# Can Your Leadership Increase Mine?
# Enabling IT Self-Leadership Through Transformational IT Leadership

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*Despite substantial investments by companies in technology projects, these resources are often not utilized to their maximum capability. People can enhance their use of technology by taking leadership in their IT use, i.e., by exhibiting IT self-leadership. This way, they may contribute to applying technology in ways that boost the innovativeness of their team. Therefore, the more IT self-leadership employees exhibit, the better the IT-utilization of the organization is. This study investigates the connection between the team leaders' transformational IT leadership and team members' IT self-leadership. Findings from diverse European teams in various industries indicate a positive relationship between the two.*

*Keywords: transformational IT leadership, TITL, information technology, IT self-leadership, IT leadership*

## INTRODUCTION

2024 Worldwide Information Technology (IT) spending is estimated to reach $5.06 trillion (LoDolce & Howley, 2024). The proposed presidential budget for IT spending at civilian agencies is $75.1 billion for 2025 (Fiorentino, 2024, p. 8). IT holds a significant position within the business landscape (Afshari et al., 2009) given increased dependence on IT in businesses (Jasperson et al., 2005), and in our personal lives (Nambisan, 2013). For that reason, executive leadership often emphasizes the adoption of novel and innovative technologies to be ahead of the competition: 25-30% of IT spending budgets mentioned earlier is expected to constitute new IT systems implementations, 30-40% on maintenance and upgrades, and 20-30% on operational expenses (IDC, 2023).

While an estimated $1.26 to $1.52 trillion will be spent on implementing new technologies in 2024, researchers indicate that new IT investments are often underexploited (Jasperson et al., 2005; Li & Hsieh, 2007). Thus, companies and governments are spending even more money, even though an estimated $1.3 trillion global spending on new IT investments in 2023 are most likely not fully utilized. Today, companies are trying to keep up with the competition in today's digital age. To stay competitive in the digital age, IT executives are worrying about how to exploit new technologies such as data analytics, artificial intelligence, and cloud computing, while ensuring cybersecurity.

Yet, effective digital strategies focus less about implementing new information systems. Rather, effective IT strategists focus on transforming aspects of their business, such as changing the culture and developing talent, to take advantage of information systems (Kane et al., 2015). There may be two ways senior leadership may develop capacity in an organization to take advantage of existing investments in information systems: (1) senior leadership may create a strong IT-vision on enabling the rest of the organization to exploit the existing IT systems, and (2) senior leadership may invest in increasing the self-

leadership capacity within the organization to increase bottom-up initiatives and ideas to increase IT utilization. Effective utilization and exploitation of IT is crucial in the digital age for organizational competitiveness (Li et al., 2007, p. 15). Accomplishing high level of IT utilization and exploitation requires change in the organization and strong IT leadership to facilitate such change (Afshari et al., 2009; Bjørn-Andersen & Raymond, 2014). In this study, we investigate how IT self-leadership of employees can be increased, to enable better IT exploitation by the organization. We specifically ask whether the transformational IT leadership of team leaders increase the IT self-leadership of team members. The next section introduces the theory of IT self-leadership and transformational IT leadership. Then it discusses the relationship between these two, to develop the hypotheses tested in this study.

## THEORY AND HYPOTHESIS DEVELOPMENT

### IT Self-Leadership (ITSL)

In the earlier section, we describe the need for increasing a capacity in the individuals constituting an organization to increase bottom-up initiatives and ideas to increase IT utilization. This capacity can be referred to as IT self-leadership. IT self-leadership was initially defined as the capacity to deliberately influence one's thoughts, emotions, and actions toward utilizing IT to achieve one's professional objectives (Eseryel, 2020).

IT self-leadership draws inspiration from the management field, namely from the self-management and self-leadership concepts developed by Manz and Sims since the 80s. Self-leadership was defined 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). Self-management was defined as "address[ing] self-regulation or higher level control standards" (Manz & Sims Jr, 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). These areas garnered significant interest and has been extensively studied over the years (Houghton et al., 2012).

While organizational leadership literature underscores the importance of self-leadership (Houghton & Neck, 2002), its application in leading with information technologies remains underexplored (Eseryel et al., 2014). The IT self-leadership theory addresses this literature gap: IT self-leadership focuses the ideas behind the self-leadership and self-management concepts on the context of IT use across various domains and contexts. While self-leadership and self-management theories within the management literature focuses on generic task execution, IT self-leadership involves the use of IT for task execution and for improvement of task performance.

IT self-leadership provides many benefits to the organization. IT self-leadership, similar to generic self-leadership requires the development of self-motivation and self-direction skills, ultimately leading to more desirable actions (Manz, 1992), this time with respect to IT utilization and exploitation. Self-leadership is positively associated with thriving at work (Liu & Zhou, 2024, p. 1406). When self-leadership is present, employees' work engagement, organizational commitment, and work performance increase significantly (Inam et al., 2023; Mujanah & Utami, 2023). Self-leadership further indirectly increases work performance through psychological empowerment (Maden-Eyiusta & Alparslan, 2022). Further, IT self-leadership is expected to foster a sense of control and accountability with respect to IT use, positively impacting IT-use outcomes (Manz, 1992). This, in turn, will increase the work effectiveness and efficiency, since most work depends on effective IT use. Further, IT self-leadership stimulates innovative behavior (Eseryel et al., 2014) just like self-leadership stimulates innovativeness and creativity of employees (Knotts et al., 2022). This is accomplished by improving communication, feedback mechanisms, brainstorming, networking, knowledge sharing, visualization, and adaptability. Innovative behavior is key to increasing IT utilization and exploitation. Exploiting existing information technologies require individuals being innovative with IT. It further requires individuals to explore different or better uses for information technologies than was originally prescribed at the time of an information technology implementation. Therefore, when the staff and management of an organization exhibits high levels of IT self-leadership, we expect the organization

to increase the rate of IT utilization and exploitation. This would increase the effectiveness of an organizational digital strategy (Kane et al., 2015), consequently increasing organizational competitiveness.

IT self-leadership strategy encapsulates three core dimensions, each constituting two sub-dimensions. TABLE 1 presents these dimensions, their sub-dimensions, and the description of each sub-dimension, as adapted from (Houghton et al., 2012; Neck & Houghton, 2006).

**TABLE 1**
**DIMENSIONS OF IT SELF-LEADERSHIP (ITSL)**

| Dimension | Sub-Dimension | Description of Sub-Dimension |
|---|---|---|
| Voluntary IT Use for Goals & Performance (ITSL_VOL) | *Goal setting with IT* | Set goals about one's own IT-use to increase one's performance. |
| | *Self-observation of IT use* | Examination of one's own IT-use behaviors and attitudes towards IT with the goal of changing, enhancing, or eliminating ineffective attitudes and behaviors. |
| IT-Use Motivators (ITSL_MOT) | *Visualizing successful IT-use* | Visualizing successful and positive experiences with IT, before using IT for a task. |
| | *Self-reward for IT Use* | Self-praise or tangible self-reward for successful IT use. |
| Constructive IT-thought Strategies (ITSL_TS) | *Evaluating beliefs and assumptions about IT* | Re-evaluating one's own negative thoughts and assumptions about technology with the goal of replacing them with more rational and effective ones. |
| | *Self-talk about IT use* | Individuals covertly tell themselves when facing IT-use challenges and problems. |

**Transformational IT Leadership (TITL)**

Transformational Information Technology (IT) Leadership (TITL) is inspiring followers to go above and beyond in their IT use to increase their own work efficiency and effectiveness (Eseryel & Biernath, 2024, p. 14). Two different instruments are adapted for the measurement of TITL. We will use the adapted extended TITL instrument used by Eseryel and Biernath (2024) from Podsakoff et al. (1996).

In adapting transformational leadership theory to IT setting, Eseryel and Biernath (2024) made five of the six components focus specifically on IT-use and IT-vision. The sixth variable, 'individualized support', was decided to be used as it was without adapting the questions through group discussions including the authors of this article. The reasoning was our assumption that individualized attention to followers' feelings are important, and that regardless of the context, the questions would capture the essence of this phenomenon. In their study, Eseryel and Biernath (2024) dropped this construct during the analysis stage, since it lost its face validity. In this study, we will keep all six constructs to test if the same outcome is observed. TABLE 2 provides the six components of transformational IT leadership and their definitions.

**TABLE 2**
**DIMENSIONS OF TRANSFORMATIONAL (IT) LEADERSHIP**

| Transformational IT Leadership (TITL) |
|---|
| ***Articulating an Innovative IT Vision (TITL_V)***<br>Identifying and communicating a vision of using IT innovatively and intensively to achieve strategic goals of their team, unit, department, or organization. |
| ***Role Modeling IT Use (TITL_Use)***<br>A leader's behavior with technology sets a precedent for employees to follow, aligning with the IT vision and values that the leader advocates. |
| ***Fostering Collaboration through IT (TITL_Col)***<br>Leadership actions focused on encouraging collaboration through technology. |
| ***Expecting High IT-Use Performance (TITL_Perf)***<br>The leader's standards for excellence, and high performance in utilizing appropriate technology for tasks set clear and high expectations for followers. |
| ***Individualized Support (TITL_IS)***<br>Leaders' individualized communication and concern for each of their followers' needs. |
| ***Stimulation to Innovate with IT (TITL_IwIT)***<br>Leader behavior that challenges followers to re-examine some of their assumptions about their work and rethink how it can be performed with IT, as well as creatively think about how IT can be used to solve business problems. |

Adapted From Eseryel & Biernath, 2024

## Relationship Between TITL and IT Self-Leadership

Team leaders' transformational induces employees to lead themselves because it motivates them to generate original ideas and fosters critical evaluation of their outcomes (Andressen et al., 2012). Avolio and Gibbons (1988) suggest that transformational leadership serves to increase others' self-management. By serving as a role model and motivating subordinates to develop innovative thought processes and think for themselves, transformational leaders are able to significantly enhance others' self-leadership abilities. Further, transformational leadership nurtures a capacity for independent and creative thinking in others. Transformational leaders engage in behaviors that empower their followers, making them less reliant on leadership (Yukl, 2013). Research has shown a high correlation between transformational leadership and self-leadership.

Leaders' encouragement of IT use increases employees' IT engagement (Afshari et al., 2009). Transformational leaders can influence employees' engagement with IT, thereby enhancing their efficiency and effectiveness in utilizing IT (Li & Hsieh, 2007). Numerous studies have emphasized the crucial leadership traits and skills that IT managers must possess to drive success in IT projects (Bloom, 1996). Thite (2000)identifies essential characteristics of transformational leadership that are evident in the behaviors of effective IT project managers. Leaders exhibiting specific behaviors can significantly enhance IT project outcomes (Andreu & Ciborra, 1996), and organizations with strong leadership capabilities are more likely to maintain an IT-driven competitive advantage (Dehning & Stratopoulos, 2003). Thus, we expect that leaders demonstrating transformational IT leadership qualities can motivate others to provide IT self-leadership and achieve optimal performance in IT-related tasks.

Eseryel (2020) confirmed this relationship within the educational setting. When a university instructor implemented numerous transformational IT leadership interventions, the instructor's transformational IT leadership had a positive relationship with the students' IT self-leadership (Eseryel, 2020). Within the organizational context, Eseryel and Biernath (2024) found a significant relationship between team leaders' transformational IT leadership and team members' IT leadership. They defined IT leadership to include three components; IT self-leadership, personal innovativeness with IT, and innovating with IT for team collaboration.

These arguments lead to the following research question:

*RQ: What is the relationship of Transformational IT leadership of team leaders with the IT self-leadership of team members?*

Since IT self-leadership construct has three components (TABLE 1), and transformational IT leadership has six components (TABLE 2) we answer our research questions by testing the following specific hypotheses:

*H1: Leaders' articulation of an innovative IT vision is positively related to (a) followers' voluntary IT use for goals & performance, (b) followers' IT-use motivators, and (c) followers' constructive IT-thought strategies.*

*H2: Leaders' role modeling behavior of IT use is positively related to (a) followers' voluntary IT use for goals & performance, (b) followers' IT-use motivators, and (c) followers' constructive IT-thought strategies.*

*H3: Leaders' behavior of fostering collaboration through IT is positively related to (a) followers' voluntary IT use for goals & performance, (b) followers' IT-use motivators, and (c) followers' constructive IT-thought strategies.*

*H4: Leaders' expectation of high IT-use performance is positively related to (a) followers' voluntary IT use for goals & performance, (b) followers' IT-use motivators, and (c) followers' constructive IT-thought strategies.*

*H5: Leaders' individualized support behavior is positively related to (a) followers' voluntary IT use for goals & performance, (b) followers' IT-use motivators, and (c) followers' constructive IT-thought strategies.*

*H6: Leaders' stimulation of others to innovate with IT is positively related to (a) followers' voluntary IT use for goals & performance, (b) followers' IT-use motivators, and (c) followers' constructive IT-thought strategies.*

## RESEARCH METHOD

### Data Collection

For this research, data were gathered from multiple companies through online surveys. Our sample came from organizations with more than 50 employees. The participants were individuals who utilized IT extensively for work on a daily basis. Since the analysis focused on individuals' perception of their leaders' transformational IT leadership behaviors and their own IT self- leadership behavior, only one individual was surveyed from each team. This avoided the influence of team level dynamics on the study findings. 75 men and 55 women fully completed the survey. The average participant was 35 years old. Standardized procedures and surveys were employed to ensure consistency across all organizations.

### Measures

The dependent variable (DV) was Transformational IT leadership. This construct and it six sub-components were measured using the TITL instrument (Eseryel & Biernath, 2024). The independent variable (IV) was IT self-leadership (ITSL). The survey instrument developed by Eseryel and Biernath (2024) was used to measure ITSL and its three sub-components.

## RESULTS

A principal component analysis was performed to assess reliability of the dependent and independent variables. The analysis identified six components of transformational IT leadership as in the original theory (Eseryel & Biernath, 2024), suppressing small coefficients with absolute values <0.50, in line with the guidelines of Hair et al. (1998) for datasets with 120 or more data points, which fits our dataset. The findings aligned with the components described in the literature review. The principal component analysis identified the following components (TABLE 3): individualized support (TITL_IS), stimulation to Innovate with IT (TITL_IwIT), expecting high IT-use performance (TITL_PERF), fostering collaboration through IT (TITL_Col), articulating an innovative IT vision (TITL_V), and role modeling IT use (TITL_Use).

**TABLE 3**
**PCA OF TRANSFORMATIONAL IT LEADERSHIP (TITL) AND**
**IT SELF-LEADERSHIP (ITSL)**

| | Rescaled | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Component | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| ITSL_VOL2 | **.885** | .075 | .112 | .000 | .154 | -.065 | .096 | .114 | .047 |
| ITSL_VOL3 | **.834** | .207 | -.034 | .078 | .050 | .090 | -.071 | .104 | .048 |
| ITSL_VOL1 | **.714** | .176 | .155 | .136 | -.094 | .224 | .223 | -.047 | .078 |
| ITSL_MOT2 | .142 | **.915** | .148 | .072 | .105 | .069 | .099 | .040 | .060 |
| ITSL_MOT1 | .265 | **.866** | .043 | -.017 | .149 | .052 | .056 | .109 | .103 |
| TITL_Col1 | .129 | .042 | **.818** | .021 | .246 | .090 | .038 | .095 | .383 |
| TITL_Col2 | .088 | .196 | **.772** | .069 | .275 | .145 | -.013 | .346 | .046 |
| TITL_IS1_rev* | .072 | -.083 | .065 | **.937** | -.096 | -.058 | -.041 | -.015 | -.115 |
| TITL_IS2 | .092 | .176 | -.016 | **.731** | .107 | .296 | -.026 | .156 | .097 |
| TITL_IWIT2 | -.047 | .174 | .366 | -.226 | **.789** | .154 | .081 | -.098 | .134 |
| TITL_IWIT3 | .205 | .166 | .200 | .210 | **.765** | .135 | .064 | .264 | .204 |
| TITL_V5 | .143 | .090 | .167 | .143 | .193 | **.898** | .064 | .161 | .029 |
| ITSL_TS1 | .134 | .121 | .014 | -.063 | .085 | .053 | **.969** | .065 | -.002 |
| TITL_Use1 | .175 | .143 | .372 | .128 | .089 | .204 | .097 | **.815** | .129 |
| TITL_Perf1 | .144 | .177 | .361 | -.061 | .267 | .034 | -.007 | .123 | **.832** |

(*) TITL_IS1_rev is the reversed coded variable for TITL_IS1

The composite reliability of the scale is above 0.7 and the values for Cronbach's alpha range from 0.781 to 0.837, which are above the 0.70 threshold. Therefore, items have a high level of internal consistency (TABLE 4).

## TABLE 4
## CRONBACH'S ALPHA

| | Mean | S.D. | TITL_IwIT | TITL_V | TITL_Perf | TITL_Col | TITL_IS | TITL_Use | ITSL_VOL | ITSL_MOT | ITSL_TS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TITL_IwIT | 3.93 | 1.408 | 0.814 | | | | | | | | |
| TITL_V | 4.78 | 1.452 | .412** | NA | | | | | | | |
| TITL_Perf | 4.79 | 1.617 | .564** | .228** | NA | | | | | | |
| TITL_Col | 4.67 | 1.487 | .634** | .385** | .647** | 0.830 | | | | | |
| TITL_IS | 5.21 | 1.246 | .015 | .258** | -.032 | .116 | 0.797 | | | | |
| TITL_Use | 4.95 | 1.586 | .390** | .453** | .413** | .607** | .233** | NA | | | |
| ITSL_VOL | 7.29 | 1.839 | .235** | .273** | .279** | .273** | .187** | .344* | 0.781 | | |
| ITSL_MOT | 4.38 | 1.535 | .390** | .253** | .349** | .316** | .090 | .325** | .411** | 0.837 | |
| ITSL_TS | 4,25 | 1.722 | .199* | .162 | .078 | .108 | -.066 | .189* | .247** | .240** | NA |

\* p<0.05; \*\* P<0.01. The Cronbach's coefficient alpha for each measure is on the diagonal in italics; the intercorrelations among the measures are on the off diagonal

The second PCA was conducted using a 9-item questionnaire focused on IT self-leadership. This analysis identified three components, which aligned with previously established components. To maintain consistency, coefficients with absolute values below 0.5 were eliminated (Hair et al., 1998). Our PCA analysis indicated strong loadings for voluntary IT use for goals and performance (ITSL_VOL) on component 1, IT-Use Motivators (ITSL_MOT) on component 2, and Constructive IT-thought strategies (ITSL_TS) on component 3. Additionally, some items were determined to be better excluded from the analysis (TABLE 5 & TABLE 6).

**TABLE 5**
**TRANSFORMATIONAL IT LEADERSHIP (TITL)**

| Code | My team leader… |
| --- | --- |
| Stimulation to Innovate with IT 2 | 3. … has ideas about specific IT, which forced me to rethink some of my own ideas about IT I have never questioned before |
| Expecting High IT-Use Performance 1 | 5. … expects employees to develop strong IT skills so that they can increase their work performance |
| Fostering Collaboration through IT1 | 6. … fosters collaboration between individuals/teams/departments through IT |
| Individualized support 1 (reverse coded) | 7. … acts without considering my feelings (Reverse coded) |
| Fostering Collaboration through IT2 | 8. … encourages employees to use IT to collaborate as a team |
| Role Modeling IT Use 1 | 9. … actively uses the IT that she/he/they advocate(s) |
| Individualized support 2 | 12. …shows respect for my personal feelings |
| Stimulation to Innovate with IT 3 | 13. … has stimulated me to think about existing problems in new ways using IT |
| Articulating an Innovative IT Vision 5 | 18. … is able to get others committed to his/her dream of innovating with IT in the future |

**TABLE 6**
**IT SELF-LEADERSHIP (ITSL)**

| Code | Use of IT for own tasks |
| --- | --- |
| Voluntary IT Use for Goals & Performance 1 | 1. I establish specific performance goals for myself with the help of IT |
| Voluntary IT Use for Goals & Performance 2 | 2. I use IT to keep track of how well I am doing at work, although nobody requires me to do so |
| Voluntary IT Use for Goals & Performance 3 | 3. I use IT to reach my goals, although my task description does not require me to use IT |
| IT-Use Motivators 1 | 4. I visualize myself successfully performing a task using IT before I do the task |
| IT-Use Motivators 2 | 5. Sometimes I picture in my mind a successful performance before I do a task with IT |
| Constructive IT-Thought Strategies 1 | 7. Sometimes I talk to myself (out load or in my head) to work through difficult IT situations |

Eighteen regression analyses were used to test our hypotheses, controlling for country and industry. TABLE 7 presents the outcomes.

**TABLE 7**
**RELATIONSHIP BETWEEN TITL AND ITSL**

| Transformational IT Leadership (TITL) | IT Self-Leadership (ITSL) | β Value |
|---|---|---|
| Articulating an Innovative IT Vision (TITL_V) | **Voluntary IT Use for Goals & Performance (ITSL_VOL)** | **.307**[**] |
| | **IT-use Motivators (ITSL_MOT)** | **.425**[**] |
| | **Constructive IT-thought Strategies (ITSL_TS)** | **.243**[*] |
| Role Modeling IT Use (TITL_Use) | **Voluntary IT Use for Goals & Performance (ITSL_VOL)** | **.145**[**] |
| | **IT-use Motivators (ITSL_MOT)** | **.267**[**] |
| | Constructive IT-thought Strategies (ITSL_TS) | .192 |
| Fostering Collaboration Through IT (TITL_Col) | **Voluntary IT Use for Goals & Performance (ITSL_VOL)** | **.137**[**] |
| | **IT-use Motivators (ITSL_MOT)** | **.331**[**] |
| | Constructive IT-thought Strategies (ITSL_TS) | .083 |
| Expecting High IT-use Peformance (TITL_Perf) | **Voluntary IT Use for Goals & Performance (ITSL_VOL)** | **.337**[**] |
| | **IT-use Motivators (ITSL_MOT)** | **.327**[**] |
| | Constructive IT-thought Strategies (ITSL_TS) | .125 |
| Individualized Support (TITL_IS) | **Voluntary IT Use for Goals & Performance (ITSL_VOL)** | **.276**[*] |
| | IT-use Motivators (ITSL_MOT) | .111 |
| | Constructive IT-thought Strategies (ITSL_TS) | -.092 |
| Stimulation to Innovate with IT (TITL_IwIT) | **Voluntary IT Use for Goals & Performance (ITSL_VOL)** | **.399**[**] |
| | **IT-use Motivators (ITSL_MOT)** | **.315**[**] |
| | **Constructive IT-thought Strategies (ITSL_TS)** | **.205**[*] |

*$**p<0.01, *p<0.05$*

Controlling for the type of industry and country, leaders' articulation of an innovative IT vision is positively related to (a) followers' voluntary IT use for goals & performance ($b=.346, p<0.01$), (b) followers' IT-use motivators ($b=.267, p< 0.01$), and (c) followers' constructive IT-thought strategies ($b=0.192, p<0.01$). Therefore, H1 is supported (FIGURE 1).

**FIGURE 1**
**RELATIONSHIP BETWEEN THE ARTICULATION OF AN INNOVATIVE IT VISION AND THE THREE COMPONENTS OF FOLLOWER'S ITSL**
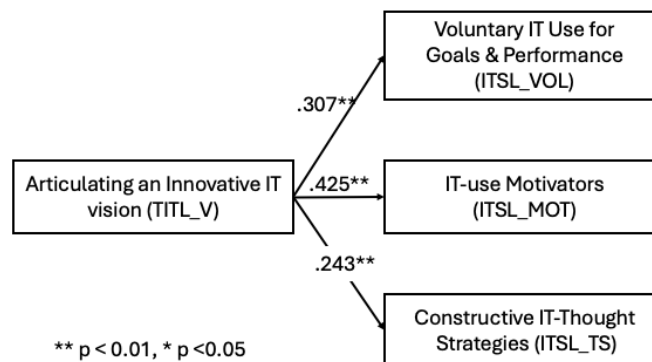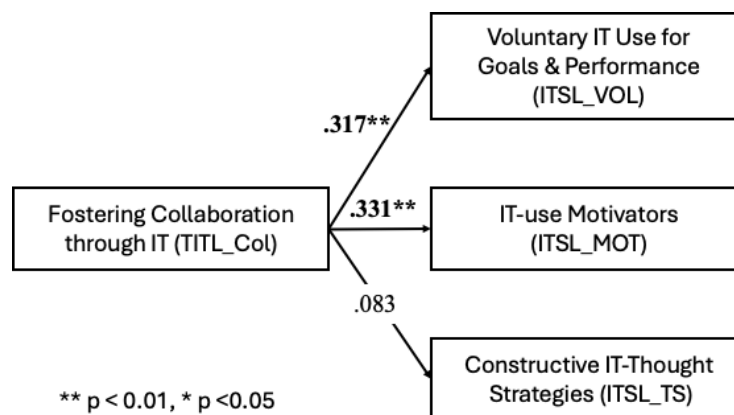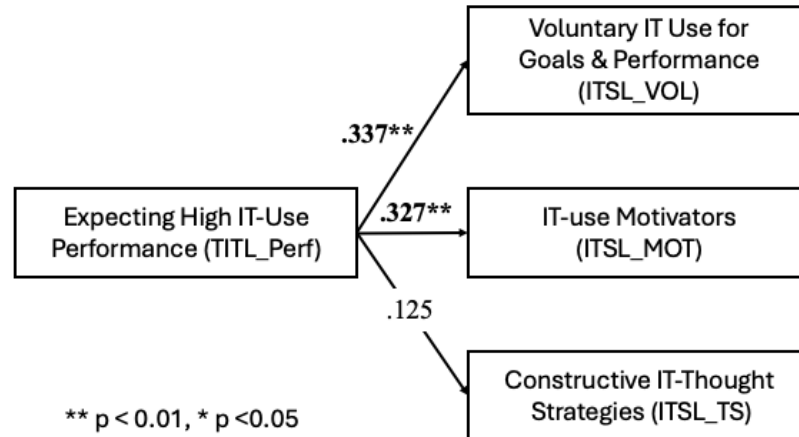
Controlling for the type of industry and country, leaders' role modeling behavior of IT use is positively related to (a) followers' voluntary IT use for goals & performance (b=.399, p<0.01), (b) followers' IT-use motivators (b=.315, p<0.01), and (c) followers' constructive IT-thought strategies (b=.206, p<0.05). Therefore, H2 is supported (FIGURE 2).

**FIGURE 2**
**RELATIONSHIP BETWEEN THE TRANSFORMATIONAL IT LEADER'S IT-USE ROLE MODELING BEHAVIOR AND THE THREE COMPONENTS OF FOLLOWER'S IT SELF-LEADERSHIP**
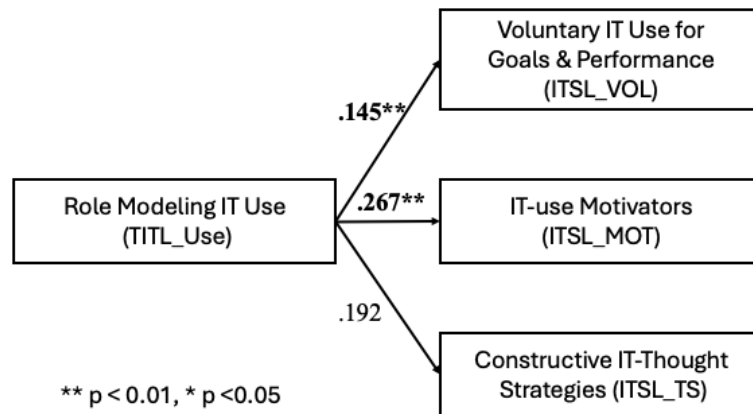


Controlling for the type of industry and country, leaders' behavior of fostering collaboration through IT is positively related to (a) followers' voluntary IT use for goals & performance (b=.337, p<0.01), (b) followers' IT-use motivators (b=.327, p<0.01), and (c) followers' constructive IT-thought strategies (b=.125, p>0.05). Consequently, H3a and H3b are supported. H3c is not supported (FIGURE 3).

**FIGURE 3**
**RELATIONSHIP BETWEEN THE TRANSFORMATIONAL IT LEADER'S BEHAVIOR OF FOSTERING COLLABORATION THROUGH IT AND THE THREE COMPONENTS OF FOLLOWER'S IT SELF-LEADERSHIP**
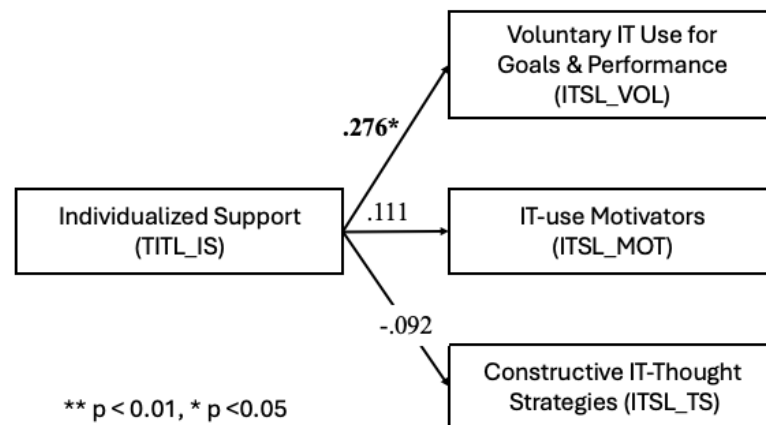


Controlling for the type of industry and country, leaders' expectation of high IT-use performance is positively related to (a) followers' voluntary IT use for goals & performance (b=.317, p<0.01), (b) followers' IT-use motivators (b=0.111, p>0.05, and (c) followers' constructive IT-thought strategies (b=.083, p>0.05). Consequently, H4a is supported. H4b and H4c are not supported (FIGURE 4).

**FIGURE 4**
**RELATIONSHIP BETWEEN THE TRANSFORMATIONAL IT LEADER'S EXPECTATION OF
HIGH IT-USE PERFORMANCE AND THE THREE COMPONENTS OF
FOLLOWER'S IT SELF-LEADERSHIP**



** p < 0.01, * p <0.05

Controlling for the type of industry and country, leaders' individualized support behavior is positively related to (a) followers' voluntary IT use for goals & performance (b=.276, p<0.05), (b) followers' IT-use motivators (b=0.111, p>0.05), and (c) followers' constructive IT-thought strategies (b=-.092, p>0.5). Therefore, H5a is supported. H5b and H5c are not supported (FIGURE 5).

**FIGURE 5**
**RELATIONSHIP BETWEEN THE TITL'S INDIVIDUALIZED SUPPORT AND THE THREE
COMPONENTS OF FOLLOWER'S ITSL**



** p < 0.01, * p <0.05

Controlling for the type of industry and country, leaders' stimulation of others to innovate with IT is positively related to (a) followers' voluntary IT use for goals & performance (b=.307, p<0.01), (b) followers' IT-use motivators (b=.425, p<0.01), and (c) followers' constructive IT-thought strategies (b=.243, p<0.05). Therefore, H6 is supported (FIGURE 6).

**FIGURE 6**
**RELATIONSHIP BETWEEN THE TITL'S STIMULATION TO INNOVATE WITH IT AND THE THREE COMPONENTS OF FOLLOWER'S ITSL**
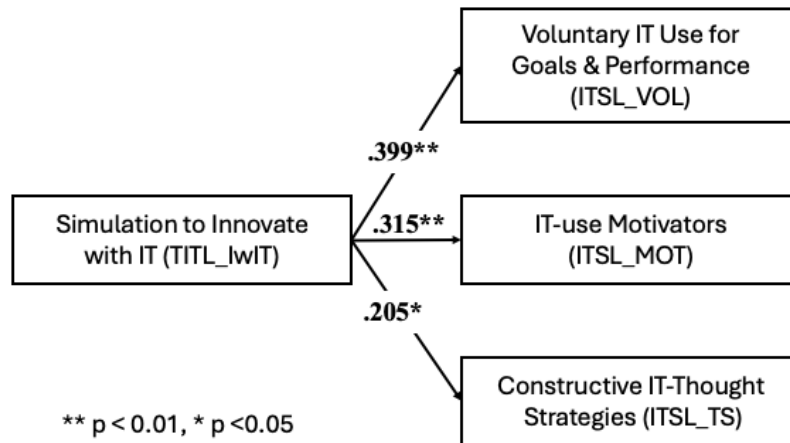


Overall, it can be concluded that there is a positive relationship between TITL and ITSL. Our analysis supports Hypothesis 3 only partially. Namely, we observed a significant relationship between stimulation to innovate with IT (TITL_IwIT) and ITSL. However, we observed an insignificant relationship between articulating an innovative IT vision (TITL_V) and constructive IT-thought strategies, indicating a partial relationship with IT self-leadership. The same applies to expecting high IT-use performance (TITL_PERF) and fostering collaboration through IT (TITL_Col). For individualized support (TITL_IS), a significant relationship was only found with voluntary IT use for goals and performance (ITSL_VOL). In contrast, role modeling IT use (TITL_Use) showed significant relationships with all aspects of IT self-leadership. Voluntary IT use for goals and performance (ITSL_VOL) was significant across all analyses, confirming a strong relationship between transformational IT leadership and ITSL_VOL. The connection between transformational IT leadership and IT-use motivators (ITSL_MOT) was significant in 5 out of the 6 analyses, suggesting a partial significant relationship between these components. For constructive IT-thought strategies (ITSL_TS), only 2 of the 6 analyses were significant, indicating a partial but weak association with transformational IT leadership.

## DISCUSSION

Our study finds transformational IT leaders' positive influence on IT self-leadership of team members. Our finding builds on literature showing that transformational leadership contributes to self-leadership (Andressen et al., 2012). Yet our study extends this finding to IT-based leadership by finding that TITL contributes to ITSL.

Transformational IT leadership strongly positively impacts the ITSL components "voluntary IT use for goals and performance", and "IT-use motivators". Yet, we observed only a weak support for the relationship between TITL and "constructive IT-thought strategies".

Overall, these findings indicate that a leader's transformational IT leadership does increase the capacity of individuals for IT self-leadership within an organization.

## THEORETICAL IMPLICATIONS

This research contributes to leadership research in both management field, and in the field of Information Systems. Specifically, it conceptualizes and investigates two relatively recent theoretical development. Firstly, it enhances the literature on transformational IT leadership and team innovation. While transformational leadership has been extensively studied, there is a notable lack of research exploring

transformational leadership specifically related to information technology vision. This study contributes to filling the gap of how leadership models work within the IT settings (Thite, 2000). Further, we advance the leadership theory by examining the new leadership theories of TITL and ITSL. Although the exploration of TITL is still emerging, researchers such as Andreu and Ciborra (1996) had suggested that leaders exhibiting specific behaviors can positively influence IT projects. Further, extant research suggested that strong leadership capabilities can lead to IT-enabled advantages. Our study confirms that certain leadership skills within IT contexts can enhance IT usage and foster team innovation.

Additionally, we uniquely connected individual's IT use to team-level outcomes. Our findings contrast that of Wang et al. (2011), who asserted that innovating with IT only affects individual-level outcomes. We found that  TITL positively influences team members' ITSL, thereby impacting group dynamics.

Finally, this research contributes to the innovation field. There's limited research focused specifically on team innovation (Eisenbeiss et al., 2008; Kurtzberg & Amabile, 2001; West & Anderson, 1996). The contribution of this study lies in elucidating which components promote team innovation and how leaders can effectively stimulate innovation at the team level.

## PRACTICAL IMPLICATIONS

Given the increasing significance of information technology (IT) in organizations, it is essential for leaders to understand that they need to go beyond providing generic leadership. They need to specifically provide IT leadership. Developing specific leadership behaviors tailored towards increasing the IT self-leadership of the followers can help their organizations to obtain higher returns on IT investments.

This study demonstrates that transformational IT leadership positively influences individuals' efficient and effective behaviors regarding IT usage. Therefore, managers should strive to cultivate these leadership components to motivate individuals to engage with IT in diverse ways. This is particularly crucial for team leaders who rely on IT in their daily operations. Such leaders should articulate a clear vision for IT use, model the desired behaviors, and encourage their team members to critically reassess their assumptions about current IT practices. By doing so, they can enhance IT self-leadership, which may foster team innovation. Future studies should quantitatively test the relationship between ITSL and team relationship.

## LIMITATIONS AND FUTURE RESEARCH

In operationalizing transformational IT leadership, we had made the decision not to translate the "individualized support" into the unique context of IT. Our reasoning was our expectation that general care of the leader of the well-being of the team members would contribute to IT self-leadership. However, our study found that it only significantly contributes to voluntary use of IT. The same construct had lost its face validity in the study of Eseryel and Biernath (2024) and was therefore eliminated. Following their recommendation, Eseryel et al. (2024) operationalized individualized support in the context of TITL as "navigating individuals' IT psychology". This construct specifically refers to the unique feelings that come about in IT use, such as IT anxiety (Eseryel & den Breejen, 2024) and how TITL helps individuals overcome these feelings. Navigating individuals' IT psychology construct is defined as "to specifically address individuals' feelings, fears, and anxieties about information technologies" (Eseryel & Biernath, 2024, p.21). Future studies should include "navigating individuals' IT psychology" construct as part of TITL instrument instead of "individualized support".

Further, there is a need within the IT literature to investigate TITL and ITSL in other settings and in relation to other important team , and organizational variables.

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