

## Innovative Behavior of Indonesian Pharmaceutical Employees: The Role of Psychological Empowerment and Leadership

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**Abstract.** Innovative behavior is considered a critical and essential factor for companies in the world of work. This study aims to determine the extent to which psychological empowerment influences the innovative behavior of employees working in pharmaceutical companies, with transformational leadership and transactional leadership as moderators. The research subjects were 115 employees from various pharmaceutical companies across ten cities in Indonesia. Innovative behavioral scales, psychological empowerment scales, transformational leadership scales, and transactional leadership scales were used to collect the data. Subgroup analysis and moderated regression analysis were used to analyze the data. The results show that transformational leadership has a higher score compared to transactional leadership. This result indicates that the hypothesis is accepted. Namely, that psychological empowerment is related to innovative behavior. Specifically, the correlation between variables showed that transformational leadership has a more substantial effect than transactional leadership

**Key Words:** innovative behavior, psychological empowerment, transactional leadership, transformational leadership

## Perilaku Inovatif pada Karyawan Farmasi: Peran Pemberdayaan Psikologis dan Kepemimpinan

**Abstrak:** Perilaku inovatif adalah merupakan faktor kritis dan utama untuk perusahaan di dunia kerja. Penelitian ini bertujuan untuk mengetahui sejauh mana pemberdayaan psikologis berpengaruh terhadap perilaku inovatif dengan kepemimpinan transformasional dan kepemimpinan transaksional sebagai moderator pada karyawan di bidang farmasi. Subjek penelitian berjumlah 115 orang karyawan dari berbagai macam perusahaan dan instansi. Pengukuran dilakukan dengan menggunakan skala perilaku inovatif, skala *psychological empowerment*, skala kepemimpinan transformasional dan skala kepemimpinan transaksional. Metode analisis statistik yang dipakai adalah analisis sub kelompok dan *Moderated Regression Analysis* (MRA). Hasil analisis statistik tersebut menunjukkan bahwa kepemimpinan transformasional lebih tinggi skornya dibandingkan dengan kepemimpinan transaksional. Hipotesis dalam penelitian ini diterima, bahwa *psychological empowerment* berhubungan dengan perilaku inovasi. Secara spesifik, korelasi antarvariabel menunjukkan bahwa kepemimpinan transformasional memiliki efek yang lebih kuat dibandingkan dengan kepemimpinan transaksional.

**Kata Kunci:** kepemimpinan transaksional, kepemimpinan transformasional, pemberdayaan psikologis, perilaku inovatif

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Innovation is crucial in the organization. Previous research found that innovation is the best strategy for organizations to be more competitive and improve their position in the market (Fay et al., 2015; Hoch, 2013; Shafie et al., 2009). However, some organizations struggle with innovation and, thus, underperforms when competing with others.

The urgency of the research regarding innovative behaviors support HR staff to solve organizational problems and manage challenges, and maintain the organization's status (Messmann & Mulder, 2014). In a previous study, Amundsen and Martinsen (2014); Zhang and Bartol (2010) explained that empowerment is the main factor that has a positive influence on innovation behavior. On the other hand, Pieterse et al. (2009) explained that empiric evidence of transformational and transactional leadership roles in fostering members' innovative behavior shows inconsistencies and is still rarely studied. Moderated effect of transformational leadership psychological towards empowerment is stronger than transactional leadership (Pieterse et al., 2009). This is because Bass's transformational leadership concept in Pieterse et al. (2009) is more innovative, stimulates new ideas, and brings major changes, in contrast to transactional leadership. While transactional leadership is more oriented towards achieving rewards focusing on things to do, emphasizing on monitoring work performance and problem solving (Bass, 1999;

Pieterse et al., 2009; Yukl, 1999). Transactional and transformational leadership is used in research to analyze the differences in the strength of relationships between psychological empowerment and innovative behaviors.

Another study discovered that organizations that place innovation as a solution to adapting with changes could accelerate their production cycle by producing new products and services with greater benefits and satisfaction (Ven, 1986). In other words, innovative behavior that leads to work effectiveness could accelerate organizations' success in achieving goals, affecting their quality improvement

At the individual level, innovative behavior is essential because it encourages people to strive and be optimistic about achieving positive results (Axtell et al., 2006; Shin & Zhou, 2003). Innovative behavior is an individual action that leads to the emergence, introduction, and application of something new and beneficial at all levels of the organization. Something new and profitable includes the development of new product ideas or technologies. It could take the form of changing administrative procedures aimed to improve work relations or applying new ideas or technologies to work processes to increase efficiency and individual activities significantly. Innovative behavior is also a vital force in maintaining and improving organizations. Individuals with low innovation will inhibit the company's progress from producing new

things that are useful for the organization (George & Zhou, 2002; Scott & Bruce, 1998).

Employees who have low innovation have very little chance of survival, one of which is the lack of innovation in pharmaceutical companies. Data accessed on the IAI (Indonesian Pharmacist Association) website in 2019 shows that Indonesia has around 243 pharmaceutical industries where the largest percentage of drug manufactures are in Java Island. There are quite a lot of natural resources in Indonesia that can be utilized by pharmaceutical companies, so that the pharmaceutical industry in Indonesia is one of the important assets of the country. This advantage must be utilized by Indonesia to win the competition in the era of free trade in the *AFTA (ASEAN Free Trade Area)* region. However, the capital of natural resources owned by Indonesia have not been utilized by pharmaceutical companies in Indonesia. The need for research in the field of Pharmacy on business models, where companies depend on the pharmaceutical supply chain through the company's network, by generating the value of cooperation, this situation requires the innovation behavior of the personnel (Capo et al., 2014).

Initiation of organizations to improve innovative behaviors, aiming to explore new opportunities and think new things and creative ideas, the goal is to improve the work performance (Sifatu et al., 2020). Sifatu et al. (2020) emphasizes the importance of

innovative behaviors to increase the competitiveness of the pharmaceutical business in Indonesia, so that it can compete internationally.

There are internal and external factors related to innovative behaviors (Fagerberg & Mowery, 2006; Scott & Bruce, 1998; Shi & Wu, 2017). Internal factors consist of knowledge, abilities, and skill. External factors comprise of regional financial development, government policy, psychological climate, support to continue innovating, work demands, and leadership styles. The previous study found that innovation in an organization is affected by several factors: leadership patterns, subjective well-being, organizational climate, and psychological empowerment (Rahman et al., 2014). The study found that aspects of psychological empowerment (i.e., meaning, competence, self-determination, and impact) all influence the innovative behavior aspects (i.e., opportunity exploration, generativity, formative investigation, championing, and application). This research focuses on the role of psychology empowerment and transactional and transformational leadership types. Psychological empowerment research and leadership-type moderator roles have not gotten the researchers' attention (Pieterse et al., 2009).

Psychological empowerment is the intrinsic motivation that one has for work (Jha, 2011), explained that psychological empowerment is employees' concept that highlights their strength. Psychological

empowerment increases their ability to understand the organization based on their self-esteem, commitment, and satisfaction. Employees with a high level of psychological empowerment could avoid feeling incompetent by increasing their sense of control by working (Spreitzer, 1996) and maximizing their ability. Consequently, these behaviors would facilitate employees in creating innovative behavior.

Psychological empowerment, as a motivational concept, introduces intrinsic task motivation to encourage people to perform better in their occupation. There are four aspects of psychological empowerment that determine intrinsic task motivation: meaning, competence, self-determination, and impact, and each aspect is positively correlated with innovative behaviors, appears while working on assignment (Spreitzer, 1996).

Spreitzer (1996) and Pieterse et al. (2009) stated that employees' psychological empowerment is not only seen as a form of reward for accomplishing a task but also enables employees to do their jobs. Giving assignments and authority from leaders to employees will help employees to be more assertive in making decisions in work activities. The condition proves that the role of leaders is crucial in an organization. Person with high psychological empowerment see themselves as a person with power and control of their work, they use meaningful approach to run the workplace. Therefore, transformational leadership can foster the belief of followers that they have the

ability to behave in other inspiring, it is a form of psychological empowerment

There are various styles of leadership, such as transformational leadership and transactional leadership (Avolio et al., 1999; Bass et al., 2003). Each style influences employees' development differently. Transformational leadership and transactional leadership have many differences. In transformational leadership, leaders tend to behave in ways to change their subordinates into capable and highly motivated individuals who strive to achieve excellent work performance. In transformational leadership, a leader pays attention to the development needed by each subordinate. Leaders change employees' awareness of existing issues by inspiring them to take on a different perspective. Transformational leaders can encourage and inspire their employees to provide extra effort in achieving group goals.

On the other hand, transactional leadership is a leader-employee relationship that is characterized by an exchange process. Leaders and employees accept the division of roles and responsibilities to achieve the stated goals. In other words, transactional leadership is a process of influencing and motivating subordinates by exchanging rewards with efforts to achieve agreed objectives.

Although transactional leadership and transformational leadership both induce employees' motivation to innovate, selected literature shows that transformational

leadership is more effective in inducing motivation to innovate compared to transactional leadership (Chan, 2020; Nafisah & Kusumaputri, 2014; Pieterse et al, 2009; Sharifirad, 2013). In transformational leadership, interactions between leaders and subordinates are denoted by leaders' attention and care towards what each subordinate needs to achieve personal development, increasing their intrinsic motivation in innovating (Hoch, 2013). Leaders in companies act as role models that inspire employees to carry out innovative behaviors. Leadership is an essential factor in determining the emergence of innovative behavior. The importance of leadership in inspiring employees is especially true in the transformational leadership style, which emphasizes the constructive interaction between the leader and employees. Such constructive relationships, characterized with thoughtful observation and care toward the personal development of the employees, will stimulate psychological empowerment toward innovative behaviors.

Nafisah and Kusumaputri (2014) found that in a corporation setting transformational leadership is more effective compared to transactional leadership. The presence of a transformational leadership style allows the corporation workflow to be more productive; benefitting the organization. The transactional leadership style motivates employees by making a differentiated system of work roles and job descriptions. Each role has a specific job

description and expected outcome. Transactional leadership relies on contingency rewards, active management by exception, passive management by exception, and laissez-faire concepts to motivate the employees (Avolio et al., 1999; Bass et al., 2003). Transformation leadership, compared to transactional leadership, has a substantial effect in moderating the influence of psychological empowerment on innovative behavior. This finding is partly because transformational leadership ignites leader-employee interactions characterized by genuine care for employees' personal development. For that reason, it often increases employees' intrinsic motivation to create innovation. This study examined the relationship between psychological empowerment and employees innovative behavior; and explore whether the relationship varies according to two types of leadership (transformational and transactional leadership)

## Method

This study is a quantitative research using purposive sampling techniques for data collection. The participants consist of 115 employees (47 males and 68 females) across ten cities in Indonesia with the following inclusive criteria: (1) have worked a minimum of one year at a pharmaceutical company, (2) attained the highest education level at a 3-year Diploma.

The data were collected using both online and offline questionnaires. As many as 84 respondents were gathered using the offline

method, while the online version collected responses from 31 respondents. The use of two methods of collection, because the scope of research is Indonesia, so it is not possible to use offline methods.

The process of scale development is based on aspects of innovative behavioral theory, psychological empowerment theory, and transactional and transformational leadership theory. The aspects of each theory are described as indicators, then the preparation of items is carried out. The next stage is to enforce validity using expert judgement, and reliability testing using internal consistency.

Four measurement tools were utilized for data collection. First, the innovative behavior scale based on the aspects developed by Kleysen and Street (2001), namely opportunity exploration, generativity, formative investigation, championing, and application. A high score in this measurement tool reflects high engagement in innovative behavior. The discrimination index of the scale is above .30, and a reliability score is .933. An example of an item is "I always try to develop an idea".

Second, the psychological empowerment scale measured the variable based on the aspects by Spreitzer (1996): meaning, competence, self-determination, and impact. A high score in this measurement tool reflects the high level of psychological empowerment. The discrimination index of the

scale is above .30, and a reliability score is .937. An example item is "I can organize my own work".

Next, the transformational leadership scale is based on the aspects developed by Bass et al. (2003), namely attributed charisma, idealized influence, inspirational leadership, intellectual stimulation, and individualized consideration. A high score in this measurement tool reflects the high level of transformational leadership. The discrimination index of the scale is above .30, and a reliability score is .929. An example of an item is "The Leader motivating me in working".

Lastly, the transactional leadership scale consists of the following aspects by Bass et al. (2003): contingency reward, management by exception, and laissez-faire. A high score in this measurement tool reflects the high level of transactional leadership. The discrimination index of the scale is above .30, and a reliability score is .87. Examples of items are as follows "Leaders give freedom in work".

The analytical technique used in this research is the Moderated Regression Analysis using the SPSS 22.0 for Windows. The test results of two types of leadership are shown in 2 tables, namely the summary model MRA and sub group test (Ghozali, 2016; Liana, 2009).

Regression analysis test in the study using 2 models (Ghozali, 2016). Table 1 moderated regression model tests the relationship of independent variables to dependent variables

without moderation variables. Table 3 of all research variables included in statistical tests.

**Result**

Table 1 shows the deskriptive statistic research subject are 115. Table column explain about innovative behavior minimum score is 83; *psychological empowerment* score is 79; transformational leadership score is 56; and kepemimpinan transactional score is 39. On the maximum column, score innovative behavior and *psychological empowerment* are 128; transformational leadership is 112; and transactional leadership is 64.

The next column explains about the mean score, innovative behavior mean score is 99.93; mean score psychological empowerment variable is 97.63; mean score transformational leadership variable is 82.85; and score mean transactional leadership variable is 47.89. The last column is standard deviation which indicates a standard deviation of each variables. Standard deviation innovative behavior is 9.409; psychological empowerment is 9.692; transformational leadership is 11.126; and transactional leadership is 4.724.

**Tabel 1**

*Descriptive Statistic*

Variable	Min	Max	M	SD
Innovative Behavior	83.00	128.00	99.93	9.40
Psychological Empowerment	79.00	128.00	97.63	9.69
Transformational	56.00	112.00	82.85	11.12
Transaksional	39.00	64.00	47.89	4.72

*Catatan. N = 115*

The results show that there are differences in the effects of transformational leadership and transactional leadership towards the other variables. Transformational leadership styles strengthened the relationship of psychological empowerment to innovative behavior. In other words, an increase in

psychological empowerment is followed by an increase in innovative behavior. The values show that the influence of psychological empowerment on innovative behavior is reinforced by transformational leadership ( $R^2 = .56$ ) rather than transactional leadership ( $R^2 = .521$ ), providing the evidence that leadership is a moderator variable.

**Table 2**

*Model of Moderated Regression Analysis*

Variable	R	R <sup>2</sup>	F	p
Psychological Empowerment and Innovative Behavior	.711	.506	115.577	.000

Table 2 depicts the significant value of the interaction between psychological empowerment and innovative behavior to be .000, meaning that there is a significant interaction between the variables. the coefficient of determination ( $R^2 = .506$ ) means that the following variables can explain 50.6% of the interaction variations of variable psychological empowerment with leadership on innovative behavior.

**Table 3**

*Summary Model of Subgroup Test*

	R	R <sup>2</sup>	F	p
Transformational and Transactional Leadership	.763	.582	30.407	.000
Transformational Leadership	.748	.560	47.012	.000
Transactional Leadership	.722	.521	40.210	.000

The current findings compare the strength of transformational and transactional leadership in moderating the influence of psychological empowerment towards innovative behavior. The effect of psychological empowerment on innovative behavior is strengthened by transformational leadership, which is characterized by the leaders' attention and care for their subordinates' development needs. Such characteristic increases subordinates' psychological empowerment

In Table 3, the coefficient of determination ( $Adj R^2 = .563$ ) means that the following variables can explain 56.3% of the variation in innovative behavior: psychological empowerment, transformational leadership, and transactional leadership. Table 3 depicts the R value .763 and R Square .582. It means, the correlation between psychological empowerment and leadership on innovative behavior is shown at .582 with standard error of the estimate .621.

This study tested the following hypothesis: transformational leadership strengthens the correlation between psychological empowerment and innovative behavior more than transactional leadership. Based on the analysis conducted in the previous section of this research, the result was that transformational leadership has a higher score ( $R^2 = .56$ ) compared to transactional leadership ( $R^2 = .521$ ). The difference in  $R^2$  scores shows that transformational leadership has a stronger influence on the relationship between



psychological empowerment and innovative behavior compared to transactional leadership.

### **Discussion**

The research results showed that there is a relationship between psychological empowerment and innovative behavior. This finding indicates that psychological empowerment affects innovative behavior, confirming previous study results, whereby high psychological empowerment was found to increase innovative behavior (Bhatnagar, 2012; Ertürk, 2012; Marane, 2012; Rahman et al., 2014). Similarly, low psychological empowerment also reflects low levels of innovative behavior in employees. This relationship shows that psychological empowerment increases employee innovation. In addition, it is proven that transformational leadership further strengthens the relationship between psychological empowerment and creative behavior than transactional leadership.

The influence of psychological empowerment on innovative behavior can explain that high psychological empowerment is characterized by a person's behavior at work where a person can develop his or her potential and have control over his or her work. They promote new ideas, apply their creativity that necessary in their workplace (Singh & Sarkar, 2012). On the other hand, low psychological empowerment occurs in people who lack control of their work and doubts that their environment is conducive and controlled. These

individuals struggle to find the motivation to maximize their abilities and lack the drive to practice their skills, undermining their potential to succeed.

Leadership is a key predictor of employee creativity and innovation (Hughes et al., 2018). Zimmerer and Scarborough (2008) also found that leadership is essential in creating innovative behavior, particularly the transformational leadership style. In the transformational leadership style, there is an interaction between leaders and subordinates, often characterized by leaders' attention and care for their subordinates' development needs. Those leaders create positive and safe climate to bring new ideas, provide great support to their employee, such as giving resourceful information and social networking that necessary to implement (Hammond et al., 2011). Such behavior could increase employees' innovative behavior. This is supported by the findings of this research, namely that transformational leadership strengthens the effect of psychological empowerment toward innovative behavior more than transactional leadership. Although both leadership styles produce high psychological empowerment, which affects employees' innovation, transformational leadership is considered more effective in strengthening the relationship.

Regarding the explanation above, the leadership style was chosen as a moderator variable, comparing between transformational

and transactional leadership styles. According to various studies, transformational leadership is more effectively used in an organization or company compared to the transactional leadership style (Chan, 2020; Nafisah & Kusumaputri, 2014; Pieterse et al, 2009). As a moderating variable, leadership has a determination coefficient value of .501, indicating that leadership contributes 50.1% in explaining the relationship between psychological empowerment from innovative behavior. The remaining 49.9% is explained by variables outside the scope of this study.

### Conclusions

This result means that transformational and transactional leadership has a different level of psychological empowerment for innovative behavior. This result is in line with Chan (2020), which stated that transformational leadership can improve the relationship between psychological empowerment and innovative work behavior. This is because transformational leadership has a definite work role that must be performed by employees, allowing employees to have specific targets in completing their responsibilities.

### Suggestion

Based on this research, future studies are advised to investigate other variables outside of leadership styles and psychological empowerment within their research plan. They should also seek to include companies with varied characteristics and a more significant

number of respondents. It would be beneficial for future research to implement the Structured Equation Modelling to understand better the effective contribution and standard error of a theoretical model. Moreover, the number of respondents and population areas should be expanded by considering the effect size. Thus, the population parameter value could be used to conduct a statistical hypothesis testing. Future studies are also advised to improve the homogeneity of the organizations' characteristics to allow for a comparable comparison between the population groups.

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