



# How does leadership affect information systems success? The role of transformational leadership

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## ABSTRACT

We examined the positive impact of transformational leadership on IS success in organizations via two psychological mechanisms of system users'—perceived organizational support and systems self-efficacy. Our conceptual model was assessed using a sample of 251 employees from a multi-national bank in Korea. Overall, our results supported the hypothesized relationships: transformational leadership was positively related to system users' IS success, and both perceived organizational support and systems self-efficacy of the system users mediated the relationship between transformational leadership and IS success. The results call for manager's attention to the importance of transformational leadership development in organizations.

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## 1. Introduction

Much attention has been paid to exploring the factors that enhance IS success [8,15]. It can be achieved in several ways but little attention has been given individual characteristics (e.g., motivation and attitudes), despite their potential for being effective. Another factor deserving more attention involves the impact of leadership on IS success. Research in the IS field has often focused on very specific managerial roles, such as allocating resources, monitoring outcomes, and controlling and coordinating people and work environments. While these managerial behaviors are undoubtedly important, they encompass only a small portion of a leader's role and thus primarily in obtaining efficient operations. While these are important, the role of a leader also includes motivating employees and adapting to changing conditions [24]. It therefore seemed necessary to investigate the relationship between leadership and IS success. The primary purpose of our study was to determine the influence of transformational leadership (focusing on inspiring and revitalizing people to perform better) on IS success.

Transformational leaders inspire the values and ideals of followers and ultimately motivate followers to perform beyond expectations [5]. However, little is known about the relationship between transformational leadership and IS-related outcomes. Therefore, we attempted to integrate two important domains by positing that *transformational leadership* would be positively related to *IS success*. Specifically, we believed that transformational leaders can enhance IS success through:

- (1) *idealized influence*, transformational leaders instill pride, faith, and respect in IS users by acting well and leading-by-example; thereby, causing followers to identify with the leader.
- (2) *inspirational motivation*, transformational leaders enhance system users' confidence in using the IS by articulating an appealing vision and expressing high levels of expectation and optimism about the users' ability to use IS.
- (3) *individualized consideration*, transformational leaders can coach or mentor followers and provide individualized support while listening to the concerns and needs of IS users.
- (4) *intellectual stimulation*, transformational leaders can stimulate system users' creative problem-solving skills by challenging them to address old problems using new perspectives, making them take risks, and soliciting system users' ideas for better use of the IS.

By performing such behaviors, we believe that transformational leaders can play a crucial role in IS users' success.

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Thus we focused on two research questions:

- (1) Is transformational leadership positively related to IS success? and
- (2) What are the underlying psychological mechanisms by which this relationship is transmitted?

## 2. Theory and hypotheses

### 2.1. Transformational leadership and IS success

#### 2.1.1. IS success

The concept of IS success has been widely accepted as an important criterion for assessing organizational performance due to IS use [8,15]. In general, IS success has been seen as the degree of organizational performance resulting from the use of IS. According to DeLone and McLean, *individual impact* refers to the positive effect of information on individual behavior and *organizational impact* indicates the organizational level effect of IS on organizational performance. Along with the concept 'impact', several constructs have been used to evaluate especially 'individual impact', such as perceived usefulness, net benefits, individual job performance, and individual productivity.

We conceptualized IS success as consisting of two factors: users' perceived usefulness (the degree to which the user believes that using a particular system has enhanced his or her job or group's performance), and IS satisfaction (end-users' overall affective and cognitive evaluation of their fulfillment when using IS [1]). The concept of perceived usefulness has been employed as an indicator of individual performance for using IS, with the logic that perceived usefulness and individual impact are related to each other. According to Rai et al., perceived usefulness derive from personal valuations of an IS, which DeLone and McLean include under the *individual impact* category [8]. In addition, it is associated with several constructs at the individual level, such as improved individual productivity, task performance, individual power or influence of individual impact, that make the concept relate specifically to users. Because our study focused on exploring individual perceptions and attitudes of IS success, these two factors were needed to explore the antecedents of success at the individual level.

#### 2.1.2. Transformational leadership

Transformational leadership focuses on inspiring the values and ideals of followers and ultimately motivating them to perform beyond expectations. As a result of such leadership, followers feel trust, loyalty, and reverence toward the leader and often transcend self-interest for the sake of the group [2].

According to Bass and his colleagues, transformational leadership consists of four behavioral components: idealized influence (admirable behaviors intended to arouse follower emotions and identify with the leader), inspirational motivation (behavior focused on communicating an inspiring and appealing vision), individualized consideration (the degree to which a leader provides support and encouragement to followers, coaches and mentors them, etc.), and intellectual stimulation (the degree to which a leader increases awareness and helps followers challenge assumptions and take risks). These have been shown to relate to both individual- and organizational-level outcomes. Thus transformational leadership is positively related to organizational commitment, justice perception and organizational citizenship behaviors, follower motivation, organization performance, and leader effectiveness [6,12].

#### 2.1.3. Transformational leadership and IS success

Despite evidence of the effectiveness of IS leadership, two issues deserve further investigation.

Identifying the effect of transformational leadership on IS outcomes to better understand effective IS leadership. Often management and leadership have been used interchangeably, but leaders do more than simply manage employees: they focus on change and motivation.

- (1) Defining the processes which make transformational leadership effective in producing IS outcomes.
- (2) In order to inspire collective efforts for IS success; transformational leaders can communicate high levels of confidence in using existing or newly introduced IS.

In the current business environment, for instance, banks have introduced electronic decision systems to aid in the approval of personal or business loans and mortgages. In such a situation, a transformational leader can provide support and coaching to followers, encouraging usage of the IS by reporting on their positive experience, and giving evidence of the system's importance (e.g., reduced rates for insolvent obligation). In addition, since transformational leaders recognize each user's different capabilities, needs, and developmental stage, they can provide a tailored support by ensuring that the individual uses IS to maximize individual performance. Thus we hypothesized:

**Hypothesis 1a.** Transformational leadership will be positively related to a system user's perceived usefulness.

**Hypothesis 1b.** Transformational leadership will be positively related to a system user's IS satisfaction.

### 2.2. The mediating effects on transformational leadership and IS success

#### 2.2.1. Transformational leadership and perceived organizational support

Since transformational leaders emphasizes supportive, considerate, and guiding aspects for the development of followers, they should increase followers' perceived organizational support (POS)—their perceptions that the organization values their contribution and cares about their well-being [17]. According to organizational support theory, employees interpret whether their organization favors or disfavors them through the specific support given by the organizational management [18]. Therefore, we hypothesized:

**Hypothesis 2a.** Transformational leadership will be positively related to a system user's perceived organizational support.

#### 2.2.2. Transformational leadership and self-efficacy on IS

Self-efficacy is an important organizational variable due to its positive impact on individual performance [3]. However, in our research, self-efficacy was measured as an individual's confidence in the comprehensive systematic usage of the overall IS and its related applications. Thus systems self-efficacy (SSE) was defined as an individual's belief in his or her capabilities to operate IS utilized to perform effectively.

The positive impact of self-efficacy has been recognized by the field of transformational leadership. Walumbwa et al. [22] suggested that transformational leaders develop employee self-efficacy through role modeling and verbal persuasion. In addition, there has been some positive evidence that organizational and management support, encouragement, and expectation are major behavioral predictors to SSE.

We argue that IS users' self-efficacy about IS would be enhanced by transformational leaders' encouragement and positive expectation of the IS users. In addition, such leadership positively affects

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