Leadership in Information Technology: Leadership theories, perspectives and ethical dilemmas

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Overview of Leadership Theories

Leadership is a crucial component of having a successful organization. Leadership has been considered one of the most important components in the success of organizations according to Landis, Hill and Harvey (2014). There are numerous styles of leadership that have emerged over the course of human history.

The Great Man theory of leadership is based on early studies of persons who were already known as great leaders, often from aristocracy ("Leadership theories," n.d.). Adherents of the Great Man theory virtually ignored female leaders and believed that in times of need a great leader would arise in a mythical fashion (Landis, Hill & Harvey, 2014).

Trait theory proponents thought that leaders possessed qualities evident to those around them and based on certain traits and skills a person could become a great leader (Landis, Hill & Harvey, 2014). The list of inherited traits were determined by studying existing successful leaders ("Leadership theories," n.d.).

Behavioral theory changes the idea that leaders change the behavior of subordinates and identifies the concept that influence and persuasion from the leader changes subordinates’ performance in a visible way (Landis, Hill & Harvey, 2014). This takes into account the effects of rewards and punishments on the subordinates and a leader will a strong personality and positive ego ("Four Theories of Leadership," n.d.).

Situational theory is the belief that a leader depends on a range of situational factors (including motivation and capability of followers) to determine the best course of action. ("Leadership theories," n.d.). According to Landis, Hill and Harvey (2014), many U.S.
researchers believed that leaders were born and not made and that leaders recognized the need for certain actions in certain situations and was an instrumental factor through which a solution for a problem was found. A subset theory, personal-situational leadership theory, expressed that war and crises provided opportunities for leaders to emerge (Landis, Hill & Harvey, 2014).

Political theory espouses the view that wealthy, military, state and church should rule by competing for approval from the people and recognizing the wants and needs of the masses (Landis, Hill & Harvey, 2014).

Theory X and Theory Y both describe how the individual relates to the organization. Theory X states that people are directed and will not produce unless made to produce while Theory Y is based on an assumption that followers are motivated to fulfill the needs of the organization (Landis, Hill & Harvey, 2014). Theory X tends to create top heavy authoritarian style organizations while Theory Y creates a more participative management style where everyone is involved in the decision making process (“Theory X and Theory Y,” n.d.).

Leader-role theory suggests that situations and individuals combine and interact to bring about a group leader forming a structured set of roles and positions (Landis, Hill & Harvey, 2014).

Exchange theories state that the lead gain their status in exchange for goal accomplishments; this status and power is depleted when the group’s goals are achieved (Landis, Hill & Harvey, 2014).

Communication theory is based on leaders attaining the cooperation of the group members, this theory works best for a small group (Landis, Hill & Harvey, 2014).

The Transformational theory of leadership is a style that utilizes the leader working with subordinates to identify areas of necessary change, creates a vision to guide the change and
executes the changes (“Transformational leadership,” n.d.). While widely researched and successful, it appears incomplete for challenges facing current leadership (Latham, 2014). Some research shows that there is a positive relationship between transformational leaders and their followers’ commitment to the leader and the change process (Basu, 2015).

Servant-leadership theory is based on an ancient philosophy and utilizes a shared power system, putting the needs of others first and helping subordinates to develop and perform (“Servant-leadership,” n.d.). Servant-leadership is seen as an alternative to transformational leadership by some researchers (Basu, 2015). This style emphasizes collaboration, trust, empathy and ethical power usage as the leader is a servant first who is making the decision to lead to serve others better not for their own power (“Servant-leadership,” n.d.).

**Leadership Perspectives in Information Technology**

Leadership is an important and essential aspect of an organization; good leadership can get an organization through a rough time and great leadership can pull an organization out of a downward spiral. According to Basu, able leadership is critical for enacting a radical change in an organization (2015). Some scholars believe that too much credit for success and failure has been given to leaders but it is an important part that makes a difference in an organization (Latham, 2014). Modern organizations must be able to execute actions and innovate ideas to be successful because of multiple environmental pressures, leaders must organize a diverse workforce to do both to succeed now and in the future (Latham, 2014).

While transformational and servant-leadership are two prominent leadership styles that work well in Information Technology, there is little consensus as to what constitutes effective leadership and none of the leadership theories seem to answer the leadership challenges correctly at this time (Latham, 2014). Research has shown that there is a positive relationship between
transformational leadership and employees’ commitment to the change and their leader (Basu, 2015). Perhaps the inability of researchers to pinpoint a universal answer is indicative that there is no universal answer to leadership (Latham, 2014). Leaders must also make sure not to fall into a trap of their own devising by becoming either a micromanager, a lone hero, a reactionary or a long-distance manager.

**Micromanaging** is caused by a leader who feels they must be in control of every aspect of a project or their department. They do not delegate to their followers and require constant updates that delay the project due to the need to report the progress. According to Lesandrini, managers should spend around 35% of their time creating personal connections with their team members and stakeholders to prevent becoming micromanagers (2015). Micromanaging can stifle innovation, slow down workflow, prevent the full usage of employees talents and skills and cause employees to wait to proceed instead of working ahead for fear that their work will be changed drastically or invalidated completely (Blackney, 2013).

Information technology professionals subjected to micromanaging suffer from increased stress and other health issues such as high blood pressure or heart problems while also fearing for their job security and lack of motivation and confidence in their work due to constant revisions or denigrations of their work by their manager (Barnes, 2015).

**Lone Hero** is when the manager decides to do everything themselves because they cannot trust their employees to do the job they were hired to do. This can cause burnout for the manager as they feel that they are required to perform every function and resentment in the employees as they do not feel trusted or valued. Employee turnover is usually high as the employees leave the company or transfer to other departments. The leader should be helping
the organization move forward via collaboration and cooperation, not attempting to handle everything themselves (Muller, 2015).

In Information Technology, lone hero managers tend to cause a lack of motivation as the leader takes on all the assignments themselves and never allows their subordinates to perform their duties. As Lesandrini stated:

The familiar, easy and instant gratification of completing a task, assignment or project and receiving a reward (in emotional strokes) isn’t the way you “win” as a leader. Rather the spotlight is now on the achievements of the team the leader manages (2015, p. 206). This is not possible in a lone hero situation as the team has not really accomplished anything other than to show up for work as the leader has done all the work instead of leading their team.

**Reactionary leaders** are ones who wait until an issue happens (or even becomes critical) before taking action to remedy or resolve it. According to Muller, the reactionary leaders tend to wait for people to come to them to implement a solution instead of searching for new ways to advance the organization and its goals while proactive leaders develop business relationships (2015).

Information Technology employees subjected to reactionary leadership become complacent in the status quo and do not go above and beyond to improve their skills or expand their knowledge. They feel that there is no point in learning a new skill set if it will never come into play in their current position. They can also become resentful of any changes to the status quo like a new procedure or program that is thrown into their laps with little to no preparation or notice. This can create an aura of distrust and discourages the employees from bringing issues or concerns to their leader as it may create more work for themselves. As Lesandrini states
“Employees recognize and are drawn to good leaders. What motivates employees is not fear but honesty, confidence, loyalty, integrity and fairness” (2015, p. 207).

**Long-Distance Managers** are managers that do not connect with their employees (not a physical distance issue, although that can happen also with large organizations). Connecting with employees regularly establishes greater trust when providing feedback on accomplishments or areas for improvement (Lesandrin, 2015). According to Basu, supportive leadership from the very beginning is a key to success (2015).

Information Technology leaders need to connect with their employees to make sure that they are being utilized in the correct way and that they are not struggling or feel “cut off” from the rest of the department or company. Feeling “cut off” can prevent an employee from performing actions or asking questions due to job insecurity concerns. An emotional connection helps a team find courage and acceptance which prevents a culture of fear and gives a competitive edge (Basu, 2015).

**Leadership Effectivness**

Leadership is a tough area to assess effectiveness as a common and comprehensive definition of success in leadership is needed. Most organizations evaluate leadership effectiveness on a single measure such as economic profit (Latham, 2014). This method does not necessarily work for Information Technology departments as they are often cost centers due to the background functions and process that are performed.

True leaders embrace the challenge and accept the risk which requires a blend of vision, courage and endurance while also not adopting a passive pose as technology is constantly advancing; this means the leader’s responsibilities are growing along with the employees’ talents and skill sets (Muller, 2015). According to Lesandrin, “Without credible leadership employees
don’t buy into the corporate mission and vision, resulting in a disengaged workforce that puts self-interest first” (2015, p. 180).

Five key trends are influencing information technology accelerating transformation: Mobility, Cloud Computing, Big Data, Internet of Things (everything connected to the Internet including cars and refrigerators) and Identities (Muller, 2015). Leaders need to consider these five trends together instead of individually to get a real grasp of the vision and how to communicate it to their followers (Muller, 2015). As Basu states: “Leading by example is imperative as is clarity about what the organization wants to achieve” (2015, p. 36).

While these trends can exacerbate all of the following ethical issues, they are most likely to relate to specific issues. Mobility causes issues with Bring Your Own Device, Telework, Data Breaches, Electronic Discovery and Inappropriate use of computing resources. Cloud Computing can be impacted heavily by Outsourcing, Workplace Monitoring and Trade Secrets. Big Data can suffer from Fraud, Data Breaches, Corporate Social Responsibility and Misrepresentation. Internet of Things will have to deal with issues relating to Reverse Engineering, Open Source Code and Bribery. Finally, Identities will contend with Whistleblowing, Social Networks in the Hiring Process and H-1B Workers.

**Current Ethical Issues in Information Technology**

In addition to needing a leader whose leadership perspective and leadership theory mesh well with their followers, leaders must be aware of potential ethical issues in information technology.

**Breach of contract** is when one party does not meet the agreed upon terms of a contract (Reynolds, 2015). Breach of contract can be a major issue in any department but is especially necessary to guard against in Information Technology due to the ever changing nature of
technology. Some reasons that breach of contract charges can be brought are customer changing the project or requirements, lack of communication between customer and vendor, competition brings out a stronger product for less or the customer does not reveal all information necessary to implement the system (Reynolds, 2015). While the breach of contract might be unintentional (due to lack of foresight from customer) or intentional, defending yourself against it in court will cost substantial amounts of money and could take years to be settled sufficiently (Reynolds, 2015).

**Misrepresentation** is a misstatement or incomplete statement of a material fact according to Reynolds (2015). This can cause a breach of contract if the false information (or lack of information) was used as a basis for entering a contract.

**Bring Your Own Device** is a growing trend of allowing users to bring their own devices to work instead of providing them for each employee. The company may provide a single desktop computer but phone, laptop computer and tablet choice are left to the individual who desires one (Reynolds, 2015). The main ethical concern with BYOD is the blurring of the line between personal and work product and documents (Moody, 2014). While your personal emails and files are your property, the work documents and emails are property of your employee and the line can get crossed easily when bringing your personal device into the office. A balance between access to work product by the company and personal privacy needs to be established and followed by all parties involved to prevent unethical access or usage of the devices (Moody, 2014).

**Telework** is when an organization allows employees to perform their job duties from home (or other location) instead of requiring them to come in to the office (Reynolds, 2015). Telework can add some much needed flexibility to an employee’s life but care must be taken to
ensure that they are still as productive (if not more) at home versus working in an office. In addition there are concerns about the need to inspect their home to make sure there are no OSHA violations, which would invade their privacy by the organization (Mintz, 2013). Communication is key when allowing telework and rules must be established that clearly outline what is expected of the employee in return for the opportunity to work from home.

**Corporate Social Responsibility/CSR** is a concept that organizations should act ethically and take responsibility for the environmental impact their actions have (Reynolds, 2015). Corporate social responsibility includes all entities and individuals affected by a corporation and enables a more holistic picture of a business by including employees, consumers, communities and the environment (Patrignani & Whitehouse, 2015). Information technology organizations are becoming more important in society as they have a major influence and impact on the digital world and a CSR strategy is a critical factor in their success (Patrignani & Whitehouse, 2015).

**Corporate Ethics Office** or corporate compliance officer is an employee who provides an organization with leadership and direction in how the business is conducted (Reynolds, 2015).

**A Code of Ethics** is a statement that highlights an organization’s key ethical issues and identifies the principles and values that are important to the organization (Reynolds, 2015).

**Conflict of Interest** is a situation where there is a conflict between two parties interests in a relationship (Reynolds, 2015). This can arise from a leader’s use of his family members business for an event or an employee working for a client on a part-time basis while also providing support for their primary employer’s products.

**Data Breaches** are instances where a company’s databases are accessed by unauthorized individuals. This can be caused by poor security, a flaw (new or unpatched previously
discovered), social engineering (using data found online or pretending to be a valid employee of the company) or hacking into the system to steal the data. Organizations tend to be wary of revealing when they are hacked to prevent loss of customers or value in the stock market but laws have been enacted to force them to reveal the data breaches within a certain amount of time (Reynolds, 2015). They must also provide identity protection solutions to those affected when certain criteria are meet.

**Electronic Discovery** production, preparation and collection of electronic data for use in criminal and civil courts (Reynolds, 2015). E-discovery is an important topic for IT as they will be heavily involved in gathering the data requested by the court and attorneys and the data must be protected and verified at all times to prevent data destruction or concealment.

**Fraud** occurs when goods, services or property are obtained through deceit or trickery (Reynolds, 2015). This can be easily spiral out of control when employees have too much access or their roles are not defined properly. Enforcing segregation of duties, like ordering, authorizing and receiving, can help prevent fraud from occurring in an organization (Sherif, Pitre & Kamara, 2016).

**H-1B workers** are persons brought into the United States on a temporary work visa to fill a job in a specialty occupation when there is a shortage of qualified professionals (Reynolds, 2015).

**Outsourcing** is when a company sends their jobs overseas to a low cost labor market to save on salary and benefits (Reynolds, 2015). The Disney Corporation was recently sued by a replaced employee claiming that Disney and two consulting companies brought in H-1B workers illegally from outside the United States and displaced U.S. workers (Preston, 2016). In addition
to being terminated, the employees were forced to train their incoming replacements to keep their severance package (Preston, 2015).

**Inappropriate use of computing resources** is when an employee, contractor or consultant uses their workplace equipment to perform outside work (for themselves or as part of a second job) or when they are using their computer to visit pornographic or gaming sites (Reynolds, 2015). In addition to wasting your organizations’ time and resources, these sites can be an entryway for malware or an avenue for data breaches, or inappropriate sharing of information or trade secrets, that will consume even more resources as the infection must be cleaned or the information rescinded. This is particularly applicable to social media which is seen as a platform that can result in security concerns for organizations (Wakunuma & Stahl, 2014).

**Workplace Monitoring** is when an organization monitors and tracks their employees’ computer and Internet usage. This can be done to prevent inappropriate use of those resources or due to a need to prove that they employees are performing their assigned tasks (Reynolds, 2015). A good ethical usage of workplace monitoring was used to determine that an employee was outsourcing his own job to China, the company was able to track his computer usage across the network throughout the day and discovered he was surfing the Internet instead of working, the issue only came to light when a data breach was detected and thought to originate from his account (Semuels, 2013).

**Inappropriate Sharing of Information** is when an employee of an organization releases information that, while not a trade secret, is considered private data and has been classified as private or confidential (Reynolds, 2015). This can be done via social media, in person or via
electronic communications. The best method to prevent this unethical behavior is to limit access to data to only those that need it

**Trade Secrets** are information known only to employees that an organization has taken steps to keep a secret from the general public (Reynolds, 2015). Information Technology personnel have access to more systems than most employees due to the nature of their jobs. Care must be taken to prevent them from accessing or revealing information that they come across while performing their job duties.

**Malicious Insiders** are employees, contractors, or consultants that have been compensated by another entity for providing information from their employer to the other organization (Reynolds, 2015). The access they have to their company’s systems, data and products places them at a great advantage versus those trying to access the same through external means.

**Bribery** is when someone is paid (in goods or services) to obtain a business advantage (Reynolds, 2015). Usually done in conjunction with a malicious insider, it could be used to gain access to a organizations systems. Making sure to have a connection with employees, treating them fairly and providing adequate benefits can help prevent the lure of bribery from achieving its desired effect.

**Open Source Code** is any program whose source code is made available for use or modification, as users or other developers see fit according to Reynolds (2015). While open source code can be useful and just as thoroughly programmed as purchased code, it can cause organizations issues. Open source code is still under a software usage license of some type and violating that license can cause issue with either the originator of the code or possibly the user base of the software. Accountability is a big concern when dealing with open source software
due to the possibility of many different hands modifying and changing the source code (Grodzinsky, Miller & Wolf, 2003).

**Resume Inflation** involves lying on a resume by an applicant (Reynolds, 2015). This can create issues as an applicant could be hired for a job they are not truly qualified for as an attempt to gain inside knowledge (malicious insider) or simply because they want a particular job and hope to catch on to what is needed once hired. This can cause legitimate applicants to be overlooked or ignored and could lead to lawsuits if the deception is discovered by other applicants or employees.

**Social Networks in the Hiring Process** are being used more by companies to investigate their applicants and used as a screening method (Reynolds, 2015). One big ethical dilemma that has arisen around social networks used during hiring process is the requests for the applicant’s credentials. This is so that the potential employer can log in as the applicant and make sure they have not posted anything (private or public) that could embarrass the organization. Using the social networks in this manner could reveal protected information that should not be used in the hiring process such as race, sexual orientation or disability (Suflas & Gordon, 2012).

**Reverse Engineering** is the process of taking an existing item (physical or digital) apart to determine how it works so that it can be recreated without the need to pay for the diagram (or code). Originally applied to computer hardware, it can be applied to computer software also (Reynolds, 2015). Some uses of reverse engineering are so an organization can more effectively utilize a legally acquired device or program but some uses are so that a company can get an advantage over a competitor or to check for patent violations. Most software licensing disallows reverse engineering so some companies are moving their reverse engineering projects away from the countries where the agreements can be enforced (Reynolds, 2015).
**Software Piracy** is the act of downloading or sharing software illegally. While the software may have been purchased legally initially, the act of sharing the software with others is considered illegal due to the license agreement. This can include software that was purchased for one employee but as others requested it, it was installed across the organizations computers, or is taken home, without regard to the licensing restrictions (Reynolds, 2015). A recently brought lawsuit against the United State Navy by a German software provider is a prime example of how software piracy can spread without malicious intent but in an unethical way. The complete software packaged was provided on a trial basis (instead of a time or capability limited demo version) for installation on 38 computers but the software was installed across hundreds of computers as news of the software and its uses spread (Cox, 2016).

**Whistleblowing** is an effort to attract attention to an organization’s negligent, illegal, unethical or dangerous act by an current or former employee according to Reynolds (2015). According to a 2012 report, whistleblowing accounted for 43.3 percent of fraudulent activities reported that year (Sherif, Pitre & Kamara, 2016).

**Conclusion**

According to Sherif, Pitre and Kamara: “Leadership defines the cultural values for the whole organization. They set the tone at the top that guides the daily behavior of individual members” (2016).

While it is difficult to predict the social consequences of an emerging technology at an early stage (Wakunuma & Stahl, 2014), it can be advantageous to keep up with emerging technologies while keeping these ethical issues in mind, so that any potential ethical issues can be anticipated before they escalate to a level that is detrimental to an organization.
Information Technology leaders face a daunting task of keeping current with potential ethical issues that can impact their job and workforce on a daily basis while also juggling a variety of leadership styles that can clash with other leaders and subordinates. While this paper lists a multitude of ethical issues, there will be more created as technology advances and people adapt to the new technological changes.

Future research

Further research could be conducted to find the best method of IT leadership to handle the various ethical issues that IT leaders face during the course of their career determined by the number of instances of each ethical issue faced by a particular style of leadership. This would also help to determine if there is a correlation between leadership styles and ethical events. Another avenue of potential research would be to determine the rankings of the ethical issues based on number of occurrences in a particular organization or set of organizations. A possible follow up project could be to compare and contrast the leadership styles with subordinate personalities to determine the best style of leadership for a particular organization based on the common personality traits inherent in its employees.
References


Servant_leadership


Transformational_leadership