

Investigating Pharmacists' Perceived Organizational Performance through Learning and Innovation under the Moderating Role of Power Distance

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Abstract

This study investigated the perspective of pharmacists regarding organizational learning and innovation for perceived organizational performance under the moderating role of power distance. The said investigation was pursued under knowledge based theory to analyze the need of new learning and innovation in pharmaceutical sector for dissemination of knowledge for effective performance in accordance with culture. The data was collected through adopted questionnaire in time lags from pharmacists working at middle tier of pharmaceutical sector across major cities of Pakistan. Out of 400 distributed questionnaires, 271 were completely responded. Statistical techniques were applied through SPSS and SMART PLS soft wares to analyze the respondents' feedback. The results showed that organization learning and organization innovation were positively related to perceived organizational performance. Subsequently, power distance culture moderated the hypothesized relationships. Thus, implications were made for managers and policy makers in order to further strengthen the pharmaceutical sector of Pakistan.

Keywords: Perceived Organizational Performance, Organizational Learning, Organizational Innovation, Pharmacists.

1. Introduction and Literature

Manufacturing firms' including pharmaceutical companies play a significant role in market economy. Over recent years, economic condition of Pakistan is facing hardships due to slow economic growth and domestic inflation. To meet challenges of competitive markets, organizations should enhance their financial and non-financial performance (Arslan & Staub, 2013). As with time, business demands are continuously changing than before so there is a need of innovativeness in pharmaceutical firm's operations to make themselves a trade mark in manufacturing industry (Burnes, 2014). Therefore to produce high quality products based on standard specifications, pharmaceutical industry is highly dependent upon proactive and efficiently learned workforce that act as a driving force to produce better performance outcomes.

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Kaplan and Norton (1992) interpreted organizational performance as combination of elements that describe the process through which unlimited consequences and results are achieved. To attain excellent performance outcomes, organizations are boosting the concept of learning throughout the organizational environment because learning organizations are playing tremendous job in competitive marketplace (Huber, 1991). Organizational learning involves new knowledge creation & acquisition to change attitudes (Zare, Jajarmizadeh & Abbasi, 2010). It is important to build up the connection between organizational learning atmosphere and key performance along with innovation, with the end goal to give compelling quality consideration to consumers and upgraded fulfillment level.

Organizational innovation is a methodological process that encourages individuals to generate creative ideas and actions that affects performance measures. Cultural factors of an organization positively affect learning process of its individuals with the passage of time. Literature shows that individual's attitudes are highly affected by cultural norms (Tung, Walls & Frese, 2007). Power distance as one of these dimensions, is linked to the relations between superiors and subordinates which has strong influence on performance of organization in Pakistan context. As large communication gap exists between superiors and subordinates therefore it's hard for subordinates to present their innovative ideas that indirectly affect their performance and commitment towards their jobs.

However in Pakistan, there is not much research conducted on influence of cultural dimensions on performance of public sector pharmaceutical industries in perspective of innovation and learning (Arslan & Staub, 2013). Also in this study we evaluated what pharmacists think that either high power culture is beneficial for innovative and learned organizations to improve performance or not. Despite of all, limited studies were conducted to establish the impact of power distance culture on the organizational performance (Zare, Jajarmizadeh & Abbasi, 2010) of pharmaceuticals of Pakistan through learning and innovation. The rationale of current research is the investigation of simultaneous impact of organizational innovation and organization learning on perceived organizational performance with moderating role of Power distance culture in such a way that high power culture weakens relationship between learning, innovation and performance of pharmaceutical organizations. Such moderating impact analysis in the perspective of Pharmacists representing an important research gap also suggested by Abbasi et al. (2010). Moreover, Uzokurt et al. (2013) also suggested determining relationship between culture, innovation and learning in other regions apart from Turkey.

Therefore we conducted research on these variables in the context of public sector pharmaceutical industries of Pakistan. The current research gap was investigated under the most relevant theory that correlates all variables of current study is Knowledge based theory (KBV) of firm that is the expanded concept by Kogut and Zander (1996). This theory explains that knowledge is the basic source of sustainability and competitiveness embedded within organizations and linked with many other factors as organization procedures, individuals and cultures. In this way, knowledge based theory of firm interrogates the concept that knowledge creation, acquisition and interpretation makes organization a learning organization.

Such learning organization promotes new knowledge execution activities that enhance innovation within firm. Also supportive and flexible organizational culture positively fosters learning environment that leads to better performance outcomes in comparison with competitors.

Another novelty of current research is the investigation of simultaneous impact of organizational innovation and organization learning on perceived organizational performance in the perspective of Pharmacists representing an important research gap also suggested by Abbasi et al. (2010). Some researchers also have recommended investigating organizational cultural dimensions (Yammarino & Dansereau, 2010) as well as learning among individual and organizational level (Crossan et al., 1999). The outcome of the study would provide recommendations for the top management of the pharmaceutical industries to adopt the most appropriate practices to enhance the performance of the pharmaceutical industries and to deal with power distance culture in this perspective. With the help of study variables, current research was based on following hypothesis while research model is mentioned at the end, as figure 1.

H1: Organizational innovation is positively related to perceived organizational performance

H2: Organizational learning is positively related to perceived organizational performance

H3: Power distance moderates the relationship between organization learning and perceived organization performance, in such a way that high power distance weakens the relationship.

H4: Power distance moderates the relationship between organization innovation and perceived organization performance, in such a way that high power distance weakens the relationship

2. Material and Methods

A causal based quantitative research was conducted through self-administered questionnaires to investigate the impact of organizational innovation & organization learning on the performance of pharmaceutical industries with moderating role of power distance culture. The target population was middle tier

pharmacists working in different pharmaceutical industries located in the major cities of Pakistan including Wilson Pharmaceuticals, Global pharmaceuticals, Pearl pharmaceuticals, Warrick pharmaceuticals etc. because of their high involvement in pharmaceutical operations.

Data was collected in time lags with a lag of two weeks between Time lag 1 and Time lag 2 through non-probability sampling technique known as convenient sampling, due to specific respondents (Battaglia, 2008). The data related to independent variables and moderator was obtained in first time lag. The demographics and dependent variable data were collected in second time lag. Code was applied at questionnaire to ensure same respondents across both time lags. Out of 400 distributed questionnaires, 271 were fully responded yielded the response rate of 67.5%.

In order to prevent biasness in the feedback, demographics of pharmacists were controlled in accordance with finding by Allworth and Hesketh (1999). The adopted questionnaire consists of closed ended five point Likert-type scales along with results obtained are as given below:

Organization learning scale was measured through scale developed by Gracia Morales et al. (2008). The scale contains total four items measured on a five-point scale. The sample scale item is "The organization is a learning organization". The Cronbach's alpha of this scale is 0.83. Organization innovation was measured by using three items scale developed by Miller and Friesen (1983). Its sample item is "In comparison with its competitors the organization has become much more innovative." The Cronbach's alpha value is 0.84. Perceived organizational performance was measured by using seven item scale developed by Delaney and Huselid (1996). The sample item is "Development of new products, services, or programs occurred." The Cronbach's alpha of this scale is 0.86. Power distance culture was measured by using six item scale developed by Dorfman and Howell (1988). The sample item is "Managers should seldom ask for opinions of employees." The internal consistency reliability of this scale is 0.75.

3. Results:

3.1. Frequency distribution:

Summary of demographics of sample is mentioned in Table 1 below in tables section. According to Table 1, majority of the pharmacists (respondents) were male 147 (54.2%), while considering age, most of the respondents were governed by age group i.e., 20-30 years. In regards of education, it was majority of respondents were having bachelor's degree while 82 (30.4%) respondents were holding master's degree. Furthermore, most of the respondents' experience with their current industries was around 1-3 years and junior level pharmacists were leading with 118 frequencies (43.7%).

3.2. Correlation analysis:

The table 2 in tables section mentioned below shows the correlation values of all variables of current study. All the correlation values are also representing approximate association among all variables.

3.3. Multiple regression analysis:

Table 3 in tables section below shows the impact of independent variables on dependent variable through multiple regression analysis. In the first step, demographics were controlled that showed R² values around 7.4% and then values of independent variables were mentioned that shows unit change in dependent variable with *t* value of 4.6 and 3.05 with aggregate R² of 37.7%. Thus significance status against beta values clearly shows the acceptance of H1 and H2.

3.4. Moderated Regression Analysis:

Table 4 in tables section shows moderated regression analysis of hypothesis 3. In the first step demographics were controlled showing R² = 7.4 % ; then β values for respective independent variables and moderator shows that a unit change in dependent variable with *t* value of 10.3 & 1.8 with aggregate R²= 36.5% respectively. After regressing interaction term, β and ΔR^2 of 1.4% clearly shows acceptance of hypothesis 3.

Table 5 in tables section shows moderated regression analysis of hypothesis 4. In the first step demographics were controlled showing R² = 7.4 % ; then β values for respective independent variables and moderator shows that a unit change in dependent variable with *t* value of 9.5 & 1.9 with aggregate R²= 33.4% respectively. After regressing interaction term, β and ΔR^2 of 2.3% clearly shows acceptance of hypothesis 4.

Interaction plot for hypothesis 3 is shown below in figures section as figure 2 while interaction plot for hypothesis 4 is shown as figure 3. Both lines in graph are about to intersect due to steepness existence which means that moderation exist.

3.5. Confirmatory Factor Analysis (CFA) using PLS method:

Confirmatory factor analysis is a statistical procedure wherein each item/factor/statement of respective variable measure is confirmed to be loaded on variable. Mostly CFA is run when variables are utilized in different problems and context. The loading of each item is generated by using Smart PLS software. Generally the loading of each item should be >0.7 but in this study, the criteria of >0.5 is used as recommended by social sciences researchers (16, 17).

The Average *Variance Extracted* (AVE) was analyzed which demonstrates the sufficient convergent validity of each dimension. It shows that OL had 4 factors; OI was defined by 3 factors, OP by 7 factors & PD by 6 Factors. The results showed that there was only one factor of moderator with loading 0.497 values, which is less than recommended (0.60) due to which AVE of the latent variables was also not up to the standard range. Therefore, the factor 4 of moderator PD (Power distance) was deleted and again CFA was run. The drop of such factor is due to contextual dynamics of understanding by the respondents. Final results of CFA 2 are demonstrated in Table 6 and Figure 4, respectively.

4. Discussion and Conclusion

Regression analysis results indicate that organization innovation is positively and significantly associated with perceived organizational performance (H1). The above hypothesis can be supported by Innovation Diffusion theory (IDT) introduced by Rogers in 1995. This theory consists of five main stages as (i) Awareness (ii) Interest (iii) Evaluation (iv) Trial and (v) Adoption. First step is the awareness about innovation but not complete information about this. Second step is the development of interest to seek that innovation and to gain more information about it.

In the third step, person applies this idea to his current working environment and then takes decision about its acceptance or rejection. In the fourth step, individual make best use of that innovation. In the last step, person finally decides to adopt that innovation.

With the help of IDT, organizations (especially in the context of pharmaceutical sector) can analyze their working practices and plan for more efficient diffusion of innovations in near future. The end result of this diffusion is that individuals of a particular system adopt new idea, behavior or new product. In pharmaceutical sector, same process is followed by employees in whom they attain information regarding new ideas and new technologies and then apply innovations in their operations for product manufacturing at small scale. If that particular innovative idea works in an efficient way, then it is applied at large scale to process large scale production. Such diffusion of innovations across the organizations is helpful to produce better and excellent performance outcomes.

With the support of this theory, we can say that organization innovation leads to excellent organization performance in the context of pharmaceutical sector because innovation acts as the principle factor to achieve an edge in highly competitive environment. Firms where information is processed in efficient way leads towards creation of new ideas and development. Due to early adoption of such creative ideas, pharmaceutical firms can be successful in near future. For this purpose, pharmacists need to be highly innovative and creative to implement this creativity throughout firm's operations. Current study also shows that there are majority young pharmacists currently working in pharmaceutical sector that are more creative and innovative in their work. According to their perspective, companies should implement innovative systems instead to traditional systems to increase their productivity and growth.

Acceptance of H2 is well supported by Social learning theory (Bandura, 1977). According to this theory, a person learns from their environment and social surroundings either by observations or by social interactions. In this way we can say that personnel working in a firm learn from their surroundings or from other individuals. Basically social learning theory elaborates learning through observation or either modeling. In current scenario, employees (pharmacists) learn from their working environment, their interactions with other coworkers or superior ones so they can create new and constant knowledge within their organization. With the help of this continuous learning, they not only acquire new knowledge but also share it properly with other individuals that help them to improve their processes and products.

For manufacturing firm's especially pharmaceutical industries to be successful, there should be an effective and continuous learning culture for this purpose social learning is extensively applied to such organizations. Flexible and new learning methods act as driving force to improve their performance. These continuous learning mechanisms encourage the employees (pharmacists) to learn quickly and to grow by developing more new knowledge and skills. With the help of social learning both implicit and explicit learning happens. Implicit learning involves the acquisition and retention of knowledge by employees without much effort or through observations but explicit learning involves knowledge retention and absorption through little effort. As per results of moderated regression analysis of H3, power distance culture moderates the relationship between organization learning and perceived organization performance in such a way that high power distance weakens the relationship. This hypothesis is supported by Social development theory by Vygotsky (1978). In this theory author explains the fact that socialization highly affects the learning process in any person. There are three main aspects of this theory.

First aspect is cognitive development in which social interactions play an important role. Vygotsky explained this aspect as all the functions of a child are developed in two stages. Firstly on the social level as called as inter-psychological while second stage is on individual level called as intra-psychological. Same occurs in the case of employees working in a firm, they learn from their peers or through interaction with their coworkers. All it depends upon the cultural environment of a particular firm. But according to results of current findings in pharmaceutical sector of Pakistan, majority pharmacists' community is in the favor of low power distance culture. Because they believe that high power distance culture creates hurdles in learning mechanism as explained by social development theory. Low level employees (pharmacists) are mostly involved in manufacturing process under supervision of their seniors so there should be equal involvement of all employees in all processes and decision makings. Some of the

previous studies show that more involvement of employees to ask questions in low power distance culture, there are more chances of exchange of knowledge that nurtures learning by acquisition, sharing and storage of knowledge (Edmondson, 1999). But if we link power distance with organization learning culture, we can hypothesize that high power distance creates number of difficulties for learning within organization that results in reduced performance outcomes.

According to results of moderated regression analysis H4, power distance culture moderates the relationship between organization innovation and perceived organizational performance in such a way that high power distance weakens this relation. This argument is supported by constructive learning theory by Bruner (1961).

According to Bruner constrictive approach, learning is an active mechanism through which individuals who learn are able to form new ideas based upon their current as well as past knowledge. Cognitive part mentioned here refers to the mental programming in an individual that helps them to organize past experiences and create new meaning or information from them. This process pushes them to convert that new information into new creative ideas that leads to innovativeness.

This concept can be explained in term of current scenario that in high power distance there is a gap of interactions among subordinates and their superiors, therefore the workers are not that much motivated to convert their knowledge and experiences into innovative ideas. In

Pharmaceutical sector, manufacturing is completely dependent upon innovating working and creative ideas because companies need to be highly innovative throughout their working to compete in the market. On the other side, companies have to maintain sustainability in their performance that can only be achieved through new creative ideas. Such innovative ideas can be attained when employees from top to bottom level convert their past knowledge and experiences into new knowledge under supervision of supportive supervision.

This study provides certain practical implications through which pharmaceutical firms can achieve high standard performance outcomes and gain a competitive edge in marketplace. Based on the study, managers should implement certain strategies that could increase learning within pharmaceutical firms by focusing on learning culture and practices. There should be capacity building training programs that can engage new and existing employees fully in learning processes for appropriate organizational performance. Managers should focus on concrete learning steps as explained by Garvin et al. (2008) that leaning cannot be developed effortlessly but it happens through concrete steps. Managers should understand this fact that learning is an obligatory activity in his dynamic and competitive environment. Subsequently, with the development of such learning practices, innovation and new developments will easily pursue after these practices. There should be knowledge sharing practices that could be helpful for employees to craft new ideas and thoughts towards organizational operations.

Future researchers are required to check the effect of learning and innovation under cultural context at group level also. Future research can be executed on comparative analysis of local and multinational pharmaceutical industries with respect of above mentioned variables.

Table 1
Respondents' Demographics (N=271)

Statement	Frequency	Percentage%
Gender		
Male	147	54.2
Female	124	45.8
Age		
20-30 years	221	81.5
31-40 years	48	17.7
41-50 years	02	0.7
Experience		
1-3 years	185	68.3
4-6 years	55	20.4
7-9 years	22	8.1
More than 10 years	09	3.3
Qualification		
Bachelors	185	68.3
Masters	82	30.3
PHD	04	1.5
Designation		
Senior Level Pharmacist	55	20.3
Middle Level Pharmacist	97	35.8
Junior Level Pharmacist	119	43.9

Table 2
Correlation analysis

Variables	1	2	3	4
1. OP	(0.83)			
2. OL	0.56**	(0.84)		
3. OI	0.54**	0.77**	(0.86)	
4. PD	0.16**	0.116	.0111	(0.75)

OP = organization performance, OL= organization learning, OI= organization innovation, PD= power distance

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Cronbach's alpha value in brackets, $N = 271$.

Table 3
Multiple Regression analysis:

Predictors	Perceived Organizational Performance		
	β	R^2	ΔR^2
Step 1			
Control Variables		0.074	
Step 2			
OL	0.379***		
OI	0.202***	0.377***	0.303***

OL= Organization learning, OI = Organization Innovation

Significant, * $p < .05$, ** $p < .01$, *** $p < .001$, $N = 271$

Table 4
Moderated Regression analysis (hypothesis 3)

Predictors	Perceived Organizational Performance		
	β	R^2	ΔR^2
Step 1			
Control Variables		0.074	
Step 2			
OL	.551***		
PD	.093*	0.365***	0.291***
Step 3			
PD X OL	- .134*	0.379*	0.014*

OL= Organization learning, PD = Power distance
Significant, * $p < .05$, ** $p < .01$, *** $p < .001$, $N = 271$

Table 5

Moderated Regression analysis (hypothesis 4) Predictors Perceived
Organizational Performance

	β	R^2	ΔR^2
Step 1			
Control Variables		0.074	
Step 2			
OI	.431***		
PD	.0905*	0.334***	0.260***
Step 3			
PD X OI	- .131**	0.357**	0.023**

OI= Organization Innovation, PD = Power distance
Significant, * $p < .05$, ** $p < .01$, *** $p < .001$, $N = 271$

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**Factor Loading (CFA
2)**

	1	2	3	4
OL1	0.773			
OL2	0.831			
OL3	0.839			
OL4	0.843			
OI1		0.884		
OI2		0.839		
OI3		0.892		
OP1			0.664	
OP2			0.657	
OP3			0.788	
OP4			0.735	
OP5			0.765	
OP6			0.798	
OP7			0.749	
PD1				0.821
PD2				0.838
PD3				0.842
PD5				0.539
PD6				0.559

OL=Organization learning, OI=Organization Innovation,
OP = organization performance, OI= organization innovation

FIGURES SECTION

FIGURE 1: Research Model

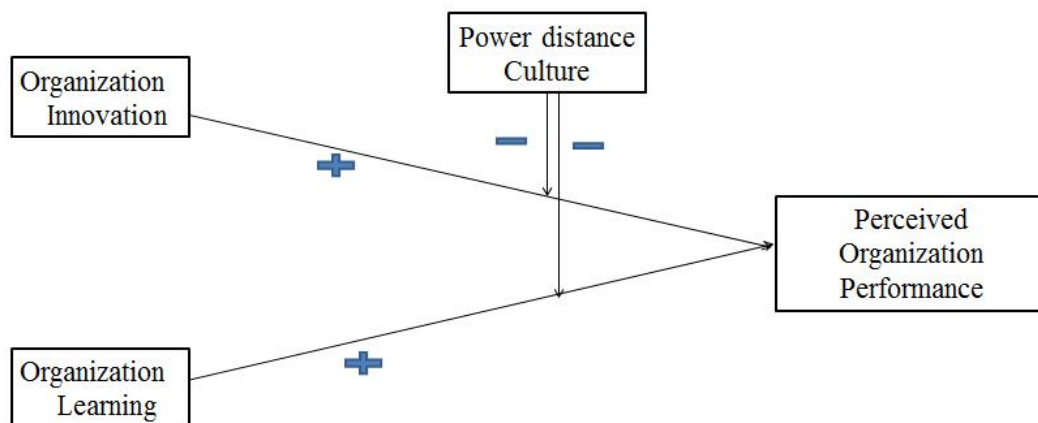


FIGURE: 2

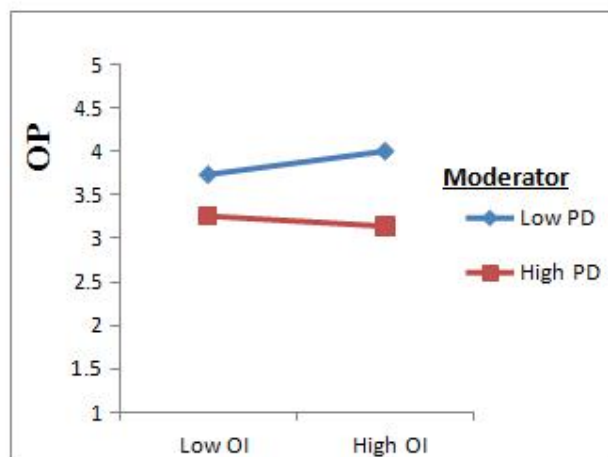
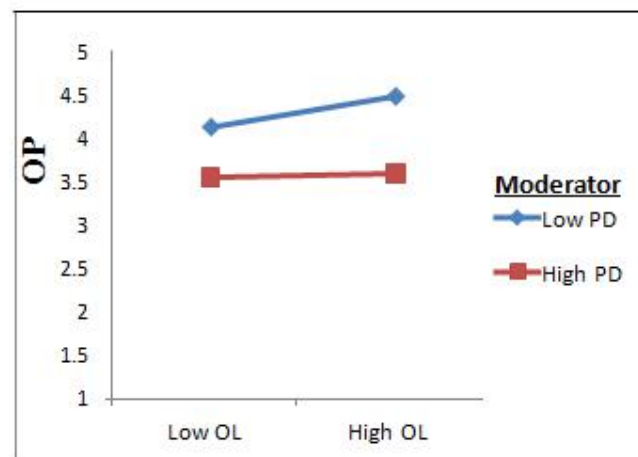
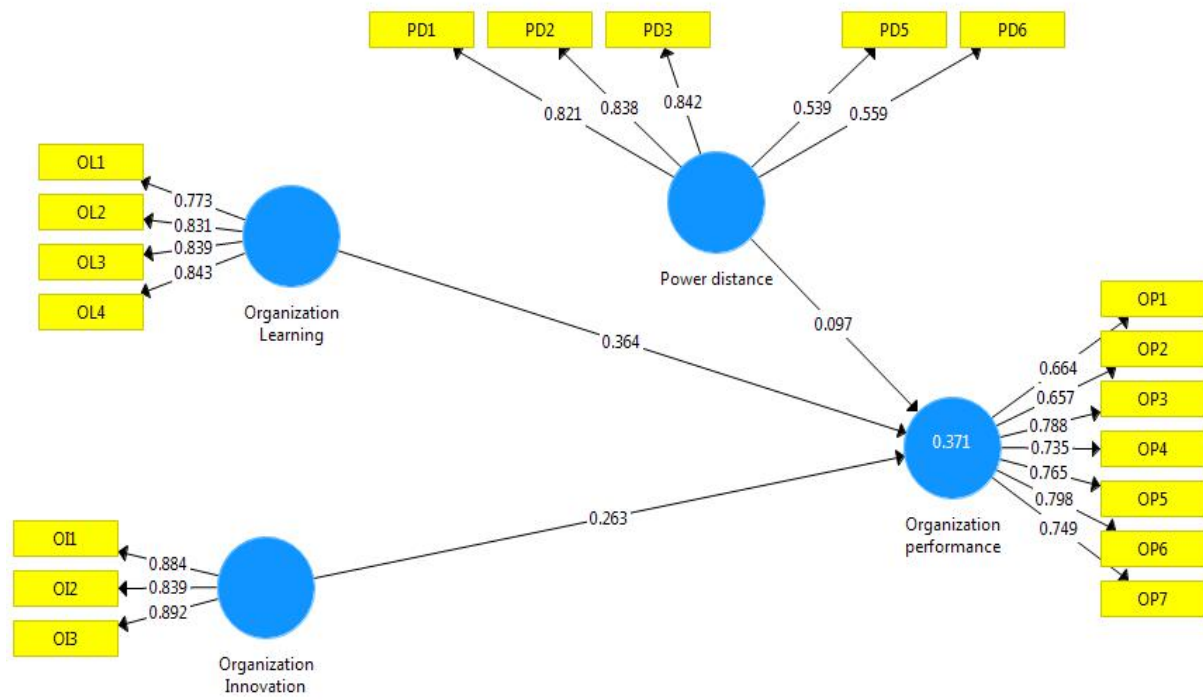


FIGURE: 3



OP= Organization performance, OI= Organization Innovation, OL= Organization Learning, PD=Power Distance

FIGURE 4: CFA



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