

THE INFLUENCE OF TRANSFORMATIONAL IT LEADERSHIP ON THE IT LEADERSHIP OF FOLLOWERS

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Abstract

Investments in information technology (IT) are underutilized, thus a key topic of IT Leadership is the enablement of IT utilization and increasing innovation through IT use. Most research about IT leadership focuses on the top-down leadership from the C-suite. As organizational hierarchy flattens, and teamwork becomes the new way of working, the IT leadership of team leaders and members becomes key to IT-use and IT-based innovation. In this study, we investigate the relationship between team leaders' transformational IT leadership and team members' IT leadership. Further, we investigate whether team leaders' and members' IT leadership increase team members' job satisfaction. We conduct an empirical study across seven countries and industries with 130 employees from different IT-teams. Our findings reveal that transformational IT leadership of team leaders is positively related to IT leadership of team members. We did not find a relationship between IT leadership and job satisfaction.

1. Introduction

This study investigates the role that team leaders play in empowering the team members to take initiatives to use and innovate with information technologies to perform their team tasks more efficiently, and whether such IT leadership influences team members' job satisfaction.

Since most organizational processes are enabled by information technology (Jasperson, Carter & Zmud, 2005), IT plays an important role in the business world (Afshari, Bakar, & Luan, 2009; Devine et. al, 1999). Yet, investments in information technology (IT) are underutilized (Li & Hsieh, 2007; Jasperson, Carter, & Zmud, 2005). The underutilization of information technologies by users has received considerable attention (Wang, Li, & Hsieh, 2013; Hsieh & Wang, 2007; Jasperson, Carter & Zmud, 2005). Depending on the industry, 'proper' IT use may even be "vital to create and sustain competitive advantage" (Li & Hsieh, 2007, p. 15). Research has uncovered that information technologies are far from saturation (Bjorn-Andersen & Raymond, 2014). According to Bjorn-Andersen & Raymond (2014) and Afshari, Bakar & Luan (2009), the implementation and use of IT is related to change, which requires strong IT leadership. The term 'IT Leadership' typically refers to the IT leadership of the C-suite, or the leadership of IT directors or managers. For example, Jasperson, Carter & Zmud (2005) suggests that the potential of IT lies in the management's hands by developing strategies, which encourage the use of IT in new and innovative ways (Jasperson, Carter & Zmud, 2005) that go beyond the minimum requirements of IT use (Li & Hsieh, 2007) to improve task performance (Kim, Malhotra, & Narasimhan, 2005).

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While most of the executive's IT leadership focus on adopting new and innovative IT, most of the benefits from IT use comes from increasing the utilization of IT after it is adopted (Jasperson, Carter & Zmud, 2005). This could take the form of individuals using IT to set and achieve performance goals or innovating with IT individually or in their teamwork. Since organizations increasingly become less hierarchical, and teamwork becomes the new norm of collaboration, IT leadership of individuals for their own work, and for their collaboration with their team members is key to increasing IT utilization. Yet, little research has been done in the post-adoptive phase, even though this is the longest phase and where most benefits accrue for the firm (Jasperson, Carter & Zmud, 2005). Although researchers agree that managerial support is essential for innovative IT use (Jasperson, Carter & Zmud, 2005; Bassellier, Benbasat & Reich, 2003), research has yet not explicitly addressed the influence of team leaders in stimulating IT leadership within their teams. To fill this gap, we ask the following general research question:

What is the influence of transformational IT leadership of team leaders on the IT leadership and job satisfaction of team members?

2. Theoretical Framework

This section introduces the theory on transformational IT leadership and IT leadership. In the remainder of this article, the term 'follower' and 'employee' are used interchangeably to refer to a member of a team, who is not the team leader.

Individuals' IT Leadership

We define IT leadership as motivating oneself toward the use of information technology in innovative ways for conducting tasks more effectively and efficiently.

While IT leadership term finds its source from the self-leadership concept in organizational theory, it extends the meaning of the term in multiple ways: (1) The term does not relate to the managerial control, (2) The term is relevant to IT use, regardless of what context one works, (3) While self-leadership is focused on getting oneself to do a task, IT leadership refers to using IT to do a task and even further, doing the task more effectively or efficiently using IT.

Originally Manz coined the term self-leadership as constituting "the core of the management process" because it complements managers' role by initiating an additional control mechanism, which "exists within each person" (Manz, 1991, p. 88). Self-leadership was the antecedent of self-management, which was defined as an approach for managers to "address self-regulation or higher level control standards" (Manz & Sims, 1980, p. 366) for followers to work more independently by using self-observation, self-goal-setting, cueing strategies, self-reinforcement, self-punishment and rehearsal (Manz, 1986). Self-management guides people to perform tasks because there is a necessity to do them and/or there is an extrinsic reward linked to their performance (Manz, 1986). Later, Manz augmented the self-leadership term, by including self-regulation related to intrinsically motivating tasks. By late

80's he defined self-leadership as "leading oneself toward performance of naturally motivating tasks as well as managing oneself to do work that must be done but is not naturally motivating" (Manz 1986). Currently, self-leadership term goes beyond self-management, by focusing on behavioral reinforcement, intrinsic motivation, and constructive thinking to enhance individuals' self-regulation and self-direction (Neck and Houghton 2006).

While the importance of self-leadership is established in organizational leadership literature (Houghton and Neck 2002), how individuals exhibit leadership with information technologies is not (Eseryel, Bakker, Eseryel, 2014).

We approximated Manz's (1986) reasoning to the IT context by suggesting that the team members who exhibit IT leadership are highly motivated to use IT, not because they are asked to do so, but because IT can contribute to better performance of their tasks. This behavior can be stimulated in a number of ways, amongst others by a transformational IT leader. While followers are invited to take responsibility and work independently (Houghton & Yoho, 2005), external leaders are nevertheless essential to reinforce self-leading behavior (Manz & Sims, 1987). Those external leaders are then taking a coaching role in the development of the follower (Stewart, Courtright & Manz, 2011) rather than a directing role, which can be undertaken by a transformational IT leader.

Transformational IT Leadership

In this paper the theory of transformational IT leadership is being developed based on the solid foundation of transformational leadership theory. Different from the transformational leadership theory, which focuses on getting followers to go above and beyond in their work in general, transformational IT leadership theory specifically emphasizes the creation of an IT vision, and the encouragement of IT use innovatively. Given the possibilities and the importance of IT in today's dynamic and fast-paced business world (Houghton, Dawley & DiLiello, 2012) and the robustness of the transformational leadership concept across cultural contexts (Gundersen, Hellesoy & Raeder, 2012), it is essential to improve the understanding of transformational leadership with regard to IT. Transformational leadership was deliberately chosen for the research because it is recognized as a well-tested and stable leadership model.

Podsakoff, MacKenzie, & Bommer (1996) have developed a measurement instrument for transformational leadership, whose six components we explained below and brought into the IT context.

Articulating an innovative IT vision refers to individuals having a vision of using information technology innovatively and intensively to achieve the future goals of their team, unit, department or organization. The transformational IT leader would look for new ways to use IT, looks for how IT use can be increased to increase the effectiveness and efficiency of processes and inspires others in their team, unit, department or organization to adopt the same vision. Articulating a vision is a key characteristic of transformational leadership and crucial to encourage followers to work harder by establishing cognitive models that they can envision (Sun, Xu & Shang, 2014). Further, by providing an IT vision, the leader provides his/ her followers opportunity to innovate and explore ways that "go beyond routine usage" and can unleash the "potential of the system" (Li & Hsieh, 2007, p. 3). Moreover, providing followers

with an IT vision could improve the followers' motivation to engage more with IT and thus increase team members' IT leadership.

The second component of transformational IT leadership is *Role modeling IT use*. This refers to the leader not only talking about a certain IT vision, but showing the others that they really believe in IT by making use of IT innovatively themselves. By providing an appropriate model, a transformational IT leader is expected to behave as an exemplary user themselves, in order to increase followers' performance, their degree of IT leadership (Avolio & Gibbons, 1988) and employees' job satisfaction (Podsakoff, MacKenzie & Bommer, 1996). Yukl (2012) pointed out that a "leader must be able to communicate about technical matters with team members", which assumes that leaders are sufficiently familiar with information technology.

The third component of transformational IT leadership is *fostering collaboration through IT use*. This component refers to both leaders' abilities to define common goals, enhance collaboration and alignment of followers' interests (Li & Hsieh, 2007) and to enable and ease collaboration between different parties with appropriate information technologies. IT can support clarification and facilitation of goal-setting (Kark, Shamir & Chen, 2003) and increases employee empowerment by assigning expertise to followers (Zhang & Bartol, 2010).

Expectations of ideal IT use to increase work performance is the fourth component of transformational IT leadership. Transformational leaders have high performance expectations from their followers (Podsakoff, MacKenzie & Bommer, 1996). Transformational IT leaders may be leading various different organizations or teams, where followers job descriptions are non-technical such as being a marketing analyst. A transformational IT leader would expect the followers to use the best relevant information technology to ensure that organization as a whole can be a leader in the industry. For example, marketing analysts could use the appropriate marketing analytics tools and/or artificial intelligence technology to benefit from the novel capabilities that information technology affords the field. The transformational IT leaders further would expect followers to develop strong IT skills so that they can use cutting edge technology that helps ensure the best performance.

The fifth component of transformational IT leadership is *Individualized IT Support*. Many individuals, especially those whose training and main jobs are non-technical may have developed anxieties regarding their ability to successfully use information technologies. Others may not be aware of the most appropriate IT that would help improve their performance. The fifth component refers to transformational IT leaders taking into consideration the feelings and personal needs of individuals in encouraging them to use IT. Bass (1994) mentions the importance of individual consideration in developing transformational leadership. This factor is concerned with the leaders' ability to filter out individual wants and needs (Choi, 2006), show appreciation and involve their input in decision-making (Choi, 2006) with respect to IT identification, and use. Individualized support helps develop followers fulfill their potential (Lee, 2005). Choi (2006) identified that this component has a significant impact on job satisfaction of followers. By showing respect and considering their followers' feelings (Podsakoff, MacKenzie & Bommer, 1996), leaders can increase intrinsic motivation which in turn could make the use of IT to 'be enjoyable in its own right, apart from material returns', such as extrinsic rewards (Davis, Bagozzi & Warshaw, 1992). Sun, Xu & Shang (2014) stated

that, when leaders show interest and appreciation for their followers, team performance is affected positively.

Last component of transformational IT leadership is *intellectual stimulation for innovating with IT*. Intellectual stimulation is an important component of transformational leadership (Bass, 1994). Intellectual stimulation refers to thinking about alternative views, learning, questioning and looking for new processes and approaches to solve problems. By encouraging self-awareness and creativity, followers are stimulated to rethink visions and thinking patterns to arrive at new ways to “analyze and solve different kinds of problems” (Sun, Xu & Shang, 2014, p. 130). Transformational IT leaders go beyond transformational leadership in that they not only stimulate thinking about business problems, they stimulate creative thinking about IT use to solve business problems. The transformational IT leader helps followers view IT in a different way. They further motivate followers to consider how various IT could be used to solve business problems. A leader that encourages ‘out of the box’ thinking is likely to increase the chance of effective IT usage as employees are self-motivated to experiment with the technology and are not anxious to try out unconventional approaches. Wang, Li & Hsieh (2011), suggest that employees should be encouraged to make satisfying experiences with IT, which might be accomplished by intellectual stimulations of leaders for innovating with IT.

In this section, we discussed the components of transformational IT leadership, and the relationship of these components to IT leadership and job satisfaction of followers. Therefore we propose the following hypothesis.

H1: Transformational IT leadership of team leaders contribute to the job satisfaction of team members.

IT leadership

Related to the definition, given in the previous section, recent work of Houghton, Dawley & DiLiello (2012) and Andersen & Prussia (1997), has resulted in an abbreviated self-leadership questionnaire which will be used to measure IT leadership. In order to understand the three dimensions of self-leadership that Houghton, Dawley & DiLiello (2012) have identified, they will be described and brought into the IT context in order to arrive at the hypotheses which will be tested thereafter. The definition and respective measurement instrument of Houghton, Dawley & DiLiello (2012) is used because it provides a clear idea of what self-leadership entails and thereby allows the construct to be tested in the context of IT usage.

Georgianna (2007) and Neck & Houghton (2006) have named the first category ‘behavior-focused strategies’ which relate to the elements of self-observation, self-goal setting, self-rewards, self-correcting feedback and self-cueing. A high degree of behavior-focused strategies increases self-leadership abilities and should be supported by an external leader who provides coaching and support (Andressen, Konradt & Neck, 2012). This coaching and support can be stimulated by means of IT, such as monitoring performance and recommending alternative tools or solutions to work with. In the questionnaire of Houghton, Dawley &

DiLiello (2012), this category is summarized under the component *Behavior Awareness & Volition*. It corresponds to the component of *Providing an appropriate model* of the transformational leadership construct, as outlined above.

The next component is *Task motivation* (Houghton, Dawley & DiLiello, 2012) which deals intensively with motivation and the triggers that enhance motivation such as feelings of competence, self-control or the sense of purpose (Konradt, Andreßen & Ellwart, 2009). Georgianna (2007) described it under the term 'motivational strategies', which clarifies the categories' purpose more clearly. By providing followers with the right IT and proper training, intrinsic motivation can be increased. Above, it was described that *Articulating a vision* that is shared among all team members can enhance task motivation. Li & Hsieh (2007) and Jaspersen, Carter & Zmud (2005) support this argument in their research by stating that transformational leaders can have an impact on the degree to which employees use IT.

The last component of the concept of self-leadership is 'constructive thought strategies' (Georgianna, 2007; Neck & Houghton, 2006), later renamed by Houghton, Dawley & DiLiello (2012) to *Constructive Cognition*. This dimension draws deeply on the mental processes in order to picture and assess performance, enable self-talks and mental images which increase constructive ways of thinking and/ or perception (Georgianna, 2007). With regard to IT, those 'constructive ways' could be facilitated by a transformational leader who encourages experimenting with IT in order to stimulate different scenarios but also to increase the comfort level of employees while working with IT and possibly relates to the *Performance expectations* that a transformational leader has.

In line with the findings related to the 'classical' self-leadership, it was established that some followers develop more self-leadership skills than others (Manz, 1986). However, it is interesting to investigate whether IT overcomes differences in self-leadership abilities. Konradt, Andreßen & Ellwart (2009) uncovered that self-leadership can be learned and that employees who receive training in self-leadership, show increased mental performance, higher job satisfaction (Stewart, Courtright & Manz, 2011) and express less negative emotions. It can be assumed that a transformational leader should therefore be able to stimulate self-leadership learning which can be facilitated by IT, assuming that the leader possesses sufficient knowledge to provide meaningful coaching.

Based on the expounded concept of IT leadership, the following relation will be tested.

H2: Transformational IT leadership by team leaders increase IT leadership of team members

As mentioned in the previous paragraphs, past research by Sun, Xu & Shang (2014) and Choi (2006), has attributed transformational leadership a positive link to self-leadership and job satisfaction. Based on the assumption that transformational leadership therefore enhances self-leadership, higher job satisfaction could be seen as outcome of this relation. As a result of that, one can hypothesize that IT leadership should mediate the relationship between transformational IT leadership and job satisfaction. Therefore, this research aims to analyze the following:

H3: IT leadership mediates transformational IT leadership and job satisfaction.

The outlined relationships are summarized in the conceptual model below (Figure 1).

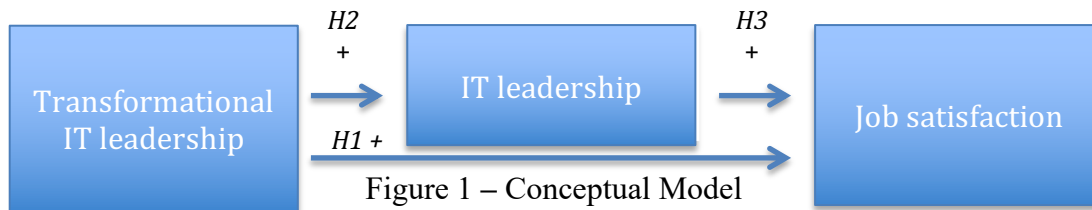


Figure 1 – Conceptual Model

3. Method

This section describes the preparation and process of data collection. It will be divided into four sections, namely participants, research setting, instrument pre-testing and refinement and measures.

Participants

This study was conducted among larger firms (> 50 employees) whose employees utilize IT on a daily basis. In order to test the concepts of transformational IT leadership and IT leadership, the research was conducted across industries, as can be seen in Figure 2 below. The sample comprised of 130 employees (N=130) from different teams and firms in which one employee per team was represented to ensure that each survey relates to a different (team) leader and accounts for team-level analysis.

Industries	Share	Industries	Share
Financial services	42%	Production	13%
Legal services	6%	Health care services	7%
Public services	8%	Energy services	12%
Other services	13%	Total	100%

Figure 2 – Distribution of teams per industry

The survey was sent out to 100 companies, which resulted in a response rate of 44% with regard to number of firms. In general, every company participated with an average of 3.38 teams in this study. The sample consisted of 58% male and 42% female participants with a mean age of 35 years. 70 participants (54%) came from the Netherlands, 40 participants (31%) from Germany and 20 participants (15%) from organizations in Poland, India, USA, Canada and Bulgaria.

Research settings

Prior to sending out the survey link, all companies were contacted with a short description of the survey. Further, this notification entailed information about the confidentiality of the

gathered information. This email also informed companies about the starting date of the data collection, which was April 15, 2014.

Two weeks later, the survey was distributed via e-mail and provided a link to the related survey. Participants were able to select the language of their preference and were asked to indicate which language they have chosen. Companies were asked to fill in the survey in a timely manner, without defining a specific time frame. Once a participant started the survey, he/she had seven days to complete the survey. After that, the respective survey was discarded.

Companies, who had neither reacted to the notification nor the survey, were reminded to participate after two weeks. Overall, the survey was accessible for six weeks.

Instrument pre-testing and refinement

Tested survey instruments for transformational leadership, self-leadership and job satisfaction were adapted to the IT context and used. Despite the survey instrument for job satisfaction by Warner (1973), most survey questions had to be adapted to account for the IT context which was of primary interest for this study. The questionnaire by Podsakoff, MacKenzie & Bommer (1996), which was used to measure transformational leadership was transformed to focus the meaning towards the leader's vision for the organization to utilize IT better. In an effort to convert all six components of transformational leadership to an instrument that measures creating a common IT vision for the organization, one component became irrelevant. This component is called *Individualized support*, and it measures whether the leader pays attention to the feelings of individuals. During the adaptation and pilot testing of the survey, we found that the adapted individualized support questions lost their face value, and became irrelevant to what we wanted to measure, namely the leader's ability to create a shared vision around IT. Therefore this component has been removed. A team of three researchers transformed the questions that relate to this component into an IT context. Thereby they tried to, on one hand, not distort the emphasis of the component, but on the other hand, clearly account for IT use.

In order to ensure comprehension of the questions, the adapted survey was pre-tested with three native speakers of each respective language. Understanding was checked by means of elaboration on the corresponding question with a pilot sample. The pilot revealed that understanding of the question was clear. Probing questions by the researchers increased the reliability of the questions by asking for possible scenarios relating to those questions. A final check was performed with two researchers to arrive at a more reliable survey. In order to account for any biases, two information systems professors were asked to control the questions for logic and understanding again. Nonetheless, to account for deviations across the three languages, a question concerning the chosen language was included to control for deviations in interpretation across languages.

The following table shows the initial and adapted components.

Transformational Leadership component	Transformational IT Leadership Component	Changes
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Articulating a vision	Articulating an IT-vision (TLAV = Transformational leadership Articulating Vision)	All questions were adapted
Providing an appropriate model	Providing an appropriate IT-role model (TLAM = Transformational leadership Appropriate Model)	All questions were adapted
Fostering group goals	Fostering the acceptance of group goals through IT (TLFG = Transformational leadership Fostering Goal)	All questions were adapted
High performance expectations	High performance expectations with IT (TLPE = Transformational leadership Performance Expectations)	All questions were adapted
Individualized support	Individualized support (TLIN = Transformational leadership individualized)	Removed
Intellectual stimulation	Intellectual stimulation with IT (TLIS = Transformational leadership Intellectual stimulation)	All questions were adapted

Table 1 – Comparison of components between initial and adapted concept of transformational (IT) leadership

Measures

Apart from the demographic information asked in the beginning of the survey, all questions had to be answered on a seven-point Likert scale ranging from ‘strongly disagree’ to ‘strongly agree’. Initially, the measurement instruments, which will be described below, have utilized a five-point Likert scale. According to Lozano, Garcia-Cueto & Muniz (2008), an increase of the items on the Likert scale increases reliability and validity of the data. Consequently, the number of items was increased to a seven-point scale. The concepts with its’ respective components and questions are described below. Likewise, the Cronbach alpha coefficients for the respective measures are presented.

Transformational IT Leadership. Inspired by the work of Podsakoff, MacKenzie & Bommer (1996), the authors’ survey to measure Transformational leadership was used and adapted for the context of IT. Thereby the questions were rephrased in a way to measure how employees perceive their leaders’ ability to stimulate IT usage. As explained in the literature review, the concept evolved around five dimensions: (1) Articulating an IT-vision (abbrev. *TLAV*) (5 items, e.g. “The leader is always seeking new ways in which IT can be used for the team“; $\alpha = 0.836$), (2) Providing an appropriate IT-role model (abbrev. *TLAM*) (3 items, e.g. “The leader uses the IT that he/she advocates, actively“; $\alpha = 0.846$), (3) Fostering the acceptance of group goals through IT (abbrev. *TLFG*) (4 items, e.g. “The leader encourages employees to use IT to collaborate as a team“; $\alpha = 0.843$), (4) high performance expectations with IT (abbrev. *TLPE*) (3 items, e.g. “The leader expects high IT-understanding to increase

work performance“; $\alpha = 0.792$), (5) intellectual stimulation with IT (abbrev. *TLIS*) (4 items, e.g. “The leader has provided me with new ways of looking at IT, something that used to be a puzzle for me“; $\alpha = 0.814$).

IT leadership. The concept of IT leadership was measured based on the adaptation of the survey of Houghton, Dawley & DiLiello (2012) into the IT context.

Self-Leadership Component	IT Leadership Component	Changes
Behavior Awareness & Volition	Behavior Awareness & Volition using IT (SLBA = Self leadership Behavior Awareness)	All questions were adapted
Task motivation	Task motivation to use IT (SLTM = Self leadership Task Motivation)	All questions were adapted
Constructive cognition	Constructive IT-Cognition (SLCC = Self leadership Cognitive Cognition)	All questions were adapted

Table 2 – Comparison of components between initial and adapted concept of IT Leadership

We added eight additional questions based on the work of Wang, Li & Hsieh (2011). Houghton, Dawley & DiLiello (2012) have identified three components, consisting of 9-items that describe self-leadership and were transformed into the IT-context in the following manner: (1) Behavior Awareness & Volition using IT (abbrev. *SLBA*) (3 items, e.g. “I establish specific performance goals for myself with the help of IT“; $\alpha = 0.806$), (2) Task motivation to use IT (abbrev. *SLTM*) (3 items, e.g. “I visualize myself successfully performing a task using IT before I actually do the task“; $\alpha = 0.762$), (3) Constructive IT-Cognition (abbrev. *SLCC*) (3 items, e.g. “Sometimes I talk to myself (out loud or in my head) to work through difficult IT situations“; $\alpha = 0.778$). The following table contrasts the initial components of Houghton, Dawley & DiLiello (2012) with the adapted components.

Additional components	Changes
Group impact of IT (SLGI = Self leadership group impact)	All questions were adapted
Innovate with IT (SLIN = Self leadership Innovate)	All questions were adapted

Table 3 – New components of the concept of IT Leadership

As noted, eight more questions were included in the survey based on previous research on innovating with IT. These items measure whether employees use their empowerment to stimulate development among their peers (group impact of IT; abbrev. *SLGI*) by stimulating

further IT usage and IT innovation (innovate with IT; abbrev. *SLIN*) or whether this relationship limits itself to the leader and the follower.

Those dimensions were added to the modified questions of Houghton, Dawley & DiLiello (2012) and described as two additional dimensions: (4) Group impact of IT (5 items, e.g. “When I see possibilities in the use of IT to make my job more efficient, I share this with my teammates “; $\alpha = 0.782$) and (5) Innovate with IT (3 items, e.g. “If I hear about a new information technology, I would look for ways to experiment with it”; $\alpha = 0.879$). Consequently, the following two components were added to the survey instrument of IT leadership.

Job satisfaction. In order to measure job satisfaction, the general job satisfaction survey from Warner (1973) was used. The basis for this survey has been established by Brayfield & Rothe (1951). The purpose with regard to the research was to measure the “general satisfaction with the work role in an organization” (Warner, 1973). The instrument has been used because it has proven to be a valid and reliable index of overall job satisfaction (Warner, 1973).

Before participants were asked to answer general job satisfaction questions, it was explicitly mentioned that they should relate the questions to their work in the team that they have referred to with regard to the transformational leader. The survey contained 14-items (abbrev. *JS1-JS14*) of which 8-items were negatively phrased to ensure that participants read the questions attentively (e.g. “I am disappointed that I ever took this job”). The overall reliability of the survey instrument was ($\alpha = 0.915$).

4. Results

Procedure and testing assumptions

Before starting the analysis, the survey output was checked for missing data. Surveys with missing data were discarded. This allowed 130 responses to be processed further. The KMO tests (figures 5 and 6) show that both transformational IT leadership and IT leadership meet linearity criteria of the principle component analysis.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.926
Approx. Chi-Square		1787.204
Bartlett's Test of Sphericity	df	153
	Sig.	.000

Figure 5 – KMO measure for “Transformational IT leadership”

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.795
Approx. Chi-Square		874.544
Bartlett's Test of Sphericity	df	78
	Sig.	.000

Figure 6 – KMO measure for “IT leadership”

As can be seen in Figure 5 and 6 above, Bartlett’s Test of Sphericity was performed, the null-hypothesis ($p < 0.05$) was rejected and therefore allowed for variable reduction by means of component analysis.

Principal component analysis

As for the concept of transformational leadership, the scree plot as well as the variance explained by the *Eigenvalue* suggested extracting three to four components describing the concept of transformational IT leadership (Figure 7 and 8).

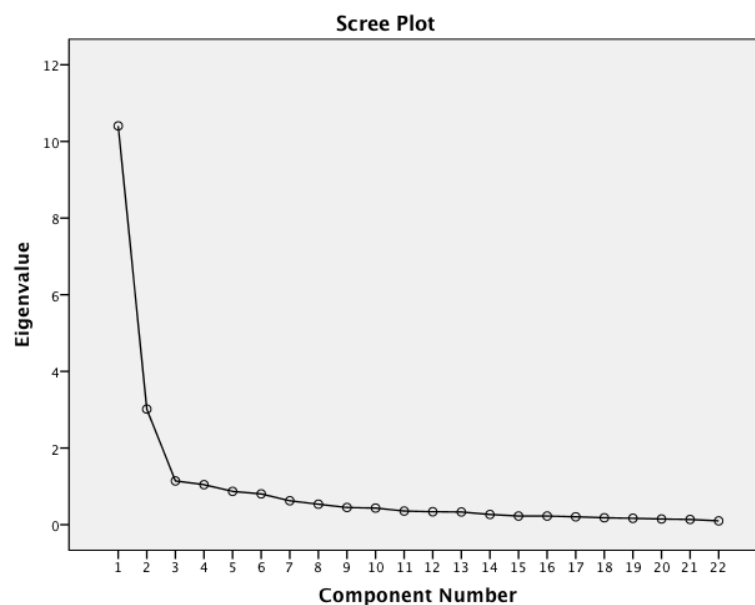


Figure 7 – Scree plot component suggestion for Transformational IT leadership

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	10.405	47.297	47.297
2	3.016	13.710	61.007
3	1.141	5.188	66.196
4	1.044	4.745	70.940
5	.870	3.953	74.894

Figure 8 – Eigenvalues for construct of Transformational IT leadership

However, even within these components, strong cross-loadings existed which demanded significant transformations. As outlined before, the component *TLIN*, relating to *Individualized support* showed low correlations. As most variables loaded on multiple components with higher values than 0.3, it was decided to remove the component *TLIN*. Although it was

removed, most variables still loaded on two components. However, the removal of *TLIN* reduced the number of recommended components from three to two components. As the survey was conducted by Podsakoff, MacKenzie & Bommer (1996) for the context of traditional transformational leadership, it may be that either the sample or the transformed questions were responsible for arriving at less than the initial six components. Ultimately, it was decided to use Transformational IT leadership as one component including *TLAV*, *TLAM*, *TLFG*, *TLPE* and *TLIS* which was named *TransLeadership*. The reason for that decision is rooted in the belief that Transformational IT leadership should to a great extent relate to the initial construct of transformational leadership. Further, the separation into two components, as suggested by the screeplot, did not reveal a separation that showed a logical allocation of variables. The total variance explained by *TransLeadership* accounted for 55.96%.

With regard to IT leadership, the component analysis, using *Direct Oblimin* rotation, suggested to maintain four components which explain 72.78% of the total variance. Initially, some cross-loadings existed, however three to five questions loaded clearly on one of the components with loadings above 0.60. Removing one question from *SLTM*, namely *SLTM1*, strengthened the loadings and reduced cross-loading in the rotated component matrix. After some rotations, content of the questions which loaded on the same components was analysed and upon that, further questions were removed, namely *SLCC3*, *SLGI3* and *SLGI5* (Appendix B). Thereby, it was possible to create a simple structure for the construct of IT leadership, as outlined in Figure 9 below.

As can be seen, *SLIN*, *SLGI* and *SLBA* load on one component only. The fourth component consists of questions relating to *SLTM* and *SLCC*. Given their context relating to task motivation and constructive IT cognition, it was rephrased to IT self-efficacy (abbrev. *SLSE*), which describes the eagerness to do tasks because the individuals feels that he/ she is enhanced and possesses the appropriate skills to perform beyond expectations using IT. For further data analysis, IT leadership was termed *Selfleadership*.

Pattern Matrix^a

	Component			
	1	2	3	4
SLIN2	.906	.064	-.005	.053
SLIN3	.901	-.055	.088	.032
SLIN1	.602	.098	.136	.205
SLCC2	.191	.829	.048	-.147
SLCC1	-.069	.821	.104	-.074
SLTM3	-.148	.763	-.012	.111
SLTM2	.163	.555	-.114	.177
SLGI4	.144	.019	.899	-.186
SLGI2	-.162	.023	.878	.211
SLGI1	.145	.021	.752	.101
SLBA2	-.106	.054	.126	.883

SLBA3	.193	-.088	.011	.790
SLBA1	.197	.114	-.022	.647

Figure 9-Simple structure of the construct of ‘IT leadership’

Regression analysis

The regression analysis, revealed that only one of three hypothesized relationships is significant:

H2: Transformational IT leadership has a positive impact on IT leadership with $F(1,126) = 44,892$, at $p < .00$.

The other two hypotheses, which are displayed below, did not show significant results, as will be explained below. Further, the results will be presented commonly as the result of *H1* impact the results of the analysis of *H3*.

H1: Transformational IT leadership has a positive impact on job satisfaction

H3: IT leadership mediates transformational IT leadership and job satisfaction.

With regard to *H1*, the regression analysis revealed that *TransLeadership* is not significantly related to *Jobsatisfaction* (Figure 14, Appendix A), $F(1,126) = 1.587$, $p > .05$. In their publication, Baron & Kenny (1986) lay out three conditions for mediating variables to be tested. Given that *H1* was not significant, the mediating effect of IT leadership can not hold. The requirement for a mediating relationship to be tested, according to Baron & Kenny (1986), is that there is a significant relationship between the independent (*TransLeadership*) and dependent variable (*Jobsatisfaction*), which is not given in this case. Moreover, the moderating effect of *Selfleadership* can and must be neglected as well, given that there is no “zero-order correlation between two other variables” (Baron & Kenny, 1986), specifically *TransLeadership* and *Jobsatisfaction*.

In order to illustrate those findings graphically, the conceptual model with the respective statistical numbers is outlined below (Figure 10).

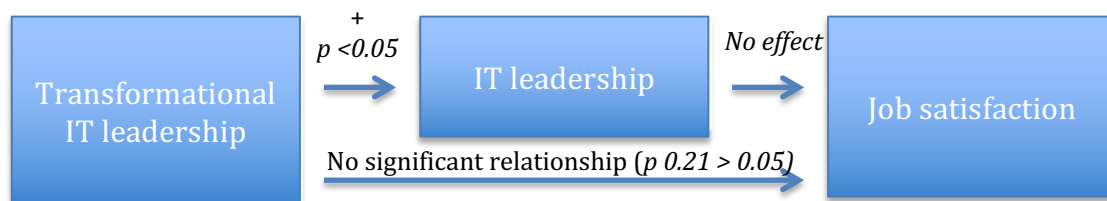


Figure 10 – Graphical illustration of tested relations

Control variables. A number of control variables were used to improve the validity and reliability of the results. With regard to the selection of the sample, control variables were used for gender, age, type of industry and survey language. The control variables for gender and age were proposed by Warner (1973), whereas industry and survey language were

considered to be appropriate control variables by the researcher to account for differences across industries and ensure that survey questions were translated coherently.

Although controlling for those variables did not shift the results considerably, some findings deviate from the overall outcome. The sample was divided into three age-groups. In the age group of 19-33 years, transformational IT leadership and job satisfaction showed a positive relationship of $F(1,70) = 4.186, p < .05$ (Figure 16, Appendix A). According to Baron & Kenny (1986), all conditions for an partial mediating effect of IT leadership hold within this control variable. This is an important finding given that 56% of the sample is categorized within this age group.

5. Discussion

The aim of the study was to link a number of constructs, which are relatively well established and researched into a new setting, namely the IT-context and test whether concepts such as transformational leadership and self-leadership can be condensed into that context. Although, this research delivers essential insights regarding the link of the constructs, it was not possible to demonstrate empirical evidence for all relationships.

The first link, being investigated, was the connection from transformational IT leadership to IT leadership. As outlined in the theoretical framework of this research, transformational leadership in the classical context stimulates self-leadership among followers. More explicitly, researchers in the past (Houghton & Yoho, 2005; Jung, Chow & Wu, 2003) have ascertained that transformational leaders trigger empowerment among employees.

This research aimed at contributing to the information systems field by using those findings and test whether transformational leaders who are willing and able to work with IT can mirror their attitude and behavior to IT towards their followers and enhance IT usage beyond expected usage. Given the survey instrument of Podsakoff, MacKenzie & Bommer (1996) as a basis, it was possible to transform and adapt the survey instrument in a manner that narrows transformational leadership down to the IT context, without compromising the initial construct of transformational leadership excessively.

The survey instrument which was employed to measure IT leadership was a combination of the work of Houghton, Dawley & DiLiello (2012) and new questions which relate to efforts of Wang, Li & Hsieh (2013). Given the conversion of the instrument into an IT context with additional question which no empirical study has drawn upon, it is striking that empirical evidence for the positive relation of transformational IT leadership and IT leadership was established, across all control variables.

The empirical evidence provided by this research contributes to the significance of transformational IT leadership in the information systems field. Even more importantly, the new survey instrument in particular, is an important point of contact for further research to take place.

Moreover, the survey questions which were taken from the work of Wang, Li & Hsieh (2013), add one important dimension to the initial construct of self-leadership. Namely, IT self-efficacy was identified as a crucial component of the self-leadership construct in the IT-

context. Wang, Li & Hsieh (2013) have elaborated on the concept of IT self-efficacy before, however it was not yet transcribed into the context of IT leadership. The established relationship thereby does not only illustrate the importance of empowerment through the transformational leader, but more essentially, the influence that the leader has on his/ her followers' willingness to experiment with IT and share experiences with their colleagues.

As opposed to the general conclusions, the control variables have outlined that a positive relation exists between transformational IT leadership and job satisfaction in designated parts of the sample. Elaborating on a positive relationship with regard to age groups, it is conceivable to argue that IT leadership might be more appreciated by younger employees (19-33 years) than by older employees, given that 56% of the sample belong to that age group. This proposition is supported by Venkatesh, Morris, Davis & Davis (2003), who conceptualized the 'Unified Theory of Acceptance and Use of Technology' (UTAUT), which proved empirically that age is the single moderating variable among three others, namely gender, experience and voluntariness, that moderates all four components of their model (performance expectancy, effort expectancy, social influence, facilitating conditions).

Combining the findings of this research with the work of Venkatesh, Morris, Davis & Davis (2003), it is conceivable that younger employees see the use of IT as an opportunity and tool for more efficient work, and thereby experience higher levels of job satisfaction. Moreover, the regression analysis for that control group indicated that IT leadership mediates the relation of transformational IT leadership and job satisfaction partially, which strengthens the claim that younger employees appreciate the empowerment through IT usage more than their older colleagues.

Although those claims are interesting to investigate, it should be kept in mind that other factors, which are outside the scope of this research, such as, the differing complexity of IT-tools across all firms in the sample, might influence followers' willingness to show self-leading behavior with regard to IT. Moreover, it must at this point be mentioned that although the constructs of transformational leadership and self-leadership were investigated thoroughly in research, the emphasis on certain components of the respective constructs as well as other motivating factor on side of the leader or follower might have influenced the study beyond the questions being asked.

The second link hypothesized that transformational leadership would have a positive impact on job satisfaction. This research was however not able to reenact the relation that other researchers have established outside the IT-context (Cho, Park & Michel, 2011; Choi, 2006). It can be argued that the survey instrument for job satisfaction, although measured by means of an overall job satisfaction survey was not specific enough to influence the relationship between transformational leader and followers in the IT-context. Also, the removal of the *TLIN* component within the transformational leadership construct for the purposes of the regression analysis, might be the explanation for this finding. *TLIN* explicitly dealt with the feelings and relations between leader and follower and was found to positively influence job satisfaction in the past (Choi, 2006; Lee, 2005). Given that the component did not fit in the principal component analysis of the construct, it had to be removed to arrive at a reliable model of transformational IT leadership. Further, the low correlations prior to the component analysis

and the above mentioned uncertainty whether *Individualized support* belongs to the transformational IT leadership construct, reinforced that decision.

Lastly, the link that this research tried to establish was the impact of IT leadership in the relationship of transformational leadership and job satisfaction. It was expected, given that transformational leadership and self-leading followers trigger higher job satisfaction (Cho, Park & Michel, 2011; Stewart, Courtright & Manz, 2011; Choi, 2006; Neck & Manz, 1996), that IT leadership would mediate this relationship. This research was not able to provide overall empirical evidence to attest this relationship. As already touched upon, the reason for the lack of evidence might be rooted in the selection and size of the sample, as will be explained in the following section. Particularly, because the unchanged job satisfaction survey by Warner (1973), was found valid and reliable throughout many research papers. Further research might also elaborate on ways to transform *TLIN* in a way that fits into the transformational IT leadership construct. One reason why the connection to job satisfaction may not have been observed may be related to our core assumption about the ability of the employees to freely choose the IT they use for their work. Our assumption was that the employees had sufficient freedom to choose various information technologies, and use them in a way that empowers them. However it is possible that IT systems implemented by the organizations do not lend much room for the respondents to be empowered or intrinsically motivated, due to high security or strict workflow processes.

Overall, this research provided important findings relating to the existence and positive relationship of transformational IT leadership and IT leadership, and likewise emphasizes the importance of the constructs in the information systems field.

6. Contributions to theory

The research was able to confirm the link of transformational leadership and self-leadership, which was investigated by Sun, Xu & Shang (2014) and Andressen, Konradt & Neck (2012). In the classical context, as well as in the IT-context, those two constructs, although transformed, show a significant relationship. Further, this conclusion strengthens the outcome of Gundersen, Hellesoy & Raeder, (2012) that the construct of transformational leadership holds across different cultural contexts. Data was collected across a number of countries and thus also across a number of cultures and shows clear signs of the existence of the transformational IT leadership construct.

The other relation between transformational leadership and job satisfaction which Cho, Park & Michel (2011) and Choi (2006) have found in their work could not be comprehended. As illustrated, the inclusion of age groups weakens this overall finding. Researchers in the field should therefore investigate how age influences the impact of transformational IT leadership on job satisfaction. One possible way to account for those age groups are by using a sampling technique that represents different age groups equally.

Lastly, this research has confirmed and extended the understanding of innovative use of technology. As Hsieh & Wang (2007), Wang, Li & Hsieh (2013) and Agarwal & Prasad (1998) have argued, innovative use of IT can be stimulated and this research was able to show

that a transformational IT leader is able to enhance this behavior. In line with the reasoning of Jasperson, Carter & Zmud (2005) and Bassellier, Benbasat & Reich (2003), this research has shown the importance of managerial support in using IT effectively. Within this research, the corresponding component of IT leadership was named *IT self-efficacy*. Further research should analyse to what extent transformational IT leaders contribute to innovative usage IT as compared to other factors, such as training, extrinsic rewards or type of industry.

7. Contributions to practice

Past research such as the work by Li & Hsieh (2007) and Jasperson, Carter & Zmud (2005) have argued that IT is underutilized. One of the practical goals of this study was to illustrate that large investments in IT are not necessarily the best way to increase performance in the face of global competition. Konradt, Andreßen & Ellwart (2009) have pointed out that self-leadership can be learned. As a result of this finding, businesses should select managers who have a high understanding of IT and possess leadership skills, as outlined by the components of transformational IT leadership, to communicate their knowledge to employees. Given that firms only attain 30-50% of the promised benefits (Jasperson, Carter & Zmud, 2005), while paying 178% of what they anticipated to pay (Wang, Chou & Jiang, 2005), the development and coaching of transformational IT leaders who enhance IT leadership among their followers could be an cost-effective approach to increase expected returns through innovative IT usage. Of course, this conclusion does not suggest that investments in IT should be avoided, however this research shows that 'investments' into the capabilities of managers and employees can increase overall benefits for the firm while having a clear outline over the budget.

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Appendix A. Survey Instrument

AGE= Participants age

GEN= Participants' gender

COM= Participants' company name

TSI= Participants' team size

TNA= Participants' name of the team

RESP	Respondent			
IP	IP- address			
START	Date the respondent started the survey			
END	Date the respondent completed the survey			
LANG	Language the respondent has used (control variable)			
AGE	What is your age?			
GEN	What is your gender? (control variable)	Man <input type="checkbox"/>	Woman <input type="checkbox"/>	
COM	What is the name of your company?			
IND	What type of industry? (control variable)			
TSI	What is the size of your team? (number of employees)	<10 <input type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
TNA	What is the name of your team? (team number/team name or description) The team that you name here shall also be the team that you refer to during the survey.			

Transformational IT Leadership

TLAV= Articulating an innovative IT- vision

TLAM= Role Modeling IT Use

TLFG=Fostering Collaboration through the use of IT

TLPE= Expectations of Ideal IT Use to Increase Work Performance

TLIN= Individualized IT-Support

TLIS = Stimulation for Innovating with IT

(rem.)= Removed after principal component analysis

Code	My team leader...
TLIS1	1. ... has provided me with new ways of looking at IT, something that used to be a puzzle for me
TLAV1	2. ... is always seeking new ways in which IT can be used for the team/department/organization
TLIS2	3. ... has ideas about specific IT that have forced me to rethink some of my own ideas I have never questioned before
TLAV2	4. ... envisions a more IT- intensive future for our work
TLPE1	5. ... expects employees to develop strong IT skills so that they can increase their work performance
TLFG1	6. ... fosters collaboration between individuals/teams/departments by using IT
TLIN1 (rem.)	7. ... acts without considering my feelings towards IT
TLFG2	8. ... encourages employees to use IT to collaborate as a team
TLAM1	9. ... actively uses the IT that he/she advocates
TLFG3	10. ... gets individuals/groups/departments to work together for the same goal using IT
TLAV3	11. ... has a clear understanding of how IT should be used to get where we want to be
TLIN2 (rem.)	12. ... shows empathy for my personal anxieties or fears about IT use
TLIS3	13. ... has stimulated me to think about existing problems in new ways using IT
TLIN3 (rem.)	14. ... makes thoughtful suggestions to help me use or personalize the right IT to fit my personal work style
TLIN4 (rem.)	15. ... pushes for IT use without considering my feelings towards IT
TLAV4	16. ... inspires others with his/ her plans to use IT in the future
TLPE2	17. ... insists on using IT to ensure best performance

TLAV5	18. ... is able to get others committed to his/her dream of innovating with IT in the future
TLAM2	19. ... is a role model with regard to IT use
TLFG4	20. ... develops a positive team attitude towards IT
TLPE3	21. ... will not settle for second best IT for the task/goal
TLAM3	22. ... leads by being an exemplary IT user himself/ herself

IT leadership

SLBA= Behavior Awareness & Volition using IT

SLTM= Motivation to use IT

SLCC= Constructive IT- Cognition

SLTM+SLCC = SLSE (IT- Self- efficacy)

SLIN= Innovate with IT

SLGI= Innovate with IT for Team Collaboration

(rem.)= Removed after principal component analysis

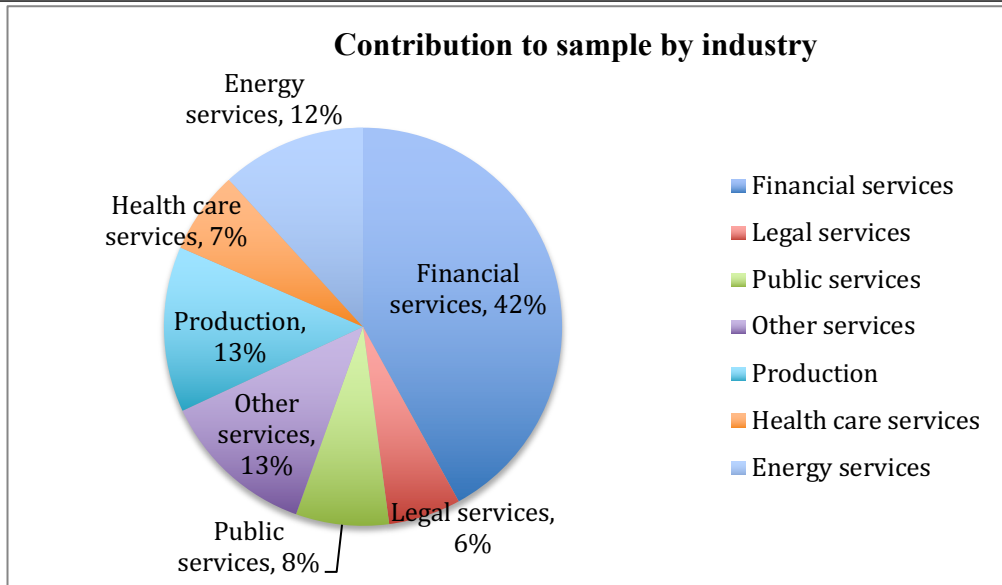
Variable	Question
Behavior Awareness & Volition using IT	
SLBA1	1. I establish specific performance goals for myself with the help of IT
SLBA2	2. I use IT to keep track of how well I am doing at work, although nobody requires me to do so
SLBA3	3. I use IT to reach my goals, although my task description does not require me to use IT
Motivation to use IT	
SLTM1 (rem.)	4. I visualize myself successfully performing a task using IT before I actually do the task
SLTM2 (became part of SLSE)	5. Sometimes I picture in my mind a successful performance before I actually do a task with IT
SLTM3 (became part of SLSE)	6. When I have mastered an IT, I often reward myself.
Constructive IT Cognition	
SLCC1 (became part of SLSE)	7. Sometimes I talk to myself (out loud or in my head) to work through difficult IT situations
SLCC2 (became part of SLSE)	8. I try to mentally evaluate the accuracy of my own beliefs about challenging IT
SLCC3 (rem.)	9. I think about my own beliefs and assumptions whenever I encounter difficulty when using IT
Innovate with IT	

SLIN1	10. Among my peers, I am usually the first to try out new IT solutions
SLIN2	11. If I hear about a new information technology, I would look for ways to experiment with it
SLIN3	12. I like to experiment with new IT
Innovate with IT for Team Collaboration	
SLGI1	1. When I see possibilities in the use of IT to make my job more efficient, I share this with my teammates
SLGI2	2. When I discover new IT solutions to improve team communication, I introduce this to the team
SLGI3 (rem.)	3. Most of the time I am the one introducing new IT solutions in our team
SLGI4	4. When IT solutions improve my own efficiency, I share this with my team
SLGI5 (rem.)	5. Because I share IT solutions in my team, my team is more innovative

Job satisfaction

Variable	Question
JS1	1. My job is usually interesting enough to keep me from getting bored.
JS2	2. It seems that my friends are more interested in their jobs.
JS3	3. I consider my job rather unpleasant.
JS4	4. I am often bored with my job.
JS5	5. I feel fairly well satisfied with my job.
JS6	6. Most of the time I have to force myself to go to work.
JS7	7. I definitely dislike my work.
JS8	8. I feel that I am happier in my work than most other people.
JS9	9. Most days I am enthusiastic about my work.
JS10	10. Each day of work seems like it will never end.
JS11	11. I like my job better than the average worker does.
JS12	12. My job is pretty uninteresting.
JS13	13. I find real enjoyment in my work.
JS14	14. I am disappointed that I ever took this job.

Appendix B. Distribution of the Participants Across Industries



Appendix C. Comparison of The Initial Surveys to the Adapted Surveys

Transformational Leadership Questions	Transformational IT Leadership Questions
My leader...	My leader...
Articulating a Vision	Articulating an Innovative IT Vision
2. Is always seeking new opportunities for the unit/department/organization	2. Is always seeking new ways in which IT can be used for the team/department/organization
4. Paints an interesting picture of the future for our group	4. Envisions a more IT-intensive future for our work
11. Has a clear understanding of where we are going	11. Has a clear understanding of how IT should be used to get where we want to be
16. Inspires others with his/her plans for the future	16. Inspires others with his/ her plans to use IT in the future
18. Is able to get others committed to his/her dream of the future	18. Is able to get others committed to his/her dream of innovating with IT in the future
Providing an Appropriate Model	Role Modeling IT Use
9. Leads by “doing” rather than simply be “telling”	9. Actively uses the IT that she/he recommends
19. Provides a good model to follow	19. Is a role model with regard to IT use
22. Leads by example	22. Leads by being an exemplary IT user himself/ herself
Fostering the Acceptance of Growth Goals	Fostering Collaboration through the Use of IT
6. Fosters collaboration among work groups	6. Fosters collaboration between individuals/teams/departments by using IT tools

Transformational Leadership Questions

Transformational IT Leadership Questions

10. Gets the group to work together for the same goal	10. Gets individuals/groups/departments to work together for the same goal using IT
20. Develops a team attitude and spirit among his/her employees	20. Develops a positive team attitude towards IT
High Performance Expectations	Expectations of Ideal IT Use to Increase Work Performance
5. Shows us that he/she expects a lot from us	5. Expects employees to develop strong IT skills so that they can increase work performance
17. Insists on only the best performance	17. Insists on using IT to ensure best performance
21. Will not settle for second best	21. Will not settle for second best IT for the task/goal
Individualized Support	Individualized IT-Support
7. Acts without considering my feelings	7. Acts without considering my feelings towards IT
12. Shows respect for my personal feelings	12. Shows empathy for my personal anxieties or fears about IT use
14. Behaves in a manner that is thoughtful of my personal needs	14. Makes thoughtful suggestions to help me use or personalize the right IT to fit my personal work style
15. Treats me without considering my personal feelings	15. Pushes for IT use without considering my feelings towards IT
8. Encourages employees to be "team players"	8. Encourages employees to use IT tools to collaborate as a team
Intellectual Stimulation	Stimulation for Innovating with IT
1. Has provided me with new ways of looking at things which used to be a puzzle for me	1. Has provided me with new ways of looking at IT, something that used to be a puzzle for me

3. Has ideas that have forced me to rethink some of my own ideas I have never questioned before	3. Has ideas about specific IT tools that have forced me to rethink some of my own ideas about IT I have never questioned before
13. Has stimulated me to think about old problems in new ways	13. Has stimulated me to think about existing problems in new ways using IT

Code	Self-Leadership	IT leadership
SLBA1	1. I establish specific goals for my own performance	1. I establish specific performance goals for myself with the help of IT
SLBA2	2. I make a point to keep track of how well I'm doing at work	2. I use IT to keep track of how well I am doing at work, although nobody requires me to do so.
SLBA3	3. I work toward specific goals I have set for myself	3. I use IT to reach my goals, although my task description does not require me to use IT.
SLTM1	4. I visualize myself successfully performing a task before I do it	4. I visualize myself successfully performing a task using IT before I actually do the task
SLTM2	5. Sometimes I picture in my mind a successful performance before I actually do a task	5. Sometimes I picture in my mind a successful performance before I actually do a task with IT
SLTM3	6. When I have successfully completed a task, I often reward myself with something I like	6. When I have mastered an IT tool, I often reward myself.
SLCC1	7. Sometimes I talk to myself (out loud or in my head) to work through difficult situations	7. Sometimes I talk to myself (out load or in my head) to work through difficult IT situations
SLCC2	8. I try to mentally evaluate the accuracy of my beliefs about situations I am having problems with	8. I try to mentally evaluate the accuracy of my own beliefs about challenging IT situations
SLCC3	9. I think about my own beliefs and assumptions whenever I encounter a difficult situation	9. I think about my own beliefs and assumptions whenever I encounter difficult situations when using IT
SLIN1		10. Among my peers, I am usually the first to try out new IT solutions
SLIN2		11. If I hear about a new information technology, I will look for ways to experiment with it
SLIN3		12. I like to experiment with new IT
SLGI1		1. When I see possibilities in the use of IT to make my job more efficient, I share this with my teammates
SLGI2		2. When I discover new IT solutions to improve team communication, I introduce this to the team
SLGI3		3. Most of the time I am the one introducing new IT solutions in our team
SLGI4		4. When IT solutions improve my own efficiency, I share this with my team
SLGI5		5. Because I share IT solutions in my team, my team is more innovative