AC 2010-619: TRENDS AND BEST PRACTICES IN LEADERSHIP FOR ADMINISTRATORS OF INFORMATION TECHNOLOGY PROGRAMS

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Abstract

The stereotypical Information Technology (IT) professional has a very distinct set of personality traits which are often characterized as presenting leadership challenges for managers. Research suggests that to lead IT professionals, a unique set of characteristics must be developed by leaders. Research also observes that academic faculty in IT, may share the same challenging personality traits as IT professionals. In this paper, the authors will examine the literature to identify the relevant personality traits, compare the personality traits associated with academic faculty with those of IT professionals to demonstrate and explore the similar stereotypes, and explore how the leaders of this group attempt to lead them. This literature review will also investigate the skill sets and qualifications of the leaders of this group. Finally, this paper will review the observed trends in academic leadership and suggest recommendations for their application in IT programs and departments.

Introduction

An accurate definition of the leadership skill sets which are required to manage and lead information technology (IT) professionals is critical for organizational success. These leadership skill sets have evolved as the requirements and responsibilities of IT professionals have expanded. Similar skill sets are required to lead academic faculty, suggesting that the same issues and problems which confront the IT leader also confront the academic leader. The research into leadership skills and requirements for academia can arguably be considered limited, as suggested by this statement: “we need more studies that examine the interaction of individuals in the leadership process. New research needs to focus on campus teams and groups involved in shared leadership”. Leaders in academia must understand the academic role, which is becoming more ambiguous. The traditional role is not just to disseminate knowledge but also create it. This creation is through a research process designed not only for research methodology, but also to answer questions. IT professionals’ roles are expanding as technical skills are no longer adequate for job performance and roles are being re-evaluated. Barry Boehm (2006) observes “COTS [commercial-off-the-shelf] components are also requiring reprioritizing the skills needed by
software engineers”. The research also recognizes the need for the re-tooling of the IT professional and academic leadership. This re-tooling is across the spectrum of skills which creates a challenge for the IT professional and academic faculty in what skills to focus in on and to what degree to enhance them.

The balance of this literature review is segmented into the following sections: an examination of the methodology of the literature review adhered to in this article; a brief perspective of academic leadership roles; a review of the issues of leadership within information technology; a discussion on the literature review; and a final section is devoted to the conclusions drawn from this literature review.

**Academic leadership**

Leadership in academia starts at the highest level of the administrative hierarchy. The challenges of the chancellors/presidents, deans, academic vice-chancellors, and other academic officers are changing as academic institutions adapt to the ever evolving environment within which they must operate. They are expected to lead faculty in decentralized curriculum development and academic planning. This group of leaders is also expected to set the direction for faculty with respects to teaching, service, and scholarship. They must understand their institutions’ educational mission and oversee all of the learning resources. Beyond the academic concerns that must be addressed, these administrators must also facilitate the development of the infrastructure involving strategic planning and budgeting.

Research provided by Keim and Murray (2008) suggests that many of these high level academic leaders are retiring and observes that there are not qualified administrators to replace them. They found that only 37% of Chief Academic Officers (CAOs) are interested in becoming Chancellors or presidents and many of this group is also aging. They took the research one step further, and discovered that the group of administrators that are in line to replace CAOs is also dwindling. They report that “searches for top-level administrators are taking longer, costing more, and producing fewer and less qualified candidates, causing some pundits to predict that colleges may have to settle for less qualified individuals”. This further suggests that those less qualified candidates will be less qualified to take on the leadership roles within academic institutions. These predictions of less qualified candidates would be bolstered with an examination of current qualifications of those appointed to leadership roles.

Keim and Murray (2008) also observed that not only is there an issue with respects to qualified candidates, but that there is a need for progress in gender equality. Their research indicated that women represent only 32% of community college presidents while constituting 51% of the faculty. There is a need “to step up efforts to recruit and identify women with leadership potential and encourage and mentor them”. The disparity in leadership roles has provoked statements such as “it is against the law to discriminate on the basis of race or gender, disability, or sexual orientation. There would be far fewer glass ceilings if the law were enforced”. This type of rhetoric is aimed at removing the “good old boys’ way of doing it” and creating competition among all the disparate groups. Wolfinger, Mason and Goulden (2008) suggest that women in academia are hindered by the dual role of child rearing and career, which partially
explains the lack of promotion within academia, but this only represents one possible rationale and these underlying inequities need further research.25

The issues facing higher-level administrators in academia requires a diverse set of abilities. Gray and Armstrong (2003) recommend that “A future dean must have vision and enthusiasm to lead change, be cognizant of trends, create flexible business plan, recognize new opportunities and serve as a catalyst for change”.10 The research suggests that high level administrative positions are in a state of evolution which involves many issues, including the vision to lead faculty. Stevenson recommends that this group of administrators must take full advantage of the knowledge outcomes for both faculty and students.

Academic leaders at the Department Head/Chair (DH/C) level are leaders who spend a large amount of time managing conflict, which not only involves those they manage but also their equals and those that they report to. The managing of conflict at the DH/C level is extremely complex when considering an environment where faculty are concerned with promotion, lack of accountability, and concerns of discipline.21 The knowledge that tenured faculty are considered by some, employed for life, may create added difficulty in leading and motivating this group. All these issues are compounded by increased enrollment with declining budgets. The DH/C plays three basic roles at a university or college: (a) academic, (b) administrative, and (c) leadership.15 The academic responsibilities involve teaching, research, advising, and curriculum development. Administrative responsibilities involve managing faculty and staff, budgets, record keeping, and representing the department. Leadership is focused on those they lead which requires them to motivate, support, and develop the faculty. It can be said that a DH/C plays a critical role in leadership within academia.

The research of Stanley and Algert (2007) was to investigate the various ways DH/Cs attempt to lead such a diverse group as faculty. One of the early realizations of the research was that conflict management was extremely high on the list of leadership responsibilities within the department. One of the biggest challenges is to create a sense of cooperation among a group of faculty that consistently have very differing viewpoints and can easily and dramatically disagree with one another. It was also quickly determined that there is little data on this particular topic at the departmental level and specifically the role of the department head.21 It should be noted that conflict resolution is a challenge for supervisors and front-line managers in all fields, but not all fields have the long term or lifelong employment issues present in academics.

The research that Stanley and Algert (2007) performed examined both quantitatively and qualitatively twenty (20) department heads from a research intensive university in the south consisting of three (3) women and seventeen (17) men with experience levels from 1 month to 23 years. The main purpose of the research was to ascertain the conflict resolution and leadership styles of department heads when dealing with faculty to faculty, faculty to staff, faculty to student, and staff to staff conflict and leadership issues.

Stanley and Algert (2007) provide great insights into the nature of faculty based on the type of conflict that a DH/C normally has to deal with. Their research identified six sources of conflict within a department that constitutes 60 % of the conflict that they deal with. These sources are: “(1) inter-faculty conflict, (2) faculty attitude, (3) unsupportive faculty, (4) unsupportive chair,
(5) role of evaluation, and (6) role of mediation” (p. 51). The remaining causes of conflict deal with administrative issues. The sources for conflict indicate that promotion plays a definite role in generating conflict and that much of the conflict places the DH/C between the faculty and administration, which is a tenuous position at best.

As Stanley and Algert (2007) suggest, there is no substantial research into the leadership roles within academia at the mid to lower level. They did discover that DH/C’s role is crucial to the overall leadership within an academic institution, and that the decision-making at this level is critical to the entire health of the environment within which the faculty must operate. Such items as faculty space, hiring decisions, and personality conflicts are common areas that affect the environment that DH/Cs must make decisions on and lead. That these types of conflicts are faculty-generated to a degree and involve posturing by those faculty, makes the task even more difficult.

The research validated the three main leadership responsibilities, which include personnel management, budgetary management, and instructional leadership. Personnel management involves the hiring, evaluating, supervision, and compensation of faculty and staff. Budgetary management as the term implies includes the allocation and acquisition of funds. Finally, instructional leadership requires the active supervision of course curricula including programs within the department. It also requires dynamic participation in recruitment and student retention. It was suggested that the major role of leadership involved the mediation and resolution of conflict, especially among faculty. These department heads typically developed their leadership and conflict resolution skills in a variety of ways. The most often method was through trial and error. Others attempted to glean information on skills development through books while some were afforded the opportunities to attend classes. One note should be made on mediation: while the formal definition of mediation generally involves a neutral third party to guide a conflict to an agreed resolution, mediation is frequently used to indicate the involvement of any third party. A supervisor or company employee cannot truly be considered a neutral, in that the person works for the same institution which may be considered part of the problem, or a party to the conflict to a greater or lesser extent. However, the term mediation is often used loosely to describe the involvement of any third party, not necessarily a neutral third party, in the dispute.

The research asked the participants how an academic institution could enhance their leadership skills and discovered three distinct themes for improvement. The first theme was that these individuals set aside time to meet and share ideas and best practices. There was virtually unanimous agreement that department heads should get together to discuss and share best practices, which discussion also takes on the role of training sessions. These training sessions could be in the form of case studies or other ways of learning strategies for leading and conflict resolution. Many institutions offer training in conflict resolution to their employees, including department heads and chairs, and a reasonable conclusion would be to encourage DH/Cs to seek out such training where possible. Also, there are often courses offered on campuses in leadership, management and supervision which focus on conflict resolution skills which also might be available to DH/Cs.

The second area of interest was to acquire a better understanding of how and when to lead and manage people. This area manifested itself in the desire of the department heads to understand
the differences between managing and leading, and when to manage versus lead. There was also
an expressed need to better comprehend the differences in styles of leadership between men and
women, though a review of literature by Stanley and Algert\textsuperscript{21} did not validate this preconception
by the participants. That, as managers, the role of gender is diminished as experience is gained.
This was subsequently validated with anecdotal observations by the participants.

Stanley and Algert (2007) concluded that academic institutions apportion resources for the
enhancement of faculty while at the same time ignoring, to a great degree, the development of
department heads. There needs to be a recognition that department heads are a vital and
important part of the leadership within the academic community and cannot be ignored.
Continuing to place under-trained or untrained individuals into these positions of leadership will
not provide the skills required to be successful, and concerted efforts need to be undertaken to
resolve these leadership and conflict resolution issues. The research examined a small group of
department heads, and additional research into conflict management practices and training at the
department head level would provide much needed data to understand the results suggested by
Stanley and Algert.\textsuperscript{21}

The three areas which are used in the evaluation of faculty at institutions that employ the tenure
process are teaching, scholarly, and service. -Riesman (1997) speculates that “The vast majority
of American professors teach … at levels that in other advanced countries would not get a
student into a good secondary school. … they have done no research since their dissertations and
they have had no ideas”.\textsuperscript{19} It is typically at the more prestigious colleges and universities where
one finds professors that publish and do research. Tenure advocates state that it is considered
essential for academic freedom and anything less (such as unions or the elimination of the tenure
tradition) would limit this freedom. One of the authors of this paper would note that this general
observation does a disservice to the many tenured faculty members who are active in their fields:
further research may be needed to quantify whether it really is the “vast majority” of professors
who become academic deadwood on achieving tenure.

The academic promotion process has come under increasing scrutiny as greater academic
accountability is being demanded by government and the private sector that fund a substantial
portion of these academic institutions. In an effort to mitigate these pressures on promotion,
many institutions have or are beginning to implement post-tenure reviews. These post-tenure
reviews are set up to improve and realign faculty development and skills “due to the realization
that it is quite difficult if not impossible to remove non-performing faculty”.\textsuperscript{26} This assumes that
non-performing tenured faculty can be improved by shifting the duties to be more in line with
their strengths, abilities, and most importantly their interests. It also assumes that the faculty
member is the problem in the equation, and does not focus on institutional issues, such as lack of
institutional support for tenured faculty, which may exist in some institutions. If tight funding is
prioritized toward faculty working their way toward promotion, there may be few or no
resources available for tenured faculty to participate in conferences, travel, or engage in other
professional development.

There are circumstances that create this attitude of non-participation. The limited number of
levels of achievement creates a pattern of early advancement plateaus. This is due to the rather
flat ranking and promotion system consisting of (a) assistant professor, (b) associate professor,
and (c) full professor. Once full professor is achieved there is little else other than administration that a faculty member can advance to, which leads to what many consider to be maxed out opportunities. This flat system creates a pattern of early productivity corresponding with promotion which then transcends into a period of decline when no further rewards or promotions are available. It is when the faculty matures that productivity tends to increase once more. This post-tenure review is designed to be proactive in nature to invigorate non-performing faculty and to energize the academic institution. It is also a mechanism to answer the critics of the tenure process.  

Tenure and promotion issues are of major concern in a rapidly changing educational environment. The intrusion of “for profit” institutions into the academic arena along with the proliferation of online delivery has opened new opportunities for employment for educators. These new opportunities have also created new roles and responsibilities for educators and those that lead. They also have initiated new pressures on academic institutions. Research on the effects of these rapid changes in academia would better define and understand the evolving roles of academic leaders.

**Information Technology Leadership**

The underlying need for identifying the actual information technology leadership skills can best be summarized with the rapid growth of the field as indicated by the Bureau of Labor Statistics for the period of 2000-2010. The article by Noll and Wilkins (2002) reports that “the 10 fastest growing occupations, computer-related occupations occupy eight of the top ten positions: software applications engineers, support specialists, systems software engineers, network and systems administrators, network systems and data communications analysts, desktop publishers, database administrators, and systems analysts”.  

This forecasted growth in the IT field requires a clear definition of these leadership skills to better prepare the IT professionals to lead those expected to fill these positions. Currently the demand for IT professionals outstrips the qualified applicants.

The research conducted by Bassellier, Reich, and Benbasat (2001) explores the competency of business managers in their abilities in IT leadership roles. Their research outlines the importance of the need for IT competency by business managers and develops guidelines for skills required. This IT competency is eloquently stated as “Business managers are now expected to deploy IT effectively and strategically, to assume ownership of IT projects within their domain of business responsibility, to develop a partnership with IT professionals, and to take the leadership in IT implementation”.  

These new competencies are necessary for an organization to prepare for the future and cannot afford inadequate leadership skills by its managers. The researchers surmise that IT competence on its own does not guarantee success for managers, that other factors such as leadership, partnerships with IT, and other business elements are essential. The conclusions drawn from the research and the proposed IT competence model is that IT personal and line managers need the underlying IT competence along with the ability to effectively lead IT personnel.

Leadership in IT requires many different skills to be successful. There are three reasons for the challenges in defining and planning to acquire IT skills. These reasons are (a) growth of IT has
created shortages in IT skills, (b) advancement in IT technologies have created new skills while eliminating outdated ones, and (c) realities of downsizing, outsourcing and cost reductions. The current belief that IT professionals are devoted to the technology and will not be interested in management decisions has create a perceived shortfall of qualified IT leaders. The statement by Steers, Mowday and Shapiro (2004) that “Managing knowledge workers continues to perplex experienced managers” is based on many of the complexities associated with the skill set of IT professionals.

The literature demonstrates that the leadership skills required to be competent in IT are evolving not only in the explicit skills required but also in the soft or professional skills such as leadership, which are more ambiguous. These soft skill requirements are a function of the new roles that IT professional must take on. As stated by Schambach and Blanton (2002) “because of their boundary-spanning role in organizations, analysts [IT professionals] need strong interpersonal skills, as well as technical and organizational knowledge, to be professionally competent”.

There have been a number of research studies identifying the need for technical skills among IS/IT (Information Systems/Information Technology) professionals. Research has shown that failures in IS/IT projects and strategies are due to a number of factors, including the lack of leadership and teamwork skills of the IT professionals. The ACM SIGITE recommendations as outlined in their “Computing Curricula Information Technology Volume” provides a detailed outline for IT curriculum. The proposed curricula do not address the need for soft skills, and if strictly implemented would ignore this important element in the IT professionals’ skill set. Comprehensive research into IT departments’ implementation of IT curriculum would further identify the trends in the soft skills relevance in IT education.

Discussion

The leaders in academia face similar problems as do leaders in IT with respect to the individuals they lead. IT professionals have been stereotyped in a very similar manner as faculty in academia. Many of the characteristics of the two groups can be compared and are quite similar. The high degree of creativity of both groups is one of these similar characteristics. Fagan (2004) suggests that IT professionals are extremely creative and defines creativity as “the production of novel and useful ideas by an individual or small group of individuals working together”. This definition is quite similar to the creation of ideas described earlier by academics.

Many researchers suggest that IT professionals are quite ambivalent to power and that the use of power by leaders is typically counterproductive. This disregard of organizational power is based on the notion that IT professionals are not reliant on one particular organization for employment and thus job security is not an issue. This same notion can be argued to be true with faculty as they are consider employed for life once they have been promoted. This employment for life notion thus suggests that faculty have no respect for a leaders’ power for motivation as there is little threat of termination.

It is suggested by Keim and Murray (2008) that there is a shortage of academic faculty qualified or willing to move into leadership and management roles. This lack of qualified personnel permeates through-out the various levels of academia. It is also observed that there are a
limited number of IT professionals that are qualified or willing to move into leadership roles as well. It has been observed by researchers that many IT professionals are either not interested, do not have the leadership skills, or are considered too isolated from other personnel to move into leadership roles. One of the major goals of both academia and IT is to find and train personnel for leadership roles within each of these disciplines.

Many academic institutions must wrestle with the issues related to promotion. The research has shown that tenured faculty are virtually impossible to remove and that the best way to take full advantage of their talents is to direct those faculty towards areas of competency. This re-inventing of non-performing faculty is a unique approach to motivation. Conversely, IT professional issues are quite different in that it is difficult for organizations to attract and retain qualified personnel. Ramlall (2004) reported “that 86% of employers were experiencing difficulty attracting new employees and 58% of organizations claim that they are experiencing difficulty retaining their employees”. The retention issues for these two groups seem quite diverse; the leadership challenges however are quite similar. It is the responsibility of a leader in academia to create an environment that will motivate the faculty to perform to their fullest. The IT leader must also create an environment that will motivate the IT professional to perform to their fullest while additionally creating an atmosphere for employment longevity.

It has been suggested by Taylor-Cummings (1998) that a culture gap has been created, whether real or perceived, between IT professionals and their counterparts in the business environment. The results of this culture gap are more of pre-conceptions rather than actual differences which has cost organizations tremendously in performance and success. There is also a culture gap that exists in academia (whether real or perceived) that has affected the faculty and their non-faculty counterparts. Gould (2006) suggests that the general public perceives tenure to be an anachronism, a relic of the past not viable in today’s environment. This perception as reported by Wood and Des Jarlais, (2006) proposes that not only do non-faculty counterparts perceive faculty adversely, but more importantly government and private funding institutions are also looking harshly at academia. Many academic institutions are taking steps to improve these perceptions. They realize the traditional academic freedoms of faculty can no longer be taken for granted and new corporate management models are being adopted bringing about many sought after efficiencies and accountability. The notion that faculty are simply employees as put forward by many “for profit” academic institutions is gaining acceptance, thus challenging the tradition of tenure.

**Conclusion**

The ASHE Higher Education Report in the article “Framing Leadership Research in a New Era” (2006) reports that “Research is needed to understand how the increasingly political and top-down nature of higher education will affect or transform current leadership trends”. The present research suggests that the leadership functions are changing as the roles of faculty are being re-evaluated. This re-evaluation includes the tradition of tenure which has come under great scrutiny due to its perceived inefficiencies along with the growth of “for profit” academic institutions.
While IT professionals and academic faculty are not necessarily cut from the same mold, the Information technology and academic leadership have many similarities and challenges. The personnel of both groups being led have many similarities. They both have been stereotyped, whether fairly or not. IT professionals are considered different and require a different set of rules to be led properly. As with academic faculty, IT professionals are less than responsive to power and their work is “less about behavior and more about thought, ideas, and the application of creativity.” The research suggests that IT professionals and academic faculty are quite similar and leadership roles need to be examined in greater detail through qualitative and quantitative research.

Bibliography


