

# Innovative Work Behaviour in the Telecommunications Industry: The Role of Transformational Leadership, Perceived Organizational Support, and Climate for Innovation

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## ABSTRACT

Corporates in the current era of Industry 4.0 should pay close attention on the creativity of their employees as it acts as their primary resource of innovation, specifically businesses who are centred technologically. This paper aims in exploring the correlation between transformational leaderships style (a leader-level factor), organizational understandings (an organizational-level factor), innovative environment, and innovative work behaviours. From total population 12,000 employees, we took 220-employees as a sample with questionnaires using a simple random sampling method. In the analysing process, quantitative approach through structural equation modelling was applied. Results determined how innovative environment, transformational leaderships, and perceived organisational support having positively substantial effects on creative working behaviours. However, these relations are not mediated by climate for innovation. In addition, managerial and theoretical implications were proposed for further upcoming studies, along with suggestions.

## Keywords

climate innovation, innovative work behaviour, organizational support, transformational leadership

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## Introduction

Industries in the recent time of 4.0 strive on innovation. This is essential due to its ability in providing competitive advantages, and multiple recent scientific works have been developed on this topic (Adhikari, et al. 2016; Minh, et al. 2016). In order to be successful in the long-run, businesses need to be consistently evolving, innovatively and competitively (Chen, Leung, & Evans, 2016; Spanuth & Wald, 2017).

Being innovative in the telecommunication sector is also crucial as it correlates to the consistent changes made by technology towards the dynamic market, its competitiveness, and changing user paradigms. Due to constant development in technologies, strategic plans on improving working environments have been developed in companies which are technology-based (Castro, et al. 2013; Shirahada & Hamazaki, 2013). With this dynamic condition, innovation remains key in this industry, i.e., the main source of innovation is innovation itself and employee creativity (Chen, Chang, & Chang, 2015).

The era and group of creating the latest and innovative concepts are what is known as creativity, whereas some defines it as a means in creating those innovative concepts for the purpose of goods and services, procedural aspects and market challenges (Amabile, 1996; Oldham & Cummings, 1996; Zhou & Shalley, 2003). Creativity is also a contributing factor as a competitive advantageous as it affects the productivity and efficacy of the workforce (Amabile, et al. 2004; Hon, 2012; Shirahada & Hamazaki, 2013). The awareness of employees' creativity has been taken into consideration by many experts from many business sectors (Borovskaia & Dedova, 2014; Kattara & El-Said, 2014; Lin & Wong, 2014).

These experts believe the employees are the one who contribute to the innovative development of companies (De Jong & Den Hartog, 2010; Janssen, 2003). Katz and Kahn (1978) argue that an organization can become a fragile social system when it relies only on a blueprint of prescribed behaviour; therefore, an organization relies on spontaneous and voluntary innovative behaviour, which supports the achievements of organizational missions. Yuan and Woodman (2010) state that innovative working behaviours can be in the form of generating, introducing, and developing or implementing novel concepts or strategies in company. Nonetheless, the contribution of supportive working condition is also essential.

This study aims in exploring the correlation of transformational leadership style, organizational understandings, along with the innovative working conditions and behaviours. Due to improvements and innovations are influenced by employees, leaders need to place closer attention to them. Individuals create innovation; thus, developing employees' individual innovative behaviour is sensible for organizations looking to increase their innovation output. This study examines the practical predictors within a comprehensive model that includes leader- and organization-level factors. It is hypothesized that innovative aspects, including innovative personal behaviours, are positively influenced by the transformational leadership style (a leader-level factor). Organizational support (organizational-level factor) has been regarded as having a positive effect on creativity and creative personal behaviours, which is supported by innovative environment. The study regarding relationships between perceived organizational support and climate for innovation is rare; thus, we had difficulty in finding previous

research; therefore, an exploration on the correlation of organisational understanding and innovative working environment on the effect of innovative working behaviours would be done. However, in another study, Craig (2015) reveals that a creative climate did not support innovative behaviour. Hence, further investigation on the correlation of innovative working environment and on employees' working behaviour will be done.

Figure 1 represents the model.

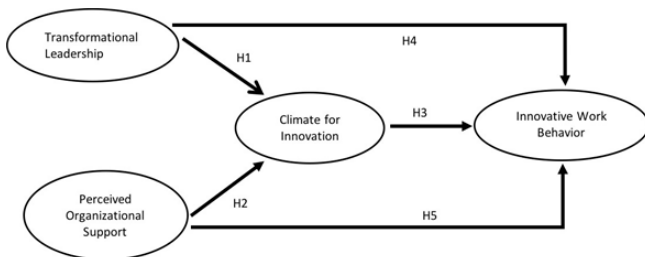


Figure 1. Research Model

## Literature Review

### 2.1. Innovative workbehaviour

Innovative working behaviours is understood as individuals' capabilities in generating, promoting, and implementing ideologies, and goods or services within their positions, groups, or in the business (De Jong & Den Hartog, 2010). Similarly, this behaviour is stated to be a creation, introduction and application of new-founded concepts for the four stages (recognising challenges, generating, promoting and implementing the concepts) (Janssen, 2003). It usually transcends standard work requirements and functions, and correlated to the additional behavioural role groupings (Seibert et al. 2001; Kats & Kahn, 1978). Other aspects of this behavioural concept include being an innovative on the following: individual, working productivity and workplace (Abstein et al. 2014; Huhtala & Parzefall, 2007; West, 2002; Hammond et al. 2011; Janssen, 2004; Dorenbosch et al. 2005).

Janssen (2003) mentioned that ideologies which are developed, modified, and implemented is the core understanding of innovation. In a technology-intensive industry, e.g., telecommunications, is an industry with a highly dynamic and agile work environment, where nonstandard and nonroutine work is described as dominating the majority of work activities (Shih & Susanto, 2011; Zhang & Bartol, 2010). In this industry, an organization is required to respond quickly to technology change. An organization also typically faces new technical issues that require creative solutions to address various problems. From this situation, an employee is therefore expected to create, perform, apply, support, and an implement a new approach, method, or procedure to be able to answer the challenges that an organization faces in daily operation (Shih & Susanto, 2011). It is expected that employees can exceed their routine for their set tasks performance for themselves, team/group, and the business. Various technological advancements or methods could be applied (Yuan & Woodman, 2010). The performance of organisations is

considered to be high through their employees' creative behaviours (Carmeli et al. 2010). This behaviour can be defined through creating and implementing the developed concepts, goods or services, and methods by workers or teams in attaining other group or organisation's role efficiency (Janssen, 2003; De Jong & Den Hartog, 2010; Yuan & Woodman, 2010).

The complexities of combining creative aspect and concepts is considered as the innovative working behaviours (Janssen, 2003; 2004). The four scopes of this behaviour include exploring, creating, competing and executing the concept (De Jong & Den Hartog, 2010). Exploring new concepts allow the improvements on the already available goods or services, and procedures. As for creation, it could be of new development of goods or services, and establishing new sectors and procedures. A person who gains innovative concepts and including them in the workplace are those who strive, which entails coordinating capitals, affecting, bargaining, motivating, along with confronting and facing risk on the existing concept (Howell & Higgins, 1990; Kleysen & Street, 2001). Lastly, the implementation of the concept is required which takes determination, result-focused, and adaptation to the changes (procedural and behavioural) (De Jong & Den Hartog, 2010; Kleysen & Street, 2001).

This study examines a comprehensive model that includes leader- and organization-level factors. Transformational leadership variables represent leader-level factor, and perceived organization support variables represent organization-level factors, which are hypothesized in having a significant correlation to the innovative environment, as well as individuals' innovative behaviours. Innovative environment is hypothesized to moderate the relationship between two antecedent variables, i.e., transformational leadership and perceived organization support for individual innovative behaviour.

### 2.2. Transformational Leadership and Climate for Innovation

In a study of transformational leaderships (Avolio & Bass, 1990; 2004) utilize a multidimensional concept, which includes: 1) intellectual stimulation, in which leaders challenge the status quo, question assumptions, and stimulate the follower to think of new ways to solve problems; 2) individual considerations to encourage employees, where leaders support and fulfil emotional needs of their followers; 3) inspirational motivation, in which a leader can provide direction toward how to achieve a goal, i.e., it can make followers become aware that they can achieve goals and vision that has been determined; and 4) the charisma of the leader or idealized influence, which can be a role model for followers. Leaders with charisma should also listen to ideas and suggestions. This can make followers encourage one to participate in introducing new creative ideas, which are necessary to sustain an organization.

Innovative environment is considered to be the perceived view of the employees on the work place which encourages risk-takers, allocation of resources for reaching goals, and provision of challenges for work-related improvements (Scott & Bruce, 1994). This concept attracts behavioural

researchers as it has behavioural effect on the workers, and affecting their creative aspects (Cerne et al. 2013).

Jaiswal and Dhar (2015) also show that the use of transformational leadership allows the environment and followers to be innovative. Results state the correlation of the leadership on the workplace; hence the hypothesis is developed:

**Hypothesis 1.** Transformational leadership has a positive and significant effect on the climate for innovation..

### **2.3. Perceived Organizational Support and Climate for Innovation**

Employees view support in the organisational aspect as the organisations' contribution in caring for their well-being (Eisenberg et al. 1986). This aspect is vital and with features as follow: workers need to acknowledge the given encouragement; organisations need to provide positive environment for a better delivery of work by employees. If perceived organizational support is considered high, then the employees' engagement to the organization will be higher. It is believed that employees will be more responsive and contributing towards the organisation if support is received (Eisenberger et al., 1986). Hence the second hypothesis is as follow:

**Hypothesis 2.** Perceived organizational support has a positive and significant effect on the climate for innovation.

### **2.4. Climate for Innovation and Innovative Work Behaviour**

Current studies mentioned how a correlation between employees' working behaviours and innovative environment was acquired (Jaiswal and Dhar, 2015; Kim et al. 2000; Shanker et al. 2017). However, in another study, Craig (2015) reveals that a creative climate did not support innovative behaviour. As a result, the third hypothesis is devised with the plan to examine the correlation as follow:

**Hypothesis 3.** Climate for innovation has a positive and significant effect on innovative work behaviour.

### **2.5. Transformational Leadership and Innovative Work Behaviour**

Multiple studies have shown the importance of transformational leaderships on the creative working behaviours (Asfar, Badir, & Saeed, 2014; Choi, Kim, Ullah, & Kang, 2016; Craig, 2015; Khalili, 2016; Wang, Tsai, & Tsai, 2014). Based on theoretical perspectives, transformational leadership promotes creativity and innovation from followers or employees more than other leadership styles (Choi, Kim, Ullah, & Kang, 2016; Craig, 2015). The presence of leaderships is vital for innovative working place, and it was shown that the type of transformational provide comfort and consider employees' well-being. This prevents monotonous works, allowing being creative and innovative instead (Jyoti & Dev, 2015). This kind of leadership style reforms employees' views and principles, leading to better efficiency (Asfar, Badir, & Saeed, 2014; Khalili, 2016).

First, transformational leadership encourages intellectual thinking, i.e., it inspires employees to think out of the box (Khalili, 2016). Not only that, it affects employees' behaviours, resulting to those who are intellectual thinkers to work for the company's sustainability (Choi, Kim, Ullah, & Kang, 2016). Second, individualized consideration of transformational leadership will create understanding and appreciation for the development of each employee. This process will fulfil the needs of unique employees (Wang, Tsai, & Tsai, 2014).

This given motivation allows the development of feeling united within the organisation, resulting to further attachment which makes them have higher commitment in their work, and achieving goals and missions in the long-run (Janssen, 2004; Wang, Tsai, & Tsai, 2014). Fourth, idealized power, or charm is the leaders' role in being captivating, impacting employees' innovative working behaviours (Craig, 2015; Khalili, 2016).

The findings indicate that transformational leadership can lead to innovative work behaviour, hence the fourth is developed as follow:

**Hypothesis 4.** Transformational leadership has a positive and significant effect on the innovative working behaviour.

### **2.6. Perceived Organizational Support and Innovative Work Behaviour**

Transformational leaderships and workers' creative working behaviours are substantially affected by the sustenance provided by the organisation. This given support contributes to the performance and commitment put into the organisation by the workers (Choi et al. 2016; Eisenberger et al. 1986). It is also determined that fair treatment in the working environment will improve the efficacy of employees' work, promoting further innovative behaviours (Afsar & Badir, 2017). Not only that, those employees would also feel positively involved and would participate in a activities during making decisions (Yildiz, Uzun, & Coskun, 2017; Agarwal, 2014).

The application of assistance through the organisation or the managerial aspect is believed to have a positive correlation on developing innovative ideas, risk-taking behaviours, work performance, and additionally employees networking behaviours (Alpkan et al. 2010; Yıldız et al. 2015). Through this result, the fifth hypothesis is then developed as follow:

**Hypothesis 5.** Perceived organizational support has a positive and significant effect on the innovative working behaviour.

## **Methodology/Materials**

### **3.1. Sample and Data Collection**

200 data samples from Indonesian workers were obtained from the sector of telecommunication. The total population is 12,000 employees. The questionnaire method with simple random sampling was used for collecting data. From 250 that were distributed, 230 were received back and 10 were incomplete hence cannot be used. The responses are made up of 132 male respondents, and 88 female respondents,

with their average age at around 32.3, and of those with a background of undergraduate at 98%.

We issued the questionnaire in the Indonesian language after translation from its formerly written English. The questionnaire was then translated back to its original language to determine its compatible state. This process was done multiple times until the latest translation is deemed valid to be used.

**3.2. Measurement**

A six-point Likert scaling is applied with the range being 1 (strongly disagree) and 6 (strongly agree).

**3.2.1. Transformational Leadership**

Avolio and Bass (2004) developed a metrics of transformational leadership, which consists of five dimensions: idealized influence (attributed), idealized influence (behavioral), individual consideration, inspirational motivation, and intellectual stimulation. An example of an item included in the scale is “My superintendent talks optimistically about the future.”

**3.2.2. Perceived Organizational Support**

A shorter version of questionnaires was utilised by Lynch et al. (1999) in measuring the assistance provided by organisations towards their employees. An example used is “The company thinks highly of my priorities and principles.”

**3.3.3. Climate for Innovation**

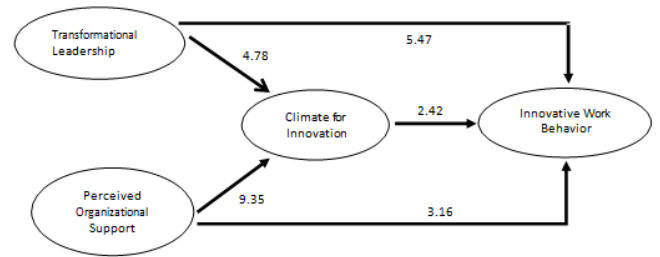
A measurement by Scott & Bruce (1994) is used to measure the innovative environment, with an example used in the scaling such as, “My company appreciate openness and adaptable to changes.”

**3.3.4. Innovative Work Behaviour**

A measurement consisting 10 points, including 4 factors (exploring ideologies, generating ideologies, defending ideologies, and implementing ideologies) by De Jong & Hartog (2010) was used in measuring the innovative working behaviour. An example is "I tend to new strategies for performing tasks."

**Results and Findings**

The responses consist of transformational leaderships with an average of 4.66 (standard deviation: 0.457); recognized organisational support of 4.55 (standard deviation: 0.543); innovative environment of 4.83 (standard deviation: 0.683); creative working behaviours is 4.53 (standard deviation: 0.526). It is a suitable model due to the result from goodness-of-fit statistics are RMSEA is 0.077, NFI is 0.93, NNFI is 0.94, CFI is 0.95, IFI is 0.95, and RFI is 0.92.

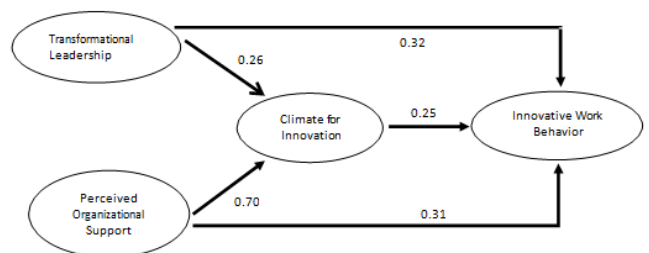


**Figure 2.** Finalized Structural Model (t-value)

We used structural equation modelling for data analysis. As shown in Figure 2, t-value=2.42 (p<0.05) is stated to show how innovative environment has a positively substantial effect on the innovative working behaviours. This environment is also affected by transformational leaderships and the recognized organisational support. The obtained t-value>1.96 (p>0.05) shows the positive correlation of the leadership style towards the innovative working environment and behaviours. From this result, we find that all hypotheses are supported.

From the direct and indirect impact in standardized values, we found some results. First, the direct relationship between transformative leaderships towards the creative working behaviours (standardized value=0.32) is greater than the correlation shown indirectly towards the leaderships’ style, and both innovative working environment and behaviours (standardized value = 0.065). Second, the direct relation of perceived organizational support and innovative working behaviour (standardized value=0.31) is greater than the indirect relation of perceived organizational support, and both the innovative working environment and behaviours (standardized value=0.175).

Therefore, the variable of innovative environment does not affect the correlation of creative working behaviours and transformational leaderships, as well for the correlation of creative working behaviours and the recognized support from the organisation.



**Figure 3.** Standardized Value.

This research explored the influential aspect of transformational leaderships on the recognized organisational assistance and creative working behaviours, facilitated by innovative working environment. It is evident how there is a considerable effect of the leaderships’ style towards the working behaviours; thus, this finding supports recent studies (Asfar, et al. 2014; Choi, et al. 2016; Craig, 2015; Khalili, 2016; Wang, et al. 2014). However, no result supported how innovative environment is effective in

mediating the correlation of transformative leaderships and the creative working behaviours.

Other findings stated how recognized organisational assistance positively impacted creative working behaviours, yet it was not facilitated by innovative environment. From the results that we gained, it supports previous research indicating the correlation of the behaviours (Jaiswal&Dhar,2015; Kim, et al. 2000; Shanker, et al. 2017). It was concluded how workers who receive liberty and independence are more engaged in their creative working behaviours, improving their working conditions (Asfar, et al. 2004). Hence, by acknowledging workers as essential factors in the company, improvements in providing organisational assistance are required (Zingales, 2000).

### Conclusion

As a suggestion for future studies, it is recommended for applying innovative working environment towards employees' creating working behaviours, and focusing on both direct and indirect effects. As for the restraints for this study, focusing only on telecommunication sector does not signify all sectors. The next restraint is factors that may affect innovative working behaviours should be further analysed to gain a broader understanding of those behaviours. Therefore, future studies could include various sectors to be compared with in defining similarities and differences through the previously mentioned factors

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