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IMPACT OF PSYCHOLOGICAL OWNERSHIP ON INNOVATION AND GROWTH IN INDONESIA BUSINESS FIRMS

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Abstract---*For long-run success, both innovation and growth are the keys. However, the role of psychological ownership in the recent years is less observed both in theoretical and empirical context. This study aims to analyze the effect of psychological ownership on innovation and growth opportunities in Indonesia. Different measuring items for both dependent and independent variables were added in the questionnaire and employees from different business firms were selected as a sample of interest. descriptive analysis, correlation analysis and regression analysis have been performed and results shows that there is a significant relationship among range of psychological factors, innovation, and business growth opportunities. However, this research is limited in different context. For instance, advanced structural model like SEM is not applied, missing with the demographic details. The findings of present study is of great support for industry experts, business owners, and market analysts for exploring the relationship among the targeted variables. Additionally, this study has contributed in the field of business psychology.*

Keywords---*Psychological ownership, innovation, growth opportunities.*

I. Introduction

In recent years, various industries have experienced dramatic change in their product and services along with operational activities, based on the innovative practices. In this regard, concepts like business cycle, trade cycle, globalization and digitalization are observed with changing trends (Bergström & Ismail, 2019; Boucher et al., 2019; Svensson & Aguilar, 2019). A common notion in now a days is that various industries are endangered because of non-innovative business practices as it is much important for the ultimate survival in the market (Ahuja, Lampert, & Tandon, 2008; Crossan & Apaydin, 2010; Kammerlander & Ganter, 2015; Omran & Kamran, 2018). Both public and private sector business units are working significantly to innovate in different means. A range of innovative activities like creating new product or services, getting space in the new market, adopting latest technologies, and improving existing production and operational units are observed in the past and recent time (Johnson & Lafley, 2010; Kumar, Scheer, & Kotler, 2000; Oliva & Kallenberg, 2003). However, role of business structure, overall management hierarchy, customer and market trends are some of the key factors which reshape and redesigned the innovative activities as performed by different firms (Schaltegger, Lüdeke-Freund, & Hansen, 2012; Teece, 2009). Meanwhile, authors also believe about the assumption that those firms which are owned by the families are tend to be less innovative if they are older comparatively to the younger ones (Rau, Werner, & Schell, 2018). One of the significant result of being innovative is that it provides higher output with lowers input. Since its beginning, studies related to business units as run by the families are extended in the early 1980s. Meanwhile, it is believed that there is a less research in the family business due to the relatively narrow theoretical base consisting mostly of agency and stewardship theory. it is

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suggested that family business should assimilate theories from other disciplines to make further innovations. Mainly, authors believe that kind of family business in the field of psychology can contribute towards more innovative activities (Corbetta & Salvato, 2004; Zellweger, Sieger, & Halter, 2011). Many research topics from individuals and social psychology shows their main concepts and contributions in terms of business psychology (Bellows, 1949; McKenna, 2000; Roetzel, 2019). By providing potential material, research studies will inspire more psychologically grounded work. There is wide range of definitions for business and its association with the psychology. A common characteristic of all approaches is that all impacts of individual, group and organizational behavior in business are entitled with the field of psychology.

In the literature contribution, a theoretical assumption known as psychological ownership is provided. It is believed that individuals from the society feel a sense of ownership towards a range of targets. It is believing that in a specific situation, employees within their organization develop an inner feelings about a sense of ownership in the business. Same case is observed for variety of organizational factors. Reserachers have provided some good discussion about psychological ownership, its roots in the business and associated factors. However, some managerial and theoretical implications are also provided in the literature covering the title of psychological ownership.

II. Review of Literature

Psychological ownership and its association with other variables like innovation practices is examined the literature. Pirkkalainen, Pawlowski, Bick, and Tannhäuser (2018) have examined the instrumental psychological ownership in open innovation communities. It is believed that such practices are leading towards multiple type of innovation potentials. However, very little has been known yet for the role of psychological ownership, knowledge exchange and similar other factors. Based on this claim authors have explained that there is critical role of ownership knowledge which plays a good role in idea exchange behavior. Mustafa, Martin, and Hughes (2016) examines the concept of psychological ownership, satisfaction of the job, and entrepreneurial behavior. Uslu (2015) specifies his research efforts through considering the innovation culture, strategic management of human resource in private and public sector within the framework of employee's ownership. It is stated that innovation culture in the business organization provides the claims for new eco-system in the production philosophy. Increasing competition among the firms provides a layout for considering the human resource as strategic organizational based assets which can contribute towards the innovative culture.

Garrett (2010) explains that out of many ways, the investment in research and development is a good attempt to innovate. However, the factor of employees ownership has been explored through its mediating role between the research and development intensity and firm capabilities of being innovative. It is believed that sense of ownership increases both motivation and commitment in the employees which leads towards the innovation practices. For providing an empirical contribution author has applied hierarchical regression model where it is hypothesized that factor of stock ownership is positively moderating the relationship between the innovation practices and research and development expenditure. For this reason their study is observed as good contribution in the literature of employees ownership and innovative practices in the presence of research and development expenditure.

Chen and Huang (2006) has claimed the stock ownership of the employees and overall research and development expenditure in the information technology industry of Taiwan. For better understanding, authors have utilized the data for those firms which are listed in Taiwan stock exchange during the period of 1996 to 2001 with yearly observations. The empirical findings suggest that there is positive connection between the implementing the stock polices for the employees and research and development expenditure as conducted by the business. It is further believed that agency conflict reasonably be resolve with the help of providing the employees with stock ownership which will ultimately reduce the agency cost, hence create an overall working environment with more stability. Besides, some other studies have conducted their efforts

for exploring the psychological ownership and innovation practices like (Ghafoor, Qureshi, Khan, & Hijazi, 2011; Han, Chiang, & Chang, 2010; Mustafa et al., 2016; Pierce & Jussila, 2010; Sieger, Zellweger, & Aquino, 2013; Uslu, 2015).

Variables of the Research

Details for the variables of this study are as under:

Psychological Ownership

Normally, ownership refers to the set of feelings in which individual believe about something under their possession and control. However, Psychological Ownership is entirely different from the one which is known as legal ownership. In job or working with any organization, psychological ownership reflects the feelings of the employees that they have a stake in the business which is reflected through their contribution and commitment. To increase the employees effectiveness it is very obvious to increase the sense of psychological ownership among the employees which can provide the benefit for both the works and their firms. To increase the productivity of the employees, psychological ownership is an important tool for organization. Present study has observed the psychological ownership as an exogenous factor to determine the innovative practices and business growth.

Innovation Practices

For organization, innovation refers to the process of inventing or introducing something which can reasonably add values for the stakeholders of the business including the customers. Many dimensions have been presented In the existing literature to specify the trends in innovation practices. it a process with the execution and creation of differentiated solutions for the business problems, creating values for the business. The overall innovation practices of the business reflects the four dimensional activity where provocative questions needs to be addressed to understand the customer experience, getting input from variety of the sources in order to work on new idea, testing the promising ideas and finally acting for the implementation of innovative ideas. Our study has considered the innovative capabilities as first dependent variable.

Business Growth

Business growth reflects the position of any firm where it reaches to the point for the expansion and seeking some additional profit. It is a function of overall business lifecycle, various indicators are identified in the literature to reflect the growth title of the business, however, size of the business in terms of its employees, in terms of its assets, and operational units are some of the most cited measures of growth. meanwhile, business growth reflects the process for improving the overall enterprise success scale which can be achieved while increasing the business revenue or service income or by minimizing the operational cost. In present study, we have added the business growth as second dependent variable.

III. Research Design

Sample description and data

The sample used in the presented study consist of 372 employees from different business firms which are working in Indonesia. For data collection, survey questionnaire is assumed a good and valid source due to the nature of the stated variables. For psychological ownership four items were selected and added in the questionnaire. Whereas dependent variable of innovation and business growth are measured with five and six items respectively (details are mentioned in the next section). Initially, a survey questionnaire was developed and online linked was created which was shared with different employees who are currently engaged in both manufacturing and service sector of Indonesia. over a time span of 6 weeks

we were able to collect a valid response of 372 respondents with no missing observations. All the items of stated variables are measured on the Likert scale where five points (strongly disagree as 5, and strongly disagree as 1) are defined as questionnaire is totally structural in nature with no open ended queries.

IV. Results of the Study

Descriptive statistics covers the range of measures where the reader can easily understand the mean point of the respondent's view, dispersion in the form of standard deviation, range like both minimum and maximum values, percentiles and for the normality, skewness and kurtosis among others. Higher/lower the mean score shows more the inspiration from either the minimum or maximum observations and vice versa. For measuring the innovation, five sub scale measures are utilized which are observed on dichotomous trends where 1 indicates yes and 2 indicates 2. For all the measures of innovation, mean score is between 1 and 2 and deviation is less than 1. However, the rest of the variables like psychological ownership and growth opportunities are scaled on 1 to 5, where 1 shows the totally disagree and 5 provides the argument about totally agree. Figure 1 specify the better layout when descriptive scores needs to be understood in more graphical methods.

T-1: Descriptive Statistics

Variables	*Obs*	*Mean*	*Std.Dev.*	*Min*	*Max*	*p1*	*p99*	*Skew.*	*Kurt.*
q1	*119*	*1.462*	*.501*	*1*	*2*	*1*	*2*	*.152*	*1.023*
q2	*119*	*1.496*	*.502*	*1*	*2*	*1*	*2*	*.017*	*1*
q3	*119*	*1.513*	*.502*	*1*	*2*	*1*	*2*	*-.05*	*1.003*
q4	*119*	*1.623*	*.402*	*1*	*2*	*1*	*2*	*-.05*	*1.003*
q5	*119*	*1.462*	*.501*	*1*	*2*	*1*	*2*	*.152*	*1.023*
a1	*119*	*3.529*	*1.088*	*2*	*5*	*2*	*5*	*.063*	*1.712*
a2	*119*	*3.412*	*1.077*	*2*	*5*	*2*	*5*	*.148*	*1.772*
a3	*119*	*3.454*	*1.226*	*2*	*5*	*2*	*5*	*.08*	*1.429*
a4	*119*	*3.647*	*1.132*	*2*	*5*	*2*	*5*	*-.157*	*1.632*
gop1	*119*	*3.151*	*1.424*	*1*	*5*	*1*	*5*	*-.18*	*1.733*
gop2	*119*	*2.95*	*1.425*	*1*	*5*	*1*	*5*	*.018*	*1.635*
gop3	*119*	*3.042*	*1.368*	*1*	*5*	*1*	*5*	*-.016*	*1.795*
gop4	*119*	*3.042*	*1.362*	*1*	*5*	*1*	*5*	*-.076*	*1.801*
gop5	*119*	*2.966*	*1.473*	*1*	*5*	*1*	*5*	*.058*	*1.645*
gop6	*119*	*2.748*	*1.397*	*1*	*5*	*1*	*5*	*.157*	*1.74*

Note: q1-q5 reflects the items for innovative trends, a1-a4 shows the items for Sens of Phycological ownership, gop1-gop6 indicates the Growth Opportunities, T 1indicates Table 1

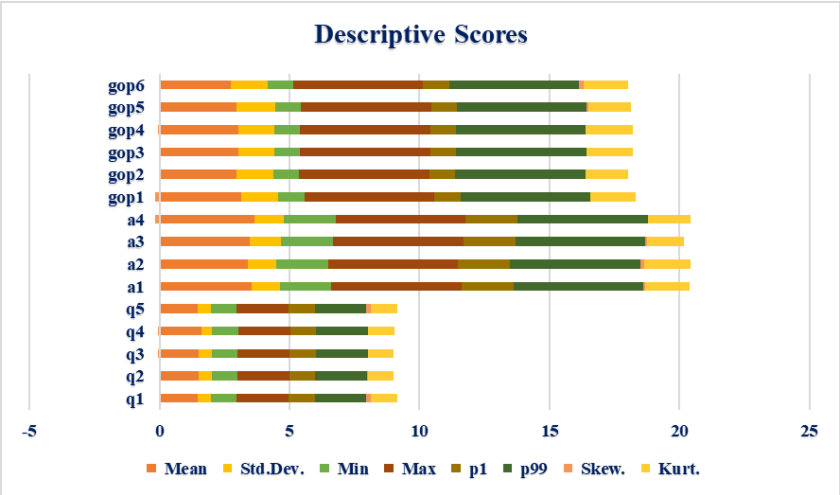

Figure 1: Descriptive Scores

Pairwise correlation is a proper method to specify the interdependency among the explanatory variables of the study. Here in contemporary research, psychological ownership is assumed as a main independent variable with four sub items entitled in the very first column of T-1. It provides the pairwise correlation coefficients between all these items. For the association among a1 to a2, coefficient of correlation is .203, showing a weak relationship between them, but this relationship is positive and significant at 5 percent (i.e P-value=0.027). For the correlation between a1 and a3, coefficient is -.131 which means that both of these are negatively but weakly associated to each other. However, this relationship is not significant. For the relationship between a1 and a4, coefficient is -.115 showing a negative but low relationship which is insignificant. additionally, correlation between a2 and all items is low negative and insignificant. same case is found for a3 and rest of the items under T-2.

T-2: Pairwise correlations

Variables	*(1)*	*(2)*	*(3)*	*(4)*
(1) a1	*1.000*			
(2) a2	*0.203**	*1.000*		
	0.027			
(3) a3	*-0.131*	*-0.014*	*1.000*	
	0.156	*0.877*		
(4) a4	*-0.115*	*-0.054*	*-0.024*	*1.000*
	0.211	*0.563*	*0.795*	
** shows significance at the .05 level*				
Note: q1-q4 reflects the items for innovative trends, T-2 means Table 2.				

Either there is a high interdependency between the items of psychological ownership, T-3 has calculated the value of VIF and tolerance through dividing 1 over VIF. It is found that all the items of psychological ownership are showing a VIF or less than 5 and 1/VIF less than .10 which means that there is no issue for the higher interdependency among these items, hence correlation is not creating any problem.

T-3: Variance inflation factor

	VIF	*1/VIF*
a1	*1.074*	*.931*
a2	*1.044*	*.958*
a3	*1.019*	*.981*
a4	*1.016*	*.984*
Mean VIF	*1.038*	.
Note: q1-q4 reflects the items for innovative trends, T-3 means table 3, VIF means variance inflation factor, 1/VIF means tolerance level.		

In first regression attempt, we examine whether the impact of individual items of psychological ownership on innovation exists or not. To achieve this objective, five regression Models, covering each items of innovation as a dependent variable and psychological ownership as independent variable in T-4 where relative coefficients, standard error, and p-value trend is mentioned with stars, where * means significant level is 10 percent, ** means level is 5 percent, and *** means level is 1 percent. For a1 none of the items of innovation are significantly affected, except q4 where the coefficient is positive, significant within 5 percent domain of significance. This result would show that with the more inner feelings like “this organization is our company” more marketing innovation is observed by the firm over the last three years, where the coefficient is 0.104 and standard error of 00423 and significant at 5 percent. Further investigation of the results under T-4 reveals that a2 has no significant impact on any of the five measures of innovation sub items as presented in Model 1 to Model 5 respectively. contrary to this argument, a3 is showing a highly significant result for q1, a2, and q4 respectively. More specifically, it is observed that feeling higher degree of ownership is pushing the firm towards more innovative, product based innovation, and marketing based innovation in the last 3 years accordingly. However, our results have found no evidence for the impact of a4 on all five regression models where innovation items are entitled as main dependent variables. Overall all five models are presenting a low level of coefficient of variation which specifies numerous other factors would justify the change in innovative practices by business firms of Indonesia.

T-4: Impact of psychological ownership on Innovation

	(q1: firm is potential innovator)	***(q2: firm has experienced one product innovation in last 3-Years)***	***(q3: firm has experienced one process innovation in last 3-Years)***	***(q4: firm has experienced one marketing innovation in last 3-Years)***	***(q5: firm has research and development expenditure in all last 3-Years)***
VARIABLES	*Model 1*	*Model 2*	*Model 3*	*Model 4*	*Model 5*
a1: This org. is our company	*0.0666*	*-0.0267*	*-0.0557*	*0.104***	*0.0314*
	(0.0436)	*(0.0444)*	*(0.0439)*	*(0.0423)*	*(0.0440)*
a2: Hard for me to think this org. is Mine.	*-0.0787**	*0.0222*	*-0.0188*	*0.00454*	*0.00165*
	(0.0434)	*(0.0442)*	*(0.0438)*	*(0.0421)*	*(0.0438)*
a3: Feeling high degree of ownership for this company.	*0.162****	*0.0285****	*-0.0609*	*0.0823***	*-0.0584*
	(0.0377)	*(0.00383)*	*(0.0380)*	*(0.0365)*	*(0.0380)*
a4: I sense that this is my company	*-0.0274*	*-0.0558*	*0.0146*	*-0.0199*	*-0.0151*
	(0.0408)	*(0.0415)*	*(0.0411)*	*(0.0395)*	*(0.0411)*
Constant	*1.651****	*1.708****	*1.930****	*1.486****	*1.603*****
	(0.301)	*(0.306)*	*(0.303)*	*(0.292)*	*(0.304)*
Observations	*119*	*119*	*119*	*119*	*119*
R-squared	*0.047*	*0.019*	*0.038*	*0.108*	*0.029*

Note: q1-q5 reflects the items for innovative trends, a1-a4 shows the items for Sens of Phycological ownership, parentheses shows standard errors of the coefficients,* p<0.01, ** p<0.05, * p<0.1.**

T-5 is specifying the way psychological ownership is reflecting the change in growth opportunities. For examining the influence of psychological ownership, results are provided with their relative values of the coefficient either positive or negative with standard errors and finally the p-value of the coefficients. Model 1 depicts that a1 is positive and significant determinant of GOP1 which reflects that there is positive support for the opportunities for the growth and improvement of the business by the employees. This effect is relatively observing as highly significant at 1 percent where the coefficient is 0.145. However, Model 2 reflects that there is no influence of a1 on GOP2 (I am very much definite about the growth of this business). Similarly to the Model 1, Model 3 has justified that positive and highly significant impact of a1 on GOP3 which shows the claim about well communication of sales enhancement in the business. Contrary to these findings, Model 5 indicates an adverse and significant impact from a1 where it is accepted that higher the feelings like "this organization is our company" means lower the working by the company about caring its customers. The last Model under T-5 justifies a positive

impact of owning a company by the employees on constantly working for the growth of its employees. Most of the research studies have found their relationship between the employee's commitment and working for the growth of their employees (Azuh & Olubunmi, 2015; Bentein, 2016; Maia, Bastos, & Solinger, 2016; Riad, Labib, & Nawar, 2016; Weer, 2006; Weer & Greenhaus, 2017).

In addition, influence from a2 on all the six indicators of growth opportunities for the business is also provided in T-5. However, for the first five items of growth opportunities, none of the item is found to be significantly associated with a2, but the negative influence of reverse coded item like a2 is negatively affecting the employees for perceiving that their business firm is working for their growth. It means that higher the feelings like owing the business, negative the impact on thinking about business firm is working for enhancing the growth horizon of their employees as vice versa. Figure 2 reflects the trends in R2 for T-4.

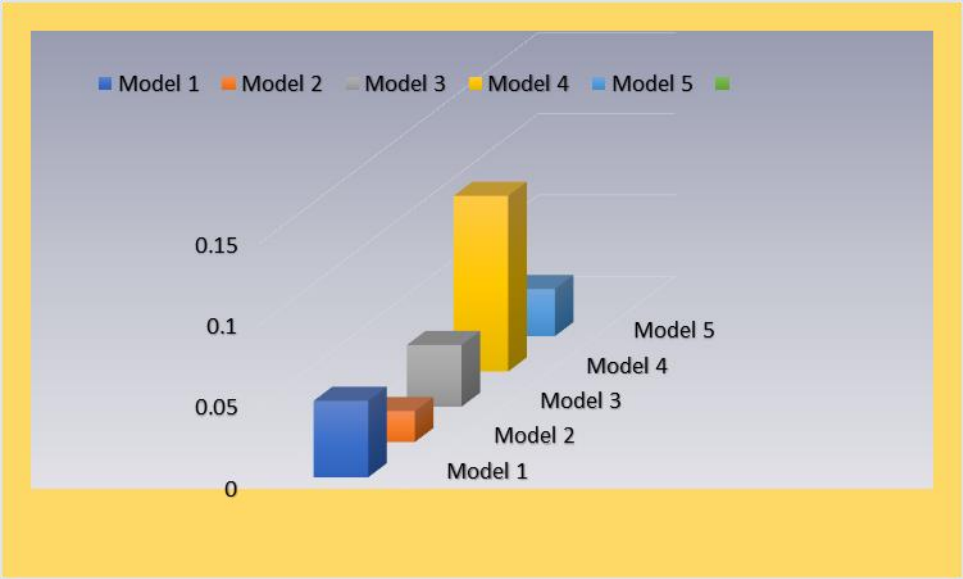

Figure 2: R2 for T-4

T-5: Impact of psychological ownership on Growth Opportunities

	GOP1: Identify and support opportunities for this business growth and improvement	***GOP2: I am very much definite about the growth of this business***	***GOP3: sales enhancement is well communicated in our organization***	***GOP4: for growth perspective, regular analysis of the market is the priority of our business***	***GOP5: our business is focusing on customer care for more growth***	***GOP6: our organization is constantly working for the growth of its employees***
VARIABLES	*Model 1*	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*
a1: This org. is our company	*0.1457****	*0.0631*	*0.111****	*0.0872*	*-0.217**	*0.774***
	(0.026)	*(0.124)*	*(0.018)*	*(0.120)*	*(0.125)*	*(0.122)*

a2: Hard for me to think this org. is Mine.	*-0.198*	*-0.0602*	*-0.0739*	*0.0870*	*0.0305*	*-0.257***
	(0.125)	*(0.123)*	*(0.118)*	*(0.119)*	*(0.124)*	*(0.121)*
a3: Feeling high degree of ownership for this company.	*-0.4497****	*-0.180**	*0.219***	*0.851****	*0.275***	*0.783****
	(0.108)	*(0.107)*	*(0.102)*	*(0.104)*	*(0.108)*	*(0.105)*
a4: I sense that this is my company	*-0.0371*	*-0.200*	*-0.0847*	*0.00987*	*0.108*	*0.0664*
	(0.117)	*(0.216)*	*(0.111)*	*(0.112)*	*(0.117)*	*(0.114)*
Constant	*3.972****	*4.282****	*3.236****	*1.881****	*2.284****	*2.838****
	(0.866)	*(0.854)*	*(0.817)*	*(0.827)*	*(0.863)*	*(0.841)*
Observations	*119*	*119*	*119*	*119*	*119*	*119*
R-squared	*0.224*	*0.554*	*0.261*	*0.127*	*0.295*	*0.345*

Note: q1-q5 reflects the items for innovative trends, gop1-gop6 shows the items for growth opportunities, parentheses shows standard errors of the coefficients,* p<0.01, ** p<0.05, * p<0.1**

The item under the title of a3 which reflects the employees view about feeling high degree of ownership for the business indicates a negative and significant impact for the first two measure of business growth, whereas rest of the items are positively and significantly affected by the a3. It means that employees in the business firms are perceiving a high positive sense about the ownership in the company which in return putting a positive impression on focusing the sales enhancement, regular analysis of the market, and constantly working for the growth of employees. The fourth items of psychological ownership also reflects no influence for all six measures of business growth. In addition, highest value of R2 is observed for the model 2 which is 55.4 percent, showing that there is a moderate explained variation in the GOP2 as reflected by all five measures of psychological ownership. Figure 3 below shows the R2 trends in all the models of T-5.

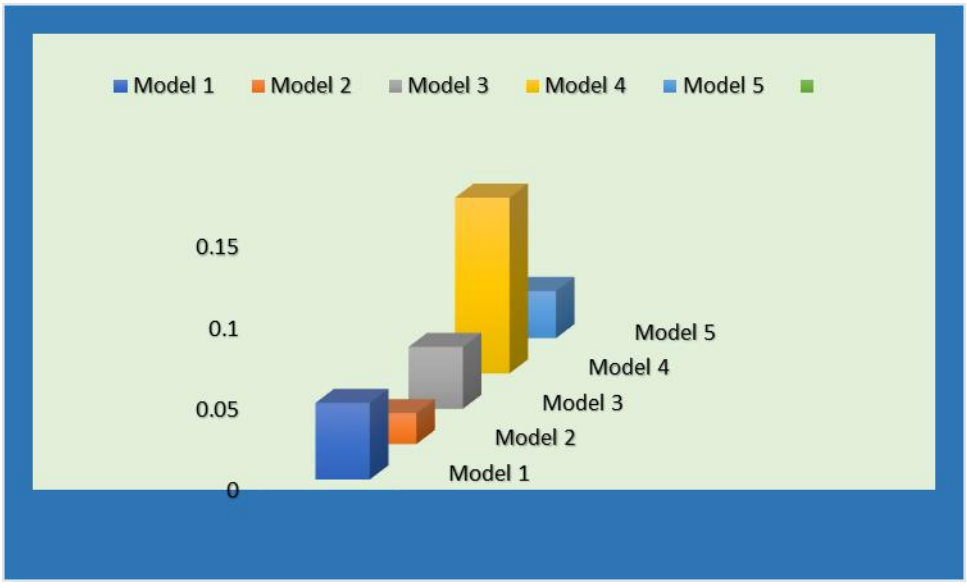

Figure 3: R2 for T-5

V. Conclusion: A summary with Future Directions

Psychological ownership explains a situation where the employees in the business owns their firm and its some factors. This research has attempted to explore whether the psychological ownership is affecting the innovation and growth opportunities in Indonesia. Based on the sample of 372 respondents, our study has provided some good results. First it is observed that Reverse coded item like a2 reflects a negative and significant impact on the concept that business is a potential innovator. However, if the employees feel a high degree of ownership in the company, it has a positive influence on firm for being potentially innovative, product innovation, and marketing innovation over the last three years. On the other hand, our research explores the empirical relationship between psychological ownership and growth opportunities. The factor of a1 indicates a highly positive impact on identification and supporting the growth opportunities, positive and definite feelings about the firm being innovative, sales enhancement, and growth for the employees as well. However, customer care and a1 are negatively linked as found in this research. On the other hand, a2 shows that the reverse coded item is negatively linked with the business to work for the growth of its employees. In addition, this research has opened some future research opportunities because of its limitations. For example, we only focus on the psychological ownership with no consideration of some other psychological factors and personality traits of the employees. For this reason, future studies can consider this limitations with their impact on the innovative practices and firms growth. Furthermore, our study has not provided any evidence for the cross industry comparison regarding psychological ownership, innovation and firm growth which would provide another way out for the future studies.

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