels of an institution.

The leader is in a raresituation at the heart of so much transformation, making this position both a challenging one besides one that will keep ondeveloping in the future. The profession should be prepared for both the transformations and the prospects.

Perhaps the utmost opportunity is for the leader to establish the significance of technology. Technology

enhances the organizational mission and the commercial aspect of higher education. Irrespective of the magnitude or development of higher educational institution, the thoughts considered here would be significant and helpful. As the higher education organization progresses to develop into a significant campus competitor, understanding the function of the information technology will grow institutional effect and support the organization to lead. (Then & Amaria)

**Leadership influence on Organizational Challenges to the Adoption of the Internet**

The study to understand the impact of leadership’s background on adoption of information technology in higher education administration was conducted through a questionnaire designed in consultation with n experts. Forty institutions of higher educations across various disciplines such as engineering, law, medical, management, pharmacy, etc. were randomly selected for the survey. The respondents were owners, promoters, directors, principal and administrators of these institutions. They were surveyed on educational background of the leaders, their professional training and consultancy .The level of adoption in institution and type of technology adopted were found out. The questionnaire also had questions related to staff training, it administrator employment and outsourcing of it management.

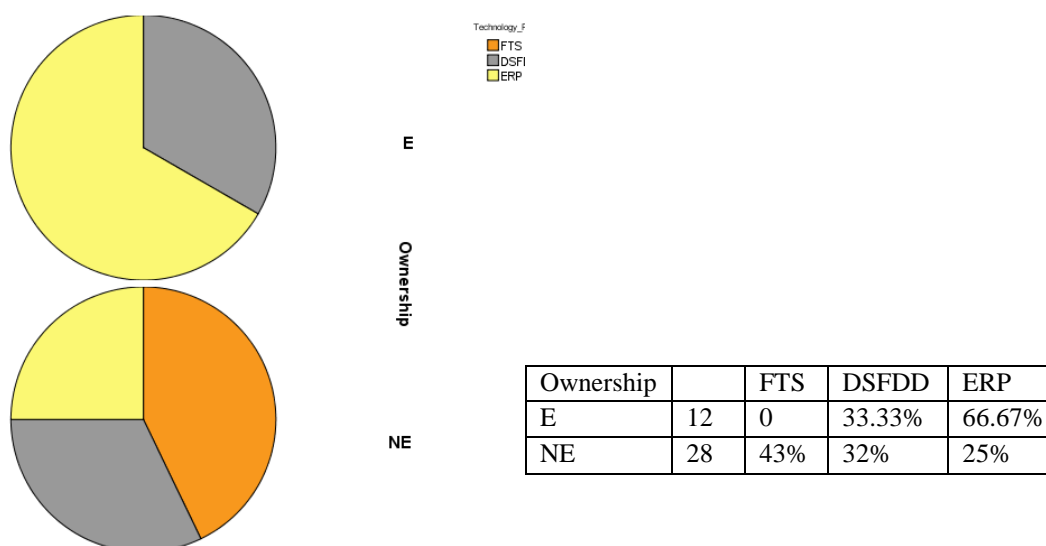
As per our findings we observed that higher educational institutions are not in advanced technological applications like data warehousing, data marts, etl tools etc. None of the surveyed institutes are using it. This might be due to lack of knowledge or high cost associated with it.

However most of them are using integrated software like erp followed by multiple software’s for different processes. This clearly shows increasing implementation of information technologies in management of higher education institutions.

**FIG 1 -Technology Platform**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid FTS	12	30.0	30.0	30.0
DSFDD	13	32.5	32.5	62.5
ERP	15	37.5	37.5	100.0
Total	40	100.0	100.0	

As far as leadership backgrounds’ influence is concerned it can be seen from fig 2 that institutes with owners from educator background are using information technology to manage their institutional activities by using either multiple software’s or erp. In fact none of them were using only financial transaction systems.

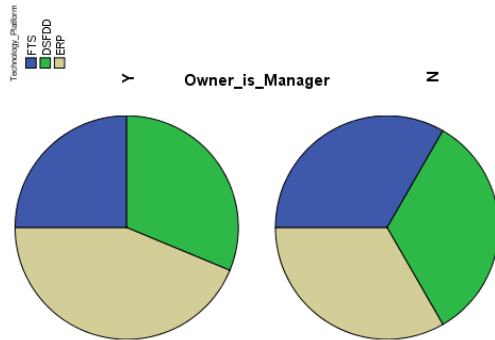


**fig 2**

As per our observations from the questionnaire we found that in lot of institutions the owner is not managing the institution himself. A principal or director has been appointed to take care of administration.

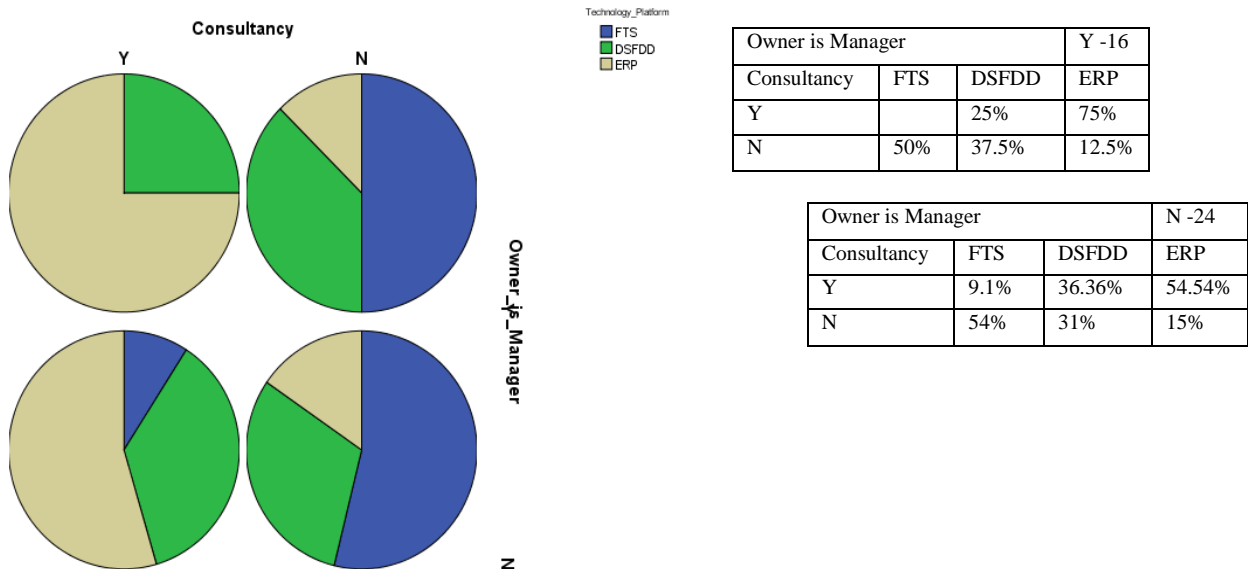
It is quite evident from fig 3 that most institutions where owner is managing are using either multiple software’s or erp. This percentage decreases where the owner is not involved.

Owner_is_Manage	r	FTS	DSFDD	ERP
Y	16	25%	31.25%	43.75%
N	24	33.33%	33.33%	33.33%



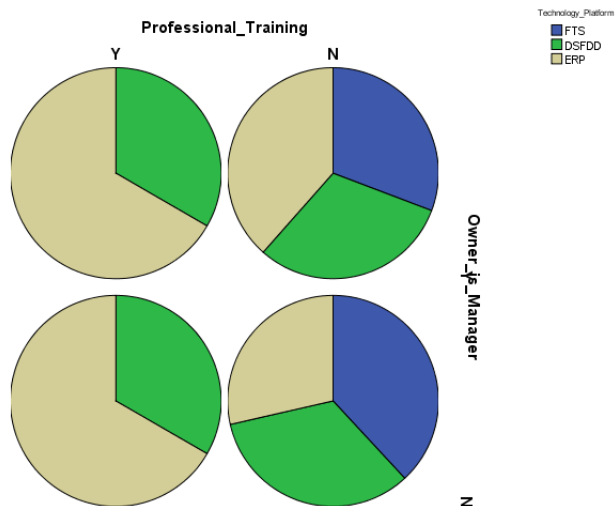
**fig3**

As it can be seen from the above graph that in both the above cases whether the owner is manager or not, there is difference in level of implementations. This is due to the affect of consultancies taken by these leaders or a affect of professional training done by them.



**Fig 4**

As seen from the above chart, the level of technology adoption increases with consultancy undertaken in both cases when the owner is manager or not. Similarly the level of technology adoption has increased when the leader has undergone professional training.



**Fig 5**

Owner is Manager			Y
Professional Training	FTS	DSFDD	ERP
Y		33.33%	66.67%
N	31%	31%	38%

Owner is Manager			N
Professional Training	FTS	DSFDD	ERP
Y		33.33%	66.67%
N	38.1%	33.33%	28.57%

It was observed that the educational qualifications of the manager in charge, be it the owner or director or principal did not affect on the level of adoption of information technology.

It was also observed that with better level of technology adoption, the depth of the technology adoption also increased. It can be seen in the below mention table.

Technology Platform	Across Institution	Some Departments
FTS		12
DSFDD	7	6
ERP	12	3

**Fig 6**

Better level of adoption technology had resulted I higher level of staff training, dedicated it administrator and internal management of information technology applications.

Technology Platform	Staff Training (Y)	Staff Training (N)	IT Admin (Y)	IT Admin (N)	IT Management (Internal)	IT Management (Outsourced)
FTS		12	2	10	2	10
DSFDD	11	2	12	1	11	2
ERP	14	1	15	0	11	2

**Fig 7**

As observed in this analysis, ownership and institutional leadership has a direct impact on adoption of information technology. The impact is evident in case of manager in charges' leadership irrespective of their educational backgrounds. Also it was observed that leaders professional training in institutional administration and consultancy on information technology applications has also impacted their decision to decide for implementation of information technology for institutional administration.

## II. Limitation and Delimitations

This analysis was conducted using a section of the population of higher education institution that are based in the city of Lucknow. Preliminary survey tool was evaluated via a pilot study of a lesser number of higher education institutes and experts.. This study will not try to describe the speed, basis, and reason for acceptance of information technology but only limit to type of technology platform used. It will though specify details related to level of adoption and leaders profile influence on type technology platform used. It has also analysis related to affect on staff training, recruitment of dedicated it administrator and internal or outsourced management of information technology. This study will not reflect implementation of IT by business units other than higher education and it will not assess issues beyond those classified in this study.

## III. Conclusion

The changing function of Information Technology in higher education has been well recognized. Information technology acts as the basis for the business of the organization, aids new developments and

approaches to administration, teaching and offers new competences in research. IT is so much the composition of the institutes that its existence is often not entirely recognizable. In addition to an increased presence, though, the emphasis in the IT institute has moved from a tactical to a strategic outlook, one that accentuates the knowledge rather than the technology part of "IT". With the requirement for IT only increasing, understanding how organization leaders can best lead in these efforts is fundamental. The function of leader in higher education institutions is one that has developed in current environment. Technology is changing quickly and the education industry including higher education institutes are not left untouched by it. There is a belief that higher education will integrate technology through services and incorporation in classrooms and beyond. This provides an opportunity to IT to be tool of significance for the leader as in current setup, the institute leader has developed from a facilitator to a strategist —instead of just delivering technology, the leader now uses technology to determine future course of the organization. The institutional leader also specifies on how technology can best help both the sustainability and educational sides of the organization.

This paper outlines the results and offers the higher education institute an insight into the background of leaders who have been influential in implementation of information technology initiatives at their organization. The result might help the academic community with a new standard for leadership than can exploit the power of information technology to help them in developing the fundamental mission of the educational institution. Participants brought to the survey a variety of proficiencies that gave unique perception into these questions. Some participants had been in education for their full professions and worked as leaders or in related roles for several years. Others were comparatively new to their institutes and to higher education, having spent their jobs as business leaders roles in other organization. The analysis also lays importance focuses on professional raining of leaders specific to the profile. Also consultancy of IT services has been an important fact influencing leaderships approach to adoption of information technology. Understanding how to be effective in this educational scenario and how to distribute that knowledge in a valuable way is no easy job. This paper is an attempt to help in building a leadership, which can solve challenges of higher education institutions.

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