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Creating Innovative Work Behavior: The Roles of Self Efficacy, Leader Competency, and Friendly Workplace

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Abstract

Innovation is the only way to get sustainability and growth. Technology can empower the innovation, but in other way, it also can kill the current business. The big question is how to get sustainability organization thru innovation. The focus of the study is on innovative work behavior, with employee as human factor subject that play the main role in the innovation process. The aim of this research is to investigate the relationship between employee self-efficacy, perceived leader's proficiency, and perceived employee friendly workplace into innovative work behavior. After conducting a survey to 198 employees in telecommunication companies in Indonesia, we found that employee innovative work behavior is related with self-efficacy, perceived leader's proficiency, and perceived employee friendly workplace. Furthermore, we propose some theoretical and managerial implications for future research.

Keywords

Business Management, Human factors, Innovative Work Behavior, Strategic Management, Sustainability

1. Introduction

Innovation is a key word in the telecommunications industry, where technology development can change market demand and change the habits of telecommunication service users. Technological developments have forced the players in the telecommunications industry to continue to innovate. The fierce competition in today's market and the emerging threats of new competitors from the results of technological development require continuous differentiation and innovation. As the presence of various chat and social media applications, continue to suppress the company's revenue from sms service (short message service).

Increasing competition in an industry based on intensive knowledge, especially for technology companies makes innovation very important. Therefore, innovation and creativity of employees who are the main source of corporate innovation are important factors of concern ([Chen, Chang & Chang, 2015](#)). The rapid technological change, social context and cognition of personnel have challenged the conventional design of optimal working conditions in technology-based organizations ([Castro, Delgado-verde, Navas-lópez & Cruz-gonzález, 2013](#); [Shirahada & Hamazaki, 2013](#)).

Creativity is usually regarded as a generation of new and useful ideas ([Amabile, 1983; 1996; Amabile, Conti, Coon, Lazenby & Herron, 1996](#)). Creativity is defined as the production of new and useful ideas about products, services, processes, procedures, and solutions to business problems ([Amabile, 1996; Oldham & Cummings, 1996; Zhou & Shalley, 2003](#)). Creativity, which usually manifests itself in corporate strategy as a whole and is a source of competitive advantage, is related to the efficiency and performance of individual employees ([Amabile, Schatzel, Moneta & Kramer, 2004; Gong, Huang & Farh, 2009; Hon, 2012; Shirahada & Hamazaki, 2013](#)). The importance of employee creativity has been noted by many scientists and practitioners across industry sectors ([Borovskaia & Dedova, 2014; Kattara & El-Said, 2014; Lin & Wong, 2014; Wong & Ladkin, 2008](#)). Thus, the company must always innovate to stay competitive and survive in the long run period.

The present paradigm of innovation can be all forms, products, services, processes, and methods of work, organization, commercial and strategy that are the result of human thought and creativity. Thus, innovation and all its

derivatives are not only related to the part that performs technological or scientific work, but innovation can be done by all parts of the company, such as finance, human resources, corporate strategy, and so on. Existing research has shown that innovation cannot be explained by only high-level factors, such as strategy, and organizational culture, but closer to low-level factors such as employee affective behavior (personal motivation, commitment) and performance (one's cognitive skills, task ability) as well important ([Anderson, de Dreu & Nijstad, 2004](#); [Bunce & West, 1995](#); [Mumford, Scott, Gaddis & Strange, 2002](#); [Scott & Bruce, 1994](#); [Yuan & Woodman, 2010](#)). In addition to individual factors employees, work environment factors also become an important aspect in generating innovation within an organization.

The purpose of this study is to examine antecedent variables and answer how to create innovative work behaviors or innovative work behaviors (IWB) that can be done by individual employees in general, related to incremental improvement, or better work process changes that can help the organization achieve its goal.

2. Theoretical background and hypothesis development

2.1. Employee Innovative Work Behavior (IWB)

The term innovative work behavior describes a person's abilities in a role, group or whole organization to generate, promote and realize ideas, products or services ([De Jong & Den Hartog, 2010](#); [Janssen, 2000](#); [West & Farr, 1990](#)). Innovative work behaviors exceed normal work expectations and roles ([Seibert, Kraimer & Crant, 2001](#)), this is often associated with so-called extra-role behavioral groups ([Katz, 1964](#); [Katz & Kahn, 1978](#)). Looking closely into the literature, we can find several other concepts that are closely related to innovative work behaviors ([Abstein, Heidenreich & Spieth, 2014](#)) such as employee innovation ([Huhtala & Parzefall, 2007](#); [West, 2002](#)) innovative work performance ([Hammond, Neff, Farr, Schwall & Zhao, 2011](#); [Janssen, 2001](#)) and innovation on the job ([Dorenbosch, van Engen & Verhagen, 2005](#)).

The basis of all innovation is the idea and is the employee who develops, brings, reacts to, modifies and implements ideas ([Janssen, 2000](#)). The organizational environment in knowledge-based industries, for example, telecommunications, is a very dynamic environment ([Shih & Susanto, 2011](#)) where work activities tend to involve complex non-standard and non-routine tasks ([Slusher, Dyke & Rose, 1972](#); [Zhang & Bartol, 2010](#)). Organizational routines may not respond quickly to rapid technological changes, or often experience technical problems that require quick and creative solutions. Therefore, employees in these industries need to develop, support, and implement new methods, approaches or procedures ([Shih & Susanto, 2011](#)) to address challenges in their work environment. They should be able to perform tasks that transcend routines that have been established for teams, groups, or organizations. They may seek new technology, suggest new ways to achieve goals, implement new work methods, and investigate and secure resources for implementing new ideas ([Yuan & Woodman, 2010](#)). These activities are referred to as innovative work behaviors that are defined as the introduction or application of new ideas, products, processes and procedures from employees, work units or organizations, to gain performance roles from groups, or organizations ([Janssen, 2000](#); [Jong & Hartog, 2010](#); [Yuan & Woodman, 2010](#)). Research conducted by [Carmeli, Palmon, and Ziv \(2010\)](#) determined that an employee's innovative behavior is the foundation of a high-performing organization.

In this study, employee's innovative work behavior is defined as a complex process that combines creativity and application of ideas ([Janssen, 2000](#); [2004](#)). This innovative work attitude consists of four dimensions: exploration of ideas, generation ideas, fighting for ideas, and implementation of ideas ([Jong & Hartog, 2010](#)). Exploration of ideas involves finding ways to improve existing products, services or processes or trying to find better alternatives. Idea generation may relate to new products, services or processes, enter new markets, improvements in current work processes, or in general, solutions to identified problems. Fighting an idea is defined as an individual who appears to take creative ideas (ideas can come from self or ideas that come from others) and raise the idea back in work discourse ([Howell & Higgins, 1990](#)). Most ideas need to be promoted because they do not match what has been used in their work groups or organizations. This process includes mobilizing resources, persuading, influencing, encouraging, negotiating, challenging the status quo and taking risks ([Kleysen & Street, 2001](#)). Finally, in the last process, the idea needs to be implemented. This process is a considerable effort and is a results-oriented attitude needed to make ideas into products, processes or services. Implementation of ideas also includes innovative changes from regular work processes and behaviors, such as developing new products or work processes, and testing and modifying them ([Jong & Hartog, 2010](#); [Kanter, 1988](#); [Kleysen & Street, 2001](#)).

Human behavior is highly dependent of individual factors namely ability and willingness; and also, environmental factors ([Metek, Sokmen & Biyik, 2016](#)). Therefore, in this study, the antecedent factor of innovative working behavior is the individual factor is the core self-confidence; and environmental factors are represented by the

technical competence of leaders (factor leaders) and workplace friendly to employees (organizational factors). Our model is shown in Figure 1.

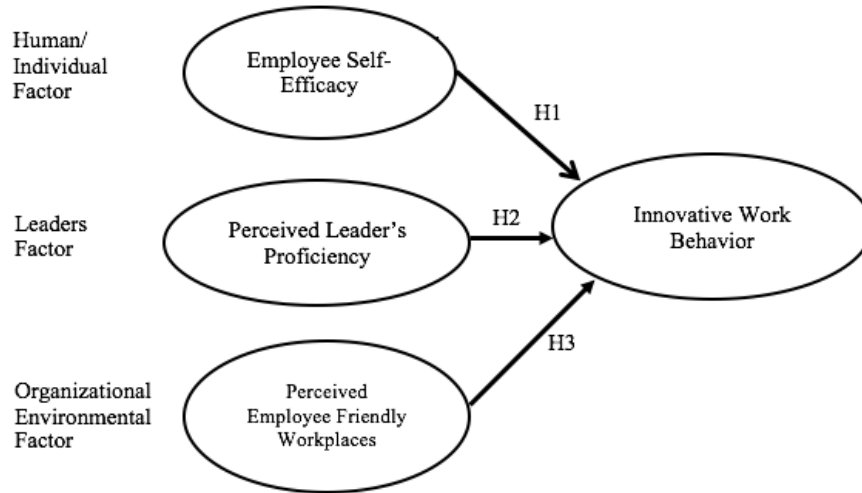


Figure 1. Research Model

2.2. Employee's self-efficacy and employee innovative work behavior (IWB)

Self-efficacy refers to the construct of properties embedded in four traits: self-esteem, general self-efficacy, emotional adjustment, and locus of control (Chang, Ferris, Johnson, Rosen & Tan, 2012; Judge, Erez, Bono & Thoresen, 2003; Judge, Locke & Durham, 1997). First, self-esteem refers to an evaluation made by the individual and is traditionally related to himself (Coopersmith, 1967), because self-esteem is the total value one has as a person (Harter, 1990). Judge, Erez, and Bono (1998) regard it as the most basic inner evaluation of the self. Second, the general self-efficacy, as mentioned earlier, reflects the general competence beliefs of various situations (Chen, Gully & Eden, 2004). This is a core self-evaluation because it reflects one's perception of one's pleasing ability to overcome life problems (Judge, Erez & Bono, 1998). Third, emotional adjustment reflects a tendency to feel calm and secure and shows less reactivity to everyday events. Individuals who experience emotions tend to pay less attention and remember negative information and experience negative emotions (Johnson, Rosen & Levy, 2008). Fourth, the control locus represents the rate at which a person believes that he or she controls the events in his life (locus of control internally) or believes that the environment or destiny controls the event (locus of external control) (Rotter, 1966).

According with research conducted by Chang, Ferris, Johnson, Rosen and Tan (2012); Chiang, Hsu and Hung (2013); Elliot and Thrash (2002) argue that high self-efficacy individuals are sensitive to positive stimuli and tend to adopt goal targets to achieve positive outcomes (Judge, Bono, Erez & Locke, 2005). Because scientists have found that self-efficacy is associated with better work performance through a motivational orientation approach, which refers to one's regulatory goals to actively pursue positive outcomes in the workplace (Ferris, Witt & Hochwarter, 2001), high self-efficacy are more active and autonomous work in pursuit of positive results. In addition, the self-efficacy component includes general self-efficacy, one's estimate of their own ability to perform and cope successfully with situations (Chen, Gully & Eden, 2001). The findings indicate that high self-efficacy workers will also feel more satisfied in their work. Therefore, the first hypothesis tested:

Hypothesis 1. Employee's self-efficacy is positively related to employee innovative work behavior (IWB).

2.3. Perceived leader's proficiency and employee innovative work behavior (IWB)

There is no consensus on how to define one's competence. Minh, Badir, Ngoc and Afsar (2016) argue that when leaders are technically competent, knowledgeable and skilled in their field of work they will facilitate and support subordinate learning through discussions related to work activities based on their skills and motivate subordinates to set goals for self-study. Minh, Badir, Ngoc, and Afsar (2016) provide three possible situations that can facilitate and encourage subordinates to seek knowledge and learning. First, when leaders talk to their subordinates, they will most likely ask deeper and more meaningful questions, and try to look at issues that are discussed from

different angles. This will help the subordinates to see the problem from different perspectives and most likely motivate subordinates to find answers to questions raised by leaders. Second, competent leaders can technically take some action or provide solutions to technical issues based on their expertise. The subordinates want to know why this solution was taken to solve the problem. This curiosity can bring subordinates to learn more. Third, when a competent leader technically speaks to his subordinates about work, there will be knowledge transferred from leader to subordinate, that is learning. However, due to time constraints of leaders, they may not explain everything in sufficient detail and will only provide suggestions on how to solve work problems. This will motivate subordinates to seek up-to-date knowledge to examine the suggestions given by leaders, reflect on them and choose what works best for the situation. [Minh, Badir, Ngoc and Afsar \(2016\)](#) argue that subordinates will most likely seek different kinds of knowledge, from different sources, externally and internally, and return to leaders with some solutions and ideas, to discuss them and choose the best option, which will lead to a high level of learning work behavior. Leaders with technical knowledge and problem-solving skills in an increasingly complex system are critical to the future of the organization ([Morris & Williams, 2012](#)) and innovation performance. Competent leaders are technically aware of their problems and interests, most likely they will subordinate the desired resources including equipment, facilities, and time to implement the resulting ideas and solutions ([Wilson, Sin & Conlon, 2010](#)).

However, some researchers found a negative relationship between the technical competence of the leaders and the performance of their subordinates. [Slusher, Dyke, and Rose \(1972\)](#) found that if managers had technical competence, employees rejected managerial roles, which ultimately resulted in a non-productive working group. However, he studied only one organization, focusing on the designated group, and admitting that the results may not be generalizable. Therefore, the second hypothesis to test:

Hypothesis 2: Perceived leader's proficiency is positively related to employee innovative work behavior (IWB).

2.4. Perceived employee friendly workplace and employee innovative work behavior (IWB)

According to [Fredrickson \(2004\)](#) in Positivity Theory that positive emotions will open up individual minds and insights, which will then play a role in building cognitive resources (creativity and innovation), so on in a mutually reinforcing cycle. This is in line with empirical research conducted by [Adhikari, Choi, and Sah \(2016\)](#) which shows that happy and satisfied employees tend to be more productive than unhappy people and not satisfied.

By using the logic that employees will strive for the company if they are satisfied with the company, this study examines whether overall employee satisfaction in the firm has an effect on its innovative capabilities. Specifically, using several techniques, we determined that employee firm employee policies as demonstrated by the Compressed Employee Friendliness Index (EFI) improve future innovation and innovative efficiency. In line with research conducted by [Adhikari, Choi, and Sah \(2016\)](#), this study uses the Research and Analytics database of KLD SOCRATES to build Employee Friendly Index. The SOCRATES KLD database provides a company rating based on how companies treat their employees. The Employee Secrecy Index reflects various aspects of human resource practices within the company including: employee involvement in the company, union relationships, cash benefit sharing, and employment / life benefits and pensions. As explained by [Ertugrul \(2013\)](#), KLD SOCRATES uses five dimensions that reflect an Employee Friendliness Index (EFI) friendly workplace: First, union relationship: has the company taken extraordinary measures to treat unions fairly. Second, cash share: whether the company has a new cash distribution program distributed to most of its workforce. Third, employee Engagement: Strengthen the company well to address issues and / or share ownership through options available to most of its employees; gain sharing, share ownership, share financial information, or participate in management decision making. Fourth, benefits of retirement: does the company have a very strong pension plan. Fifth, benefits of work or life: Does the company have employee benefits or other programs aimed at work / family problems (child care, parental care, or leisure).

According to [Adhikari, Choi, and Sah \(2016\)](#), that a good corporate environment for employees as measured by the Employee Friendliness Index (EFI) positively influences company innovation and innovative efficiency. This result is taken along with the fact that company innovation increases the value of the company ([Hirshleifer, Hsu & Li, 2013](#)) suggests that employee-friendly policies that create satisfied employees can increase the value of the company. Therefore, the third hypothesis to test:

Hypothesis 3: Perceived employee friendly workplace is positively related to employee innovative work behavior (IWB).

3. Methods

3.1. Sample and data collection

We took data from 198 employees of top three telecommunication companies in Indonesia. These employees worked in various areas, including sales and marketing, IT and network, corporate strategy, finance, human resource, legal, risk management compliance, and corporate strategy. These employees operate tasks involving the development of new ideas, approaches, and solutions to attract and retain customers. Every unit has their customer, and the internal process will impact to the output of companies.

We used a questionnaire that was initially written in English and translated to Indonesian language. Then, the translated version was back-translated into the source language by a different translator to check for meaning compatibility. This technique continued until the translated version became representative of the originating questionnaire. The questionnaire consisted of two main parts: Part one was designed with four closed-ended multiple-choice questions about employees' demographic information; Part two was used to obtain employees' ratings on the measuring items of the study's variables. Participants were informed of the study objectives and the preservation of confidentiality of individual responses to protect the confidentiality of participants. We also emphasized that the company would not have access to their responses or any identifiable information.

3.2. Measurement

We used six-point Likert scales ranging from 1 = "strongly disagree" to 6 = "strongly agree" to measure the study variables.

3.2.1. Employee self-efficacy

For employee's self-efficacy, we used the measurement based on [Judge, Erez, Bono & Thoresen, \(2003\)](#). Examples of items included in the scale are: "I am confident I get the success I deserve in life", "I complete tasks successfully", and "Overall, I am satisfied with myself".

3.2.2. Perceived Leader's Proficiency

In order to assess leader's technical competence in telecommunications fields, we refer to [Chien \(2007\)](#) who specified the knowledge and skills needed by telecommunication professionals. Examples of items included in the scale are: "My manager is aware/knowledgeable of most possible technical problems that team members may face", "When the team members face a technical problem, the manager sometimes provides a technical solution", and "My manager is technically experienced and fully competent; can exercise independent judgment regarding all technical issues".

3.2.3. Perceived Employee Friendly Workplaces

We use KLD SOCRATES Research and Analytics database to construct perceived employee friendly workplaces. Perceived employee friendly workplaces reflect different facets of human resource practices within the firm including: union relation, cash profit sharing, employee involvement in the firm, retirement benefits, and work/life benefits. We translated these five points into the question to get employee's perceived about this. Examples of items included in the scale are: "If the organization earned a greater profit, it would consider increasing my benefit (salary, bonus)", "The organization feels there is little to be gained by employing me for the rest of my career" (R), and "The organization is willing to help me when I need a special favor".

3.3.3. Innovative Work Behavior

[De Jong and Den Hartog \(2010\)](#) developed a measure for IWB with ten items that included four dimensions (idea exploration; idea generation; idea championing; and idea implementation). There are ten original questions were used. Examples of items included in the scale are: "I often looked-for opportunities to improve things", "I often searched for new working methods, techniques or instruments", "I often convinced colleagues and supervisors about my ideas", and "I often contributed to the implementation of new ideas".

4. Results

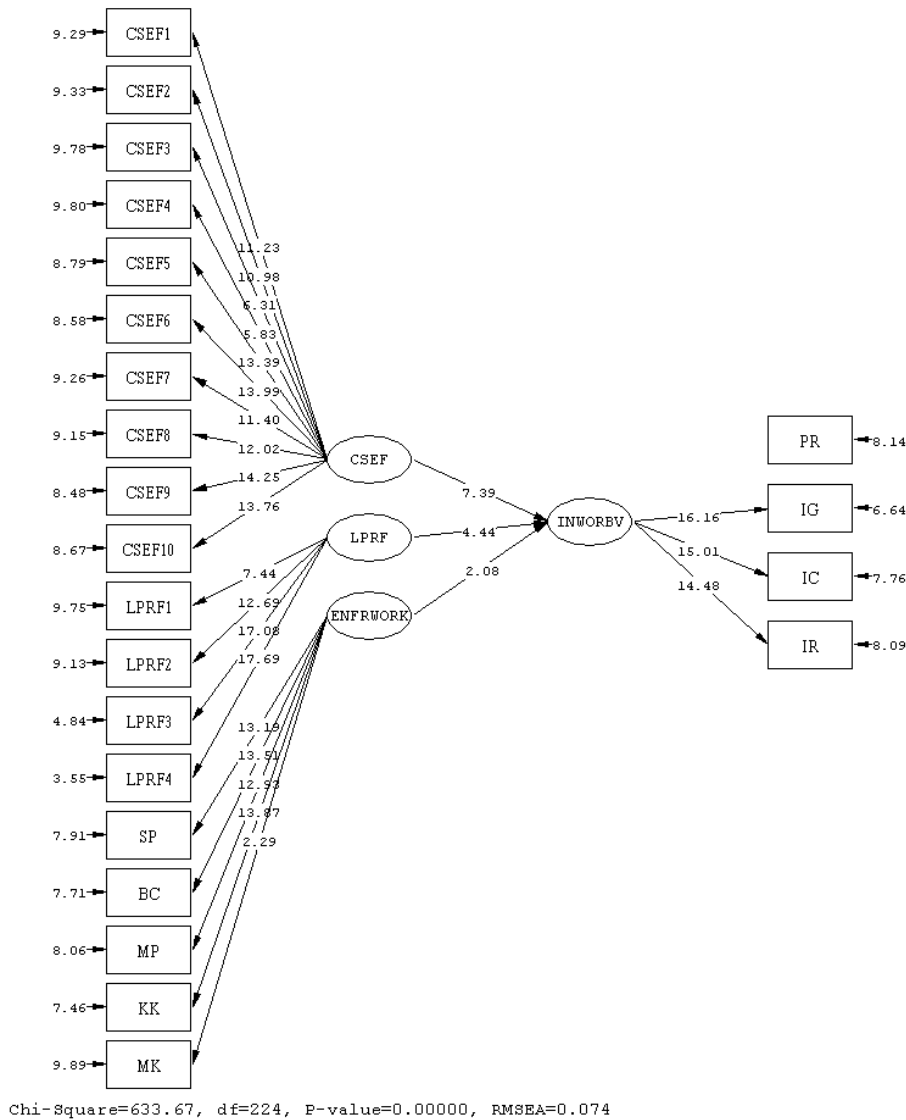


Figure 1. Research model

Table 1. Goodness of fit

Indicators	Value	Remarks
χ^2/df	2.829 < 3.000	Good fit
RMSEA	0.074 < 0.080	Good fit
CFI	0.960 > 0.900	Good fit
NFI	0.940 > 0.900	Good fit
RMR	0.058 < 0.100	Good fit

The respondents of this study consisted of 101 males and 97 females, whose average age was between 32.6 years and 96% had a minimum undergraduate background. Respondents in the study have average core self-efficacy of 4.36 with standard deviation of 0.427; perceived leader proficiency 4.83 with standard deviation of 0.675; perceived employee friendly workplaces 4.37 with standard deviation of 0.503; and innovative working behavior of 4.83 with a standard deviation of 0.673. This research model proved fit as shown in Table 1, based on goodness of fit indicators.

All hypotheses of this study proved significant, both with the data shown in Figure 1 and based on the value of t generated on the test using SEM Lisrel.

Then based on output t values can be seen that:

- The CSEF variable gives significant influence to the INWORBV variable with $t = 7.39 > 1.96$ so it has a positive and significant effect.
- The LPRF variable gives significant influence to the visible INWORBV variable with $t = 4.44 > 1.96$ so it has a positive and significant effect.
- The ENFRWORK variable gives significant influence to the visible INWORBV variable with $t = 2.08 > 1.96$ so it has a positive and significant effect.

This study proved that there is a positive and significant relationship between employee's self-efficacy and employee innovative work behavior (H1), perceived leader's proficiency is positively related to employee innovative work behavior (H2), and perceived employee friendly workplace is positively related to employee innovative work behavior (H3). These findings support previous research conducted [by Chiang, Hsu and Hung \(2013\)](#); [Minh, Badir, Ngoc and Afsar \(2016\)](#). In addition, the finding of perceived employee-friendly workplace is positively related to employee innovative work behavior also strengthens the results of previous studies that conducted by [Chen, Leung, and Evans \(2016\)](#), where the research was conducted at the company level.

5. Discussion

This research has developed and tested a conceptual model that investigated the relationship between employee's self-efficacy (as human/ individual factor), perceived leaders' proficiency (as leader's factor), perceived employee friendly workplaces (as organizational environmental factor) and employees' innovative work behavior. The main finding is these three factors: employee's self-efficacy, perceived leaders' proficiency, and perceived employee friendly workplaces are influencing employees' innovative work behavior. Specifically, for leader's proficiency, we found that in high-tech industries, such as telecommunications industry, leaders' technical competence plays important role. In summary, our finding is suitable with finding from [Mete, Sokmen and Biyik \(2016\)](#), that human behavior is highly dependent of individual factors namely ability and willingness; and also, environmental factors. Therefore, we suggest for organization to consider individual and environment factors in human resource management as main source to create innovative work behavior as source of sustainable competitive advantage.

5.1. Theoretical implications

Our study extends innovative work behavior research in several ways. First, it adds to the body of research examining the role of perceived leaders' proficiency in stimulating employees' innovative work behavior, in this case employee is their subordinates. The leaders with high proficiency are defined as up-to-date with technical knowledge and technology, apply the knowledge to a problem solving for their subordinate and also have ability to perform the technical duties. The subordinates make these leaders as their role model, it simulates the innovative spirit to perform at work. The existing literature on the innovative work behavior has mostly focused on exploring how leader behavior and styles, or management skills impact may affect to employee (subordinate) innovative work behavior ([Chang, Bai & Juan, 2015](#); [Jaiswal & Dhar, 2015](#); [Yoshida, Sendjaya, Hirst & Cooper, 2013](#)). This study expands upon the limited research that exists on leader technical competence, such as the result research from [Hysong \(2008\)](#); [Grant, Baumgardner, and Shane \(1997\)](#) who investigated the impact of the leader's technical skills on managerial performance and also the adoption of managerial roles. Second, related with perceived employee friendly workplaces, this research contributes that employee as human has various facets. This complexity needs to be managed to make employee feel save in order to create innovative work behavior at work place.

5.2. Practical implications

The results of this research suggest that to make innovative work behavior from employee in high tech organization, must prepare the self-efficacy from human/ individual employee. It can be started from recruitment process, training and seminar that can create self-efficacy from the individual employee. Leaders as the environment factor also play important factor, we suggest that leaders should update their knowledge, especially in the technology update, so they can inspire and help to solve the subordinates work related problem. Leaders with high technical proficiency, through their direct discussion with their subordinates and due to their deep technical knowledge, may indeed increase the subordinates' developmental readiness, and give new idea to create the innovative or improvement

activities at working. The results of this study are in line with the findings from [Minh, Badir, Ngoc and Afsar \(2016\)](#), who examined the relationship between leaders' technical competence and employees' innovative work behavior.

Employee as human has complex factors that needs to be manage. Based on the findings of the research, we suggest that in order to create innovative work behavior, management also should put attention to the non-cash and non-direct element for employee benefit, for example: union relation, employee involvement in the firm, retirement benefits, and work/life benefits. This finding aligns with research finding from [Adhikari, Choi, and Sah \(2016\)](#) that employees play an important part in the process of innovation and hence firms must make continued efforts towards creating and maintaining a friendly work environment which increases employee satisfaction.

5.3. Limitations and directions for future research

This research has some limitations. First, this research focuses only on relationships between perceived leaders' proficiency and innovative work behavior within the telecommunications industry. Although telecommunications cannot be generalized to represent all industries (i.e., low tech industries), however, high tech industries generally have similar characteristics. These characteristics include complexity in terms of technology development, fast changing technologies and environment, and high competition ([Mendonca, 2009](#)). High-tech industries generally require substantial technical knowledge, learning and innovation from their employees, compare to the low-tech industries ([Jensen, Johnson, Lorenz & Lundvall, 2007](#); [Klepper, 2001](#)). This assumption is in line with that of previous scholars ([Bae & Gargiulo, 2004](#); [Phelps, 2010](#)) who studied the telecommunications industry and generalized their study findings to other high-tech industries. Second, this research only considered the proficiency of leaders for their technical competence. We don't consider the other potential variables, such as managerial skills and competence. Third, the perceived employee friendly workplaces from employee perspective in the context of innovative work behavior is still rare at the current moment. It has potential to be explored in the future, in order to get more comprehensive figure about innovative work behavior study. Finally, we suggest to do comparison between the high- technology and the low-technology industry, to get is there any different condition between these two categories.

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