

Effect of role ambiguity and psychological safety on employees' innovative work behavior intention

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Abstract

The organization environment has low role ambiguity and high psychological safety so innovation can be an organizational advantage. This research used a quasi-experimental study using the Experiment Vignette Method (EVM), which aims to measure the effect of role ambiguity and psychological safety on employees' innovative work behaviour intention. The research instrument used a questionnaire distributed using Google Forms. Data collection was carried out using a purposive sampling method and obtained 262 marketplace employees in Indonesia. Independent manipulation variables were arranged as 4x2 comic strips with 4 variations of scenarios as well as measuring employee innovative work behaviour intentions using an innovative work behaviour intention questionnaire. Two-way ANOVA analysis shows that there is a significant effect of role ambiguity on employees' innovative work behaviour intention. In addition, employees with high psychological safety also show more intention to behave innovatively. This study also shows that there is an interaction effect between role ambiguity and psychological safety on employee innovative work behaviour intention.

Keywords: Experiment Vignette Method (EVM); Innovative work behavior intention; Marketplace employee; psychological safety; Role ambiguity

Abstract

Lingkungan organisasi memiliki ambiguitas peran yang rendah dan keamanan psikologis yang tinggi agar dapat membuat inovasi sebagai keunggulan organisasi. Penelitian ini merupakan penelitian quasi experiment menggunakan Experiment Vignette Method (EVM), yang bertujuan untuk melihat pengaruh ambiguitas peran dan keamanan psikologis terhadap intensi perilaku kerja inovatif karyawan. Instrumen penelitian dengan menggunakan kuesioner yang disebarakan menggunakan google form. Pengumpulan data dilakukan dengan metode purposive sampling dan didapatkan 262 karyawan marketplace di Indonesia. Manipulasi variabel bebas dibuat dalam bentuk komik strip 4x2 dengan 4 variasi skenario dan juga dilakukan pengukuran intensi perilaku kerja inovatif menggunakan kuesioner intensi perilaku kerja inovatif. Analisis two ways ANOVA menunjukkan bahwa terdapat efek signifikan antara ambiguitas peran terhadap intensi perilaku kerja inovatif karyawan, Selain itu, karyawan yang memiliki keamanan psikologis yang tinggi juga menunjukkan memiliki intensi lebih untuk berperilaku inovatif. Penelitian ini juga menunjukkan bahwa terdapat pengaruh interaksi antara ambiguitas peran dan keamanan psikologis terhadap intensi perilaku kerja inovatif.

Kata kunci: Ambiguitas peran; Experiment Vignette Method (EVM); Intensi perilaku kerja inovatif; Keamanan psikologis; Marketplace.

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Introduction

Indonesia is included in the top ten countries with the highest growth in online buying and selling goods or services in the world, with a growth rate of 78% (Skalanews.com, 2019). This growth rate has driven the growth of the marketplace industry in Indonesia. Evidenced by the results of a survey conducted by similarweb.com (2021), the growth in the number of online transactions in the marketplace which is quite high, about 33.2% compared to 2020, and it is predicted to continue to increase along with developments in digitalization. Even though during the pandemic the marketplace industry was one of the types of industries that benefited, based on a survey (Adam, 2020) it was stated that the marketplace industry had also experienced a decrease and was in a phase of struggling to survive. This is because the decrease in sales for secondary and tertiary needs, such as hobby equipment and cosmetics is not proportional to the increase in profits from primary needs. Even though these secondary and tertiary needs are the main source of profit for the marketplace industry.

Even after the pandemic and have gradually recovered, in fact, based on the results of the 2022 eCommerce Survey conducted by BPS in 2022, as many as 53,35% of business actors experienced a decrease in business income by more than half of their income in the previous year. In addition, one of the obstacles to the online buying and selling process is the delay in the distribution of goods, which results in increased consumer complaints in the marketplace. This situation causes marketplace business actors need to carry out a survival strategy. One of its strategy that can be carried out is to be unique and different. Various strategies have been carried out, including building a brand image through a promotional strategy with brand ambassadors and also starting to expand the COD to remote villages area (similarweb.com, 2021). Thus, innovation is required to produce these strategies requires innovation.

Innovation itself means the key to the success of an outperformance company (IBM Institute for Business Value, 2021). The main actors who can determine a company's ability innovation are at the individual level or employees of the company itself (Janssen O., 2000). The higher the innovative work behavior (IWB) or innovative work behavior possessed by employees, then these employees will be increasingly able to contribute and sustain competitive advantage to the company (Wang et al., 2021). Innovative work behavior is defined as the intentional creation, promotion, and realization of new ideas and new benefits in work roles, groups, or organizations (Janssen O., 2000; Susanne & Reginald, 1994).

Innovative work behavior focuses on employee behavior that has been done before (past behavior), while companies need employee behavior that can continuously innovate in their work (KANTER, 1996). Although past behavior can predict the tendency for subsequent behavior to occur, this prediction concept can only be used when the behavior has become a habit and routine because it has been done repeatedly (Ouellette & Wood, 1998). However, innovative work behavior is an activity that has a high risk so it is not possible to do it routinely as a habit by the majority of employees (Williams et al.,

2010). In activities that are uncertain in their implementation due to high risk, intention can better predict changes in a person's behavior in the future (Ajzen, 2012). Intention itself is an individual's desire and plan to try something. Based on previous studies, individual intentions are considered as the most direct and important factor for predicting actual behavior in various constructs, including innovative work behavior (de Bruin et al., 2012; De Vries et al., 2006; Zhang et al., 2021). Therefore, innovative work behavior intention can be defined as an individual's willingness and plans to carry out the intentional creation, promotion, and realization of new ideas and benefits in work roles, groups, or organizations (Ekasari, 2020).

In having the desire to innovate, individuals are required to dare in taking risks that there will be judgments from other people, especially when the individual presents, promotes, and implements ideas (Javed Ali et al., 2017) so that supporting factors from the organization are needed in the formation of innovative work behavior. One of the supporting factors that can be provided by the organization to its employees is the clarity of roles. These roles, demands, and expectations of others is needed by employees in order to take risks (Kundu et al., 2020; Ohly et al., 2006). Role ambiguity can cause employees to experience role stress (Yung-tai Tang & Chen-hua Chang, 2010) which can affect employee work both positively and negatively (Beehr TA, 2005; Yung-tai Tang & Chen-hua Chang, 2010). Role ambiguity it also directly causes emotional exhaustion, dissatisfaction, and employee turnover (Cho et al., 2014; Grobelna, 2015). Role ambiguity can be in the form of individual perceptions regarding the ambiguity of the job they have or environmental ambiguity that has an impact on the ambiguity of working conditions and work performance produced by individuals. Individuals who have role ambiguity will feel stressed and higher fatigue than individuals who do not. This is because when they have role clarity in their daily work, these individuals will have the time and cognitive capacity to generate new ideas, including implementing them (Kundu et al., 2020). Individuals who have low role ambiguity will have the initiative to carry out innovative work behavior. Therefore, the assumption is that there is an influence of role ambiguity on the intention of innovative work behavior.

Innovating action is often seen as something risky and associated with uncertainty (Janssen O., 2000; Wang et al., 2021). The feeling of safety that the employee's interpersonal relationships will remain intact after he proposes an innovative idea can motivate him to innovate (Christensen, 2018); (Wang et al., 2021). Psychological safety or is a climate in which people feel comfortable expressing and being themselves (Christensen, 2018). The lack of research that describes the relationship between role ambiguity interactions and psychological safety on the intention of innovative work behavior makes the causal effect unclear. In Albort-Morant et al. (2016), role ambiguity negatively related, while Yung-tai Tang & Chen-hua Chang (2010) said at a certain degree of role ambiguity can have a positive influence on innovative work behavior. Whereas, when we can understand the causal effect of role ambiguity on innovative work behavior, it can provide more practical implications regarding what processes and ways



of working in organizations should be like in order to encourage employee innovation. This results in unclear causal effects of role ambiguity on innovative work behavior.

The relationship between psychological safety and innovative work behavior has actually been widely studied, but the majority of psychological safety becomes a mediator variable (Baer Markus & Frese Miachel, 2003); (Kim et al., 2021); (Wang et al., 2021) . Even though various studies have proven that the relationship between psychological safety and outcome variables is quite strong, including as an antecedent of innovative work behavior (Newman et al., 2017), this study has the assumption that there is an interaction effect between role ambiguity and psychological safety on innovative work behavior .

The results of a preliminary survey conducted on 50 participants from 5 marketplaces showed that 30 participants or 60% had poor innovative work behavior intentions. The categories used in the preliminary survey were poor, sufficient, and good. Most participants were not interested to engage in innovative work behavior because they did not want to be seen as different from others, were too lazy to express new ideas because they did think they don't fully understand their job scope, were seen as changing the existing work system, and did not want to be ridiculed by people around them. Based on these results, researchers are becoming more interested in exploring the impact of psychological safety and role ambiguity on innovative work behavior intention. By using experimental vignette study (EVM) treatment, this research will be different from previous studies because EVM can provide deeper causal relationship analysis results between variable through a combination of manipulation and surveys (Aguinis H & Bradley KJ, 2014).

Additional, innovative work behavior is better predicted by measuring behavioral intentions than using questionnaire. It is because innovative work behavior is a risky behavior. Therefore, EVM would be the most suitable method, because when using EVM it would be more appropriate if the variables measured are individual attitudes. Besides that, by using two independent variables in one study, it can provide a comprehensive analysis for researchers to answer research questions related to whether the level of one independent variable can affect other independent variables which can be seen through the manipulations carried out (Chiang et al., 2015). Therefore, the aim of this research is to find out the effect of role ambiguity and psychological safety on employees' innovative work behavior intention. By knowing the effect of role ambiguity and psychological safety on employees' innovative work behavior intention, it can be input for organizations to review whether the work culture and role clarity within the organization are good enough to foster innovative culture for employees to generate innovative work behavior intentions.

Method

Research Design

This research used a quasi-experimental study using the Experiment Vignette Method (EVM), which aims to measure the effect of role ambiguity and psychological safety on employees' innovative work behavior intention. This research is between subject 2x2 factorial design using the experimental vignette methodology (EVM). This is a method for measuring attitudes, intentions, and behavior using a combination of manipulation and surveys (Aguinis H & Bradley KJ, 2014). Two independent variables in this research were varied into two, low and high variation, so as to produce 2x2 factorial group manipulation variations, which were 1) low role ambiguity x high psychological safety, 2) high role ambiguity x high psychological safety, 3) low role ambiguity x low psychological safety, 4) high role ambiguity x low psychological safety.

Variations of manipulation will be formed into comic strips based on events that often occur in daily work activities in the marketplace. The purpose is to make a relatable feeling and the participants feel close to the phenomenon so that it is easier to imagine the manipulation situation. To make sure the manipulation, the researcher conducted focus group discussion to eight marketplace employees to check the comic story is relatable and close enough to their daily activities, the visualization is clear enough and easy to understand, the google form is user-friendly. The researchers did some revisions based on the feedback. The result is one comic strips variation that represent each variation of manipulation.

Each participant will only get one condition or variation of manipulation so that researchers will compare the differences in conditions between the groups (Gravetter, FJ, 2016). This design known as between subject group. The advantage of between subjects is that it has better external validity and is more realistic in showing individual decision making. In addition, it was also found that the Within Subject and Between Subject designs had no differences according to statistical analysis (Charnes et al., 2012). This research protocol has been reviewed and obtained the ethical clearance from the Ethics Committee by the Faculty of Psychology, Universitas Indonesia (Number: 004/FPsi.Ethics Committee /PDP.04.00/2023).

Population and Participant

The population of this research is marketplace employees in Indonesia. The sampling technique uses accidental sampling technique. Accidental sampling technique is used because the exact number of the marketplace employee population is not yet known and is not easy to reach. In this study, it was found that a total of 303 people participated, but after cleaning the data, only 262 participants were left that could be used. The majority of participants were women with a percentage of 59% (N = 154). The age of was 26 – 30 years with a percentage of 46% (N = 120). Most of the participants was undergraduate (N = 229) and the majority current positions were staff (N = 177).



262 participants were divided into four groups according to the geometric shapes they chose when filling out the questionnaire. Each geometric shape represents a manipulation scenario. Group 1 (low role ambiguity x high psychological safety) with the pentagon geometric shape consists of 64 participants. Group 2 (high role ambiguity x high psychological safety) is represented by the geometric shape of the octagon, which consisted of 65 participants. Group 3 (low role ambiguity x low psychological safety) with a hexagon geometric shape consisting of 66 participants, and Group 4 (high role ambiguity x low psychological safety) which is represented by a triangular geometric shape consisting of 67 participants.

Research Data

The types of data used are primary data and secondary data. Primary data comes from a questionnaire distributed via Google Form. Secondary data with sources from books and scientific articles supporting this research.

Data Collection

The first stage carried out was to list the companies' name that were included in the marketplace category. From the existing list, the researcher selected five well-known marketplace companies in Indonesia and began spreading Google Forms questionnaires. The questionnaire contained four parts, namely 1) research information, 2) informed consent, 3) demographic data, as well as 4) comic manipulation and the IWB questionnaire. The spread of the Google Forms questionnaire link was carried out using posters containing research information. In order to minimize bias, the researcher randomized the manipulation by using a geometric image stimulus which would be randomized differently by the Google Forms for each participant who took part in the study. Each geometry drawing was represented a manipulation scenario that the participant needs to read and then the participants filled out nine items from the innovative work behavior intention questionnaire. Besides, by spreading the questionnaire link through multiple channel resources, such as Instagram, WhatsApp, LinkedIn, Email and Twitter also can minimize the bias because multiple channels could increase the diversity of the sample and can help reduce the risk of bias by ensuring that various perspectives are represented in your sample. The response rate of this research is 86%.

The form of the manipulation instrument used a 4x2 comic strip which describes the condition of the independent variable research in the context of the workplace. The purpose of using manipulation in the form of comic strips was to attract a wider audience from various age groups and different cultural backgrounds. It could be beneficial when the technical sampling is accidental sampling because the manipulation could be fit to any cultural background. In addition, using comics can also provide a higher emotional attachment than EVM scenarios in written form because images can better represent the real situations (Farinella, 2018). It makes the validity of the instrument become higher than the written form because it is easier to understand and more relatable. The

following are the four conditions used by researchers in making variations of EVM comics, namely (1) low role ambiguity x high psychological safety, (2) high role ambiguity x high psychological safety, (3) low role ambiguity x low psychological safety, as well as (4) high role ambiguity x low psychological safety. All instruments in this study were designed using Bahasa Indonesia.

Data analysis technique

The data obtained were analyzed using IBM SPSS software of 26 version for Mac. The results of the collected data were analyzed using two ways analysis of variance (ANOVA) to find out the average difference between groups. Intention variable was measured using a modification of the innovative work behavior measurement tool (Janssen, 2003); (Janssen O., 2000). This measuring instrument consists of nine items and has been translated into Indonesian by (Etikariena & Muluk, 2014). In order to adapt a measuring tool for innovative work behavior to a measuring tool for intention, the researchers referred to the theory of Su et al. (2019) who added the word "I would ..." to each item of the innovative work behavior measuring tool (Janssen, 2003); (Janssen O., 2000). In addition, the researcher also changed the scale in the measuring instrument to a 6-point attitude Likert scale, where participants answered from point 1 "very inappropriate" to point 6, "very appropriate". Measuring the intention of innovative work behavior has a fairly high level of reliability, with $\alpha = 0,7$.

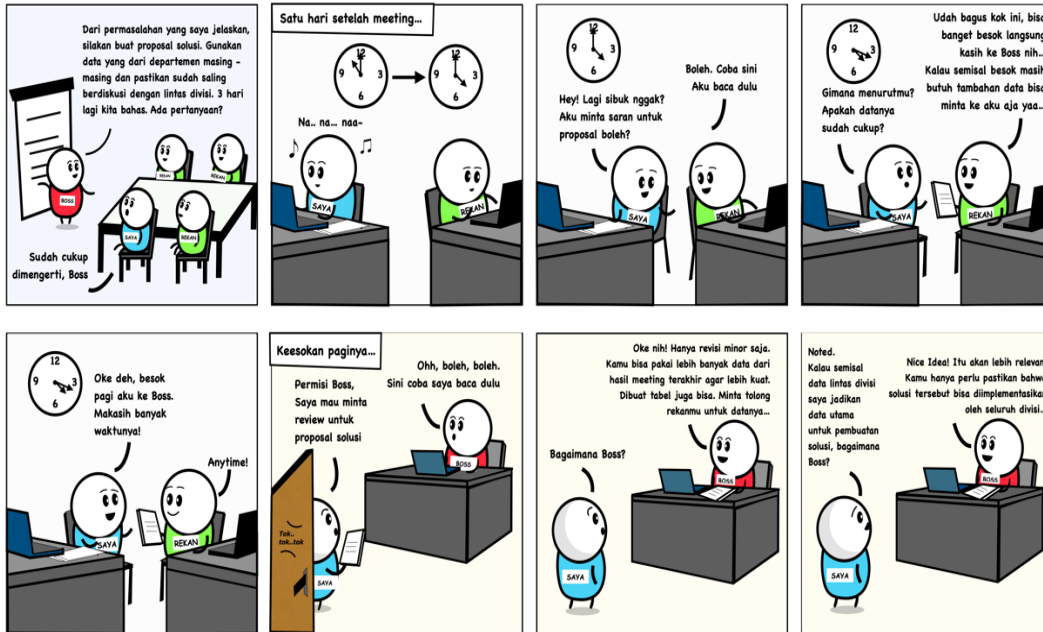
The participants in this study involved employees who work in *the marketplace* with at least one year of service. The researchers used demographic data, such as length of service and educational level as confounding variables. The purpose of using these variables is to clean up data outliers. Length of working period and educational background correlate with innovative work behavior (Etikariena, 2019), where the longer the individual's working period, the more the individual understands his work, so that it is more possible to have initiatives to show innovative work behavior. In addition, with a minimum working period of one year, it is assumed that participants have completed the onboarding period so that they are familiar with their workplace environment better, understand their daily tasks and responsibilities, and are able to have the desires to carry out innovative work behavior. The level of education can also affect an individual's willingness to display innovative work behavior, where the more educated an individual is, the more skilled his/her ability will be in carrying out daily work so that the possibility of presenting innovative work behavior will be even higher.

Figure 1

Four variations of the manipulation scenario in the form of a 4x2 comic strip

(a) Low Role Ambiguity x High Psychological Safety

Anda adalah karyawan perusahaan marketplace di Indonesia. Dua tahun terakhir, perusahaan Anda mengalami penurunan pengguna platform yang berdampak pada posisi perusahaan Anda di pasar marketplace Indonesia. Saat ini Anda merupakan perwakilan departemen Anda yang ditunjuk untuk menjadi anggota tim gabungan oleh pihak manajemen. Anda dan anggota tim lainnya diminta membuat proposal penyelesaian masalah yang sedang dihadapi perusahaan. Berikut adalah kondisi yang terjadi :



(b) High Role Ambiguity x High Psychological Safety

Anda adalah karyawan perusahaan marketplace di Indonesia. Saat ini Anda mewakili departemen Anda sebagai anggota tim gabungan yang dibentuk oleh pihak manajemen untuk membuat proposal penyelesaian masalah yang sedang dihadapi perusahaan. Dua tahun terakhir, perusahaan Anda mengalami penurunan pengguna platform yang berdampak pada posisi perusahaan Anda di pasar marketplace Indonesia. Berikut adalah salah satu situasi yang sering terjadi ketika Anda bekerja :



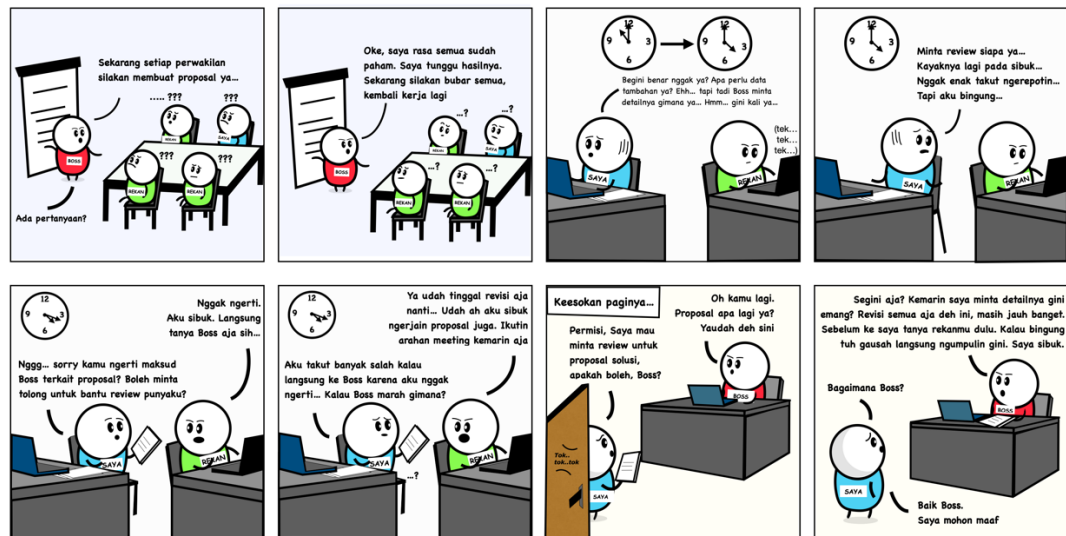
(c) Low Role Ambiguity x Low Psychological Safety

Anda adalah karyawan perusahaan marketplace di Indonesia. Saat ini Anda mewakili departemen Anda sebagai anggota tim gabungan yang dibentuk oleh pihak manajemen untuk menyelesaikan masalah perusahaan. Dua tahun terakhir, perusahaan Anda mengalami penurunan pengguna platform yang berdampak pada posisi perusahaan Anda di pasar marketplace Indonesia. Berikut adalah salah satu situasi yang sering terjadi ketika Anda bekerja :



(d) High Role Ambiguity x Low Psychological Safety

Anda adalah karyawan perusahaan marketplace di Indonesia. Saat ini Anda mewakili departemen Anda sebagai anggota tim gabungan yang dibentuk oleh pihak manajemen untuk menyelesaikan masalah perusahaan. Dua tahun terakhir, perusahaan Anda mengalami penurunan pengguna platform yang berdampak pada posisi perusahaan Anda di pasar marketplace Indonesia. Berikut adalah salah satu situasi yang sering terjadi ketika Anda bekerja :



Results

Characteristics of Participants

Characteristics of the majority of participant samples were female with a percentage of 59%. The age range of the majority of participants is 26-30 years, with a percentage of 46%. The majority of the sample had a bachelor's degree (87%) educational level and had worked for 1-2 years at the current company (60%). The position of the majority is staff, with a percentage of 68%.



Table 1
Characteristics of Participants

Characteristics	n	%
Gender		
Female	154	59%
Male	108	41%
Age		
20 – 25 years	79	30%
26 – 30 years	120	46%
31 – 35 years	49	18%
36 – 40 years	8	3%
41 – 45 years	4	2%
46 – 50 years	5	1%
Last Education		
Senior or Vocational High School	0	0%
Diploma	22	9%
Bachelor Degree	229	87%
Master Degree	11	4%
Work Period at the Current Company		
1 - 2 years	157	60%
3 - 5 years	79	30%
6 – 10 years	23	9%
>10 years	3	1%
Position		
Staff	177	68%
Supervisors	52	20%
Manager	33	12%

Desc. N = 262

Source: SPSS Outputs

Normality test

The normality test results showed the data is not normally distributed ($p = 0.000 < 0.5$). However, the ANOVA test itself could be used, because it robust on normality so that the analysis can proceed to the next prerequisite test, namely the homogeneity test.

Homogeneity Test

The Levene's test homogeneity assumption show that the data are homogeneous ($p = 0.712 > 0.5$). This shows that the population data does not have a different variance in both the mean value and the variance value of the other subgroups. Therefore, the analysis can be continued to test the hypothesis.

Hypothesis Test

Analysis of the data used to test the hypothesis of this study aims to use analysis two-way ANOVA. The analysis was conducted to evaluate the effect of psychological safety (low x high) and role ambiguity (low x high) on the innovative work behavior intention of marketplace employees. The average and standard deviation for the innovative work behavior intentions of marketplace employees are presented in the following table.

Table 2

Descriptive Statistics for Innovative Work Behavior Intentions

Role Ambiguity	Psychological Safety	M	SD
Low	Low	44,485	0.881
	High	47,250	0.873
High	Low	41,060	0.814
	High	44,554	0.848

Source: SPSS Outputs

Based on Table 3, it can be concluded that there is a significant effect between the role ambiguity of marketplace employees on employees' innovative work behavior intentions ($F(1,258) = 840.415$, $p < 0.000$, $\eta^2 = 0.765$). When compared between employees who have low and high role ambiguity, employees who have low role ambiguity have higher innovative work behavior intentions ($M = 3.061$, $SE = 0.106$, $95\% CI = [2.853, 3.269]$). It shows that employees who have clarity in their job scope will have the higher intense to show innovative work behavior compared to employees who do not understand. This shows that hypothesis 1 is fulfilled.

Based on Table 3, psychological safety also shows a significant effect on employees' innovative work behavior ($F(1,258) = 878,734$, $p < 0,000$, $\eta^2 = 0.773$). Employees who have high psychological safety have a higher effect on employees' innovative work behavior intentions than employees who have low psychological safety ($MD = 3.130$, $SE = 0.106$, $95\% CI = [2.922, 3.338]$). This means that there is strong evidence that psychological safety influences the intention of how employees engage in innovative work behaviors. The higher psychological safety the employees have, the stronger intention they will have to engage in innovative work behavior. This shows that hypothesis 2 is fulfilled.



Table 3

Table Summary of Two Ways ANOVA Results

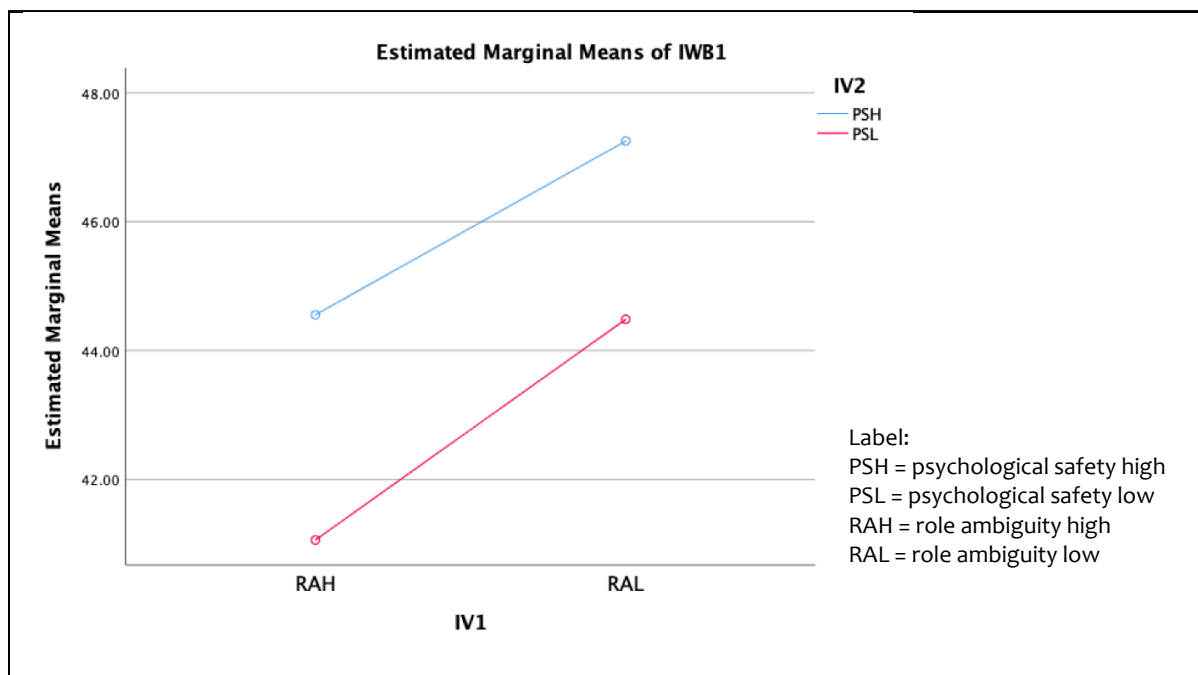
	Sum of Squares	df	Mean Square	F	p	η^2
Role Ambiguity (IV1)	613.398	1	613.398	840.415	0.000	0.765
Psychological Safety (IV2)	641.366	1	641.366	878.734	0.000	0.773
IV1*IV2	8.700	2	8.700	11.919	0.001	0.044
Error	188.308	258	0.730			
Total	515663.000	262				

Source: SPSS Outputs

In addition, there is also a significant effect between role ambiguity and psychological safety on the intention of innovative work behavior of marketplace employees ($F(1,258) = 11.919, p < 0.001, \eta^2 = 0.044$). Based on Figure 1, it can be explained that the intention of innovative work behavior of marketplace employees is highest among employees who have lower role ambiguity and higher psychological safety. Employees with low role ambiguity have higher innovative work behavior intentions when the company has high psychological safety ($M = 47.250, SD = 0.873$) than when the company has low psychological safety ($M = 44.485, SD = 0.881$). When role ambiguity increases, the work behavior intention of marketplace employees will generally decrease. When the company's psychological safety is high ($M = 44.554, SD = 0.848$), then the employee's work behavioral intentions can also increase compared to when the company's psychological safety is low even though the employee's role ambiguity is high ($M = 41.060, SD = 0.814$). Therefore, it can be concluded that hypothesis 3 is fulfilled.

Figure 1

Descriptive statistics. The vertical axis shows the estimated marginal average of the dependent variable, namely the intention of innovative work behavior. The line shows the level of intention of marketplace employees to demonstrate innovative work behavior while working. Meanwhile, the horizontal axis shows the first variable, namely role ambiguity. The numbers on the horizontal axis are the variation codes, one for low role ambiguity and two for high role ambiguity. The color of the line shows the variation of the second variable, namely psychological safety. Blue indicates high psychological safety and red indicates low psychological safety. The intersection of the lines shows the interaction effect between the two variables.



Discussion

This study aims to determine whether the employee's perceived role ambiguity and a safe work environment or psychological safety can affect the employee's intention to show innovative work behavior. The results of this study prove that our hypothesis, which is role ambiguity and psychological safety has an influence on employees' innovative work behavior is confirmed. This finding confirms that employees, especially those working in the marketplace industry, will be more inclined to behave innovatively in their work when they have a clear understanding of their tasks and responsibilities and feel safe and comfortable in their workplace, even when they have to take risks.

Based on prior research, employees who have clarity regarding roles do not need to do extra activities to understand daily work instructions so they can spend more time figuring out what they have to do to make work more effective and provide added value (Kundu et al., 2019). Role ambiguity includes unclear responsibilities, role performance expectations, and other role ambiguity pressures within the organization (Ziegert & Dust, 2021). When the employee's role ambiguity is low, then the employee is asked to face problems in his daily work, he does not need to think repeatedly about how to solve existing problems because he can already understand the existing roles, responsibilities, expectations, and performance limits (Zhang et al., 2021).

Second, the results of this study also reveal that psychological safety has a positive influence on the employee's innovative work behavior intentions, where the higher the psychological safety, the higher the employee's innovative work behavior intention. In line with the results of research conducted by Edmondson (1999), employees will be motivated to be innovative only when they assume that their interpersonal relationships will remain intact and fine after proposing an innovative project (Wang et al., 2021). Psychological



safety can be considered as a kind of psychological resource suitable for producing jobs that require innovation. A safe corporate culture can make employees more willing to take risks and have a higher willingness to discover, explore, and create ideas in their work processes (AC Edmondson, 2008). Several marketplace companies have started to promote to become the best workplace for innovators by creating a safe environment for giving opinions and making mistakes. The purpose of establishing this environment is to minimize the impact of innovating on interpersonal relationships so that team and organizational performance can be maximized (AC Edmondson, 2008).

Finally, this study adds ideas to previous studies where the interaction between role ambiguity and psychological safety has a significant effect on the intention of innovative work behavior. These results indicate that marketplace employees who have low role ambiguity and have high psychological safety are able to make employees more willing to show better innovative work behavior than employees who have high role ambiguity and low psychological safety. However, the interaction effect of role ambiguity and psychological safety on innovative work behavior intentions has a small effect of 4%. Although the effect of the interaction between the two independent variables is small, the interesting thing about this study is that employees with high role ambiguity but high psychological safety have slightly higher intentions than employees who have low psychological safety to carry out innovative work behavior.

According to Palanski & Vogelgesang (2011), psychological safety positively predicts creative thinking and employee willingness to engage more in risky activities. Psychological safety allows employees to have the freedom to think and be different when brainstorming. In addition, employees also have no fear of being ridiculed by others when they become innovative individuals. A safe environment makes individuals more courageous in clarifying their expectations to others so as to minimize role ambiguity (Baer Markus & Frese Miachel, 2003). Therefore, the assumption is that there is an effect of psychological safety on the intention of innovative work behavior.

This result is in line with the theory expressed by AC Edmondson (2008), an environment that makes employees feel more afraid than safe can hinder the learning process. Neuroscience research shows that fear feeling spends physiological resources and diverts them from the part of the brain that manages working memory to process new information. It interferes with analytical thinking, creative insight, and problem solving (AC Edmondson, 2008). Even though employees have high role ambiguity, if the organizational environment feels safe for employees to ask questions, make mistakes, and confirm their understanding, it will further help increase the desire to carry out innovative work behavior. This is due to how psychologically safe employees feel can form behavioral tendencies to engage in learning activities within the organization, such as sharing information, asking for help, or experimenting in their daily work (AC Edmondson, 2008).

By the finding of this research, the organization, especially marketplace, could build a safe organization culture for their employee. A safe place to think, make mistakes, ask questions, do trial and error, as well as a culture where employee could give mutual

appreciation could make employee engage in innovative work behavior more. Besides that, the another implication that organization can do to make employee more interested in innovative work behavior is by defining a clear job description, making a structured job flow, and ensuring each incumbent understand their job scope and responsibility. A clarity job role and a safe organization culture can boost the willingness of the employee to show innovative work behavior with more courage to provide ideas and try new things in their daily work processes. Indirectly, innovative work behavior could also improve employee performance and leverage business result

This study has several limitations, namely related to the data collection process and the absence of *debrief questions* at the end of the survey. For the future research, if they also used EVM method, it would be better if they are including *a debrief* questions at the end of the survey as the checker, to ensure the participants really understand the manipulation of the given independent variables. Besides that, the other limitation is the participants in this study were marketplace employees from various divisions. Even though in general all divisions in the marketplace business are required to carry out innovative work behavior, it would be better if future research focuses more on divisions that really need innovation, such as sales, marketing, design, business development, and so on. The future research could be focusing on these divisions so the form of the story in the EVM comic scenario used can also be more specific to the work context of the divisions so that the manipulation conditions are closer and match the reality felt by the participants on a daily basis. By being specific on some divisions, the research can have a deeper analysis. Additional, the future research also could explore using scenario based EVM so it could give a different perspectives than this research.

Conclusion

Based on the results and discussion above, the conclusion of this study is that there is a significant effect of role ambiguity on employee intentions in demonstrating innovative work behavior ($F(1,258) = 840.415, p < 0.000, \eta^2 = 0.765$). The higher the role ambiguity that employees have towards their daily work, the lower their intention to behave in innovative work. In addition, psychological safety also has a significant effect on employee innovative work behavior intentions ($F(1,258) = 878.734, p < 0.000, \eta^2 = 0.773$). The higher the psychological safety felt by employees, the higher their intention to show innovative work behavior.

The interesting finding in this study is that there is an interaction between role ambiguity and employee psychological safety which has a significant effect on employee innovative work behavior intentions although the effect size is small, about 4%. This shows that low role ambiguity and high psychological safety are equally important for organizations, particularly in the marketplace industry who want to be innovative companies. By ensuring that, the organization has both variables at a certain level, it can be a resource to encourage employees to be more innovative when working. Fostering



innovative culture could give a competitive advantage for organization, especially in facing agile business world.

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