

# INNOVATIVENESS ON OPERATIONAL PERFORMANCE OF GOVERNMENT LEVEL FIRMS (GLCS). MODERATING ROLE OF TOP MANAGEMENT SUPPORT

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## ABSTRACT

*Corporate Entrepreneurship (CE) is the topic of interest in the field of management sciences since long time. Although most of the studies are done in the context of western world and very few of these have investigated the impact with respect of GLCs. In fact the elements indicated by initial studies Covin and Slevin (1991) are not investigated properly in the context of Asian countries. However, the construct of CE for private sector companies overlaps with government sector and innovation is one of the initial variables of CE which is till inconclusive with respect to results and its significance (Bierwerth et al., 2015). Therefore, CE by GLCs might produce worthwhile effects on organization as well as on economy hence there is a need to investigate impact of innovation on performance of GLCs. The purpose of this study is to explore the innovation with respect to products and technologies of GLCs (i.e. innovativeness) on operational performance. SMRT PLS has been used for analysis and sample size was of 150 and results indicated that innovativeness is treated as one of the most impactful variables of CE for operational performance of GLCs of Pakistan.*

**Keywords:** *Corporate Entrepreneurship, GLCs, Top Management Support, SMART-PLS & Pakistan.*

## INTRODUCTION

Entrepreneurial organization is one which bear risk in market to innovate products so to surpass its rivals in competition (Moghaddam, Khorakian & Maharati, 2015). Studies underlines firm level entrepreneurship or corporate entrepreneurship (CE) gain massive

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attention in the literature of managerial studies (Dess, Ireland, Zahra, Floyd, Janney & Lane, 2003). The postulate is valid as CE is an important tool for organizational and economic development as well as wealth creation (Antoncic & Hisrich, 2004).

In fact, one of the latest studies on the theme indicated CE as the entrepreneurial behavior of the firm to sustain in the competitive market (Bavil, 2017). Therefore, studies like Gartner (1988) and Wortman (1987) highlighted increase of research work on entrepreneurial activities with in established firms. The initial model of corporate entrepreneurship proposed by Covin and Slevin (1991) has three main components i.e. innovation, risk taking and proactiveness and these three are still part of model for corporate entrepreneurship given by Banda and Kazonga (2018). However now corporate entrepreneurship is not only a way to innovate products, services and processes within a firm but it has also been used to generate new form of business within a firm (Bavil, 2017). Therefore, the contemporary model indicated by Banda and Kazonga (2018) includes some other variables as new product development, new business venturing, competitive aggressiveness, self-renewal and strategic renewal. There are several studies which indicated benefits of CE (Ambad & Wahab, 2016; Banda & Kazonga, 2018; Ozdemirci, 2011 & Umrani, Kura & Ahmed, 2018).

However, some of the important contributors are Simsek and Heavey (2011) Zahra and Covin (1995) and Zahra and Garvis (2000) etc. who highlighted financial as well as non-financial benefits. Similarly, Bierwerth Schwens Isidor and Kabst (2015); Heavey and Simsek (2013) and Phan Wright Usbasaran and Tan (2009) revealed the impact of CE on overall performance, financial strengthening & acquisition of strategic benefits. However, there is a subsequent lacking of studies associated with CE from the eastern side of the world (Kuratko, Hronby & Covin, 2014) and public sector firms (Bornis, 2002), especially from the perspective of government level companies (GLCs) of Pakistan (Nayyar, 2017). Therefore, there is still requirement to check the initial model of CE presented by Covin and Slevin (1991) with reference of GLCs from Pakistan, especially when innovation does not have much value to GLCs due to lack of competitive pressure (Bornis, 2002). However recent literature of CE activities associated with service sector is majorly dependent upon emergence of innovation in the literature (de Lurdes Calisto & Sarkar, 2017; O’Cass, & Sok, 2013 & O’Cass, Song

& Yuan, 2013). Therefore, this study will check the impact of innovation of performance of service oriented GLCs of Pakistan in order to contribute to the body of literature as well as to academic and pragmatic world.

### **STATEMENT OF PROBLEM**

It has been noticed by George Kotha Parikh Alnuaimi and Bahaj (2016) that developing economies have scarcity of firms pursuing entrepreneurial orientation, especially in comparison to developed economies. Similarly, most of the studies which explored the impact of variables associated with the construct of CE on firm's performance are focused on firms of western world (Adeoti & Asabi, 2018).

Therefore, there is a legitimate need to conduct study on corporate entrepreneurship with respect to eastern world (Kuratko, Hronby & Covin, 2014). Especially when the impact of various predictors of CE e.g. innovation, strategic-renewal and corporate venturing are inconclusive on firm's performance (Bierwerth et al., 2015). However, innovation in service sector is multi-dimensional and more impactful on organizational perspective as compared to the production sector (Van Ark & Piatkowski, 2004).

On the other hand, Nayyar (2017) indicated the requirement of workable models for CE activities associated with GLCs of Pakistan however GLCs are more complex and their open system creates massive hindrance in the process of innovation (Bornis, 2002). Contrary to this Entebang and Harrision (2019) indicated innovation in GLCs might reduce competitive pressure and also induce process of decision making. Studies further exemplifies that innovation is the characteristic of CE which provides edge over competitor (Ahmed & Shepherd, 2011) and public sector innovation is majorly associated with innovation of processes (Diefenbach, 2011).

In fact, innovation in products and technologies on continuous bases is the major predictor of CE (Ambad & Wahab, 2016) which is actually termed as innovativeness (Ozdemirci, 2011). However, support of top management support is essential for creative process as it fosters flexible planning and objectives (Carter & Jones-Evans, 2006). Hence this study will explore the effect of innovativeness as the predictor of CE in GLCs on firm's performance with the moderation of top management support.

## **THEORETICAL FRAMEWORK**

According to Diefenbach (2011) the construct of corporate entrepreneurship includes similar variable inventory for public sector entrepreneurship and private sector entrepreneurship. On the other side complex structure of public sector monopolies will reduce their ability to innovate (Kearney, Hisrich & Roche, 2008). Similarly, employees who favor organized administration are not inclined towards innovation and creativity (Khakha, 2014). On the other hand, indicators of firm's performance include increase in revenue, profitability, market share, overall performance and satisfaction of customers (Coulthard, 2007).

Though to incorporate subjective analysis (not based on financial ratios) one must gauge human aspects and other human aspects which indicate non-financial performance (La Nafie, Nimran, Musadieg & Suyadi, 2014). However, corporate entrepreneurship might be evaluated through staff level entrepreneurial activities (Ireland & Webb., 2009). Supported by Carter and Jones-Evans (2006); Moghaddam et al. (2015); Umrani Ahmed and Memmon (2015) Umrani et al (2018) who collected data from top and middle level employees. However, lack of support from top management was highlighted as one of most devastating hindrance for corporate entrepreneurship (MacMillan, Block & Narasimha, 1984). On the other hand Carter and Jones-Evans (2006) indicated that support is required from top as well as middle management for executing future plans and directions of the firm. Therefore, the study will explore the impact of innovativeness as the contributor of CE on the operational performance with the moderating effect of top management support.

## **LITERATURE REVIEW**

### **Innovativeness and Its Role**

Initial studies related with domain Covin and Slevin (1991); Knox (2002) and Lumpkin and Dess (1996) etc marked innovation as the freshness to work processes, operating services and work principles. Schumpeter (1994) defines innovation as the hybrid of new products, new markets, new methods of production, new ways to incorporate raw material and pursue monopoly etc.

Hence firms which are inclined towards innovation yields better results in comparison to the others in competition (Jimenez-Jimenez & Sanz-Valle, 2011 & Thornhill, 2006). This relationship has also been evident by Kraus (2013); Kraus Rigtering Hughes Hosman (2012) and Su Xie and Li

(2011) etc, therefore innovation must be carried through incorporating new processes, services and work structures (Currie, Humphreys, Ucbasaran & McManus, 2008).

Similar has been indicated by Ahmed and Shepherd (2011) that innovation yield competitive edge however in government sector innovation mainly deals with improvement of processes rather than components (Diefenbach, 2011). Although one of the current studies by Entebang and Harrison (2019) indicated that innovation is also beneficial for GLCs & might not aids only in decision making but also aids in release of market pressure though. However, to gain competitive edge there is a requirement of continuity in launch of new products and technologies (Ambad & Wahab, 2016). Thus, word innovativeness is used by Ozdemirci (2011) as most important category of innovation and CE that will aid substantially to growth and profitability of the firm Ambad & Wahab, 2016). Contrary to this Wilson (2019) posited that in public sector innovation is not termed as the potent predictor of growth development and productivity. The statement seems to be valid as of less flexibility of managers in public sector corporations. Moreover, innovation in public sectors firms might contradict with traditional values e.g. procedural requirement and accountability (Kearney, Hisrich & Roche, 2008).

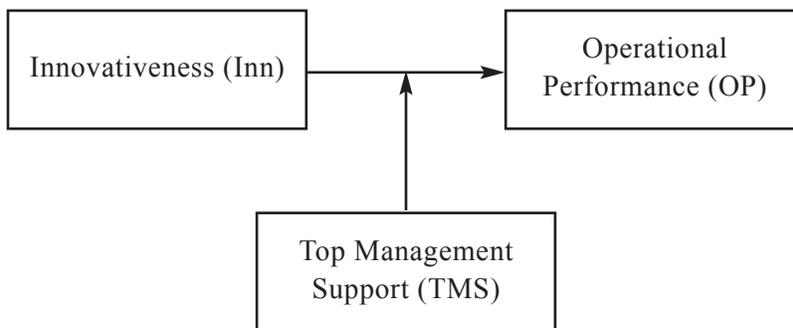
**H<sub>1A</sub>:** Innovativeness does affect operational performance of GLCs of Pakistan.

### **Top Management Support**

Kuratko Morris and Covin (2011) indicated several factors which affect firm's performance and among them support of top management to company's vision and entrepreneurial actions lies at the top. Carter and Jones-Evans (2006) use the term "sponsors" for top management who has to support the creative process through flexible planning so to march towards new direction at the time of need. Thus, it is believed that sponsors motivate others for involvement in entrepreneurial process, conduct follow-ups, allocate flexible budgets, resolve internal/departmental issues and ensure faster compilation of projects (Moige, Mukulu & Orwa, 2016).

**H<sub>2A</sub>:** Top Management Support in GLCs of Pakistan does moderates the relationship between innovativeness and operational performance of the firm.

## RESEARCH MODEL



## RESEARCH METHODOLOGY

Research Methodology is science to describe the way for conducting research in a systematic manner. In which there are various stages explaining ways scholar used to study research problem, supplemented with reasons behind these acts (Kothari, 2004). Thus, define general logic & theoretical processes used to find answer to research questions (Sileyew, 2019). There are several parts which research methodology must cover i.e. research design, sampling design, data collection and method of analysis (Ayob, 2005 & Sekaran & Bougie, 2016)

### Research Design

It is defined as strategy, plan and structure used to find answers of research questions. It will provide outline of gist of the study grasped by research from assumption till data analysis (Kothari, 2004). Hence it is optimal to discuss the philosophical as well as methodological assumptions which underline this study:

The philosophy linked with the study is epistemology as its purpose is to increase knowledge regarding the role of innovativeness in GLCs of Pakistan rather than challenging reality (Saunders, Lewis & Thornhill, 2012 & Saunders, Lewis, Thornhill & Bristow, 2015).

Supported by de Gialdino (2007) that philosophy is sued to carryout continuous and creativity that might be renewed tome and time again whenever researchers tries to uncover something unique. However, realism is research stance to pursue towards data collection and analysis (Zukauskas & Vveinhardt & Andriukaiteiene, 2018) as realism can be used for qualitative designs & designs if found coherent with the subject of the study (Saunders, Lewis & Thornhill, 2012). Similarly, Edwards

O'Mahoney and Vincent (2014) indicated that critical realism is linked to qualitative as well as quantitative designs.

Therefore, study uses critical realism as world is layers in different phases of reality and linear causal relationship among variables might be observed in closed experimental setting. This scenario is mostly related with quantitative studies especially when researchers are not trying to discover how this relationship has been formulated (Vincent & O'Mahoney, 2018). The research strategy is survey, (Saunders, Lewis, Thornhill & Bristow, 2015), as this study has been done through collecting data from middle and top-level managers of renowned GLCs of Pakistan.

The strategy was used most of the prior studies on the theme of corporate entrepreneurship from Pakistan e.g. Nayyar (2017); Nayyar and Mahmood (2014) Umrani Mahmood and Ahmed (2016) and Umrani et al (2018). The approach used for conducting study is deductive (Saunders et al., 2015) the purpose of research is descriptive (Kothari, 2004) method of data collection and analysis is mono-method (Saunders et al., 2015) and the time horizon was cross-sectional (Saunders et al., 2015 & Sekaran & Bougie, 2016).

### **Sampling Design**

The study takes the reference of Carter and Jones-Evans (2006); Moghaddam et al (2015) Sebora and Theerapatvong (2010) and Umrani et al (2018) etc, to implement non-probability sampling. Though studies like Carter and Jones-Evans (2006) and Moghaddam et al (2015) etc collects data from top management only in order to gauge level of corporate entrepreneurship. However, in GLCs managers are not flexible as in private sector (Kearney et al., 2008) and therefore GLCs are termed as bureaucratic structures that are not focused towards CE or innovation (Moghaddam et al., 2015). Hence in this study we use loose quota sampling to include top & middle managers in the frame of sampling. This has been done as middle management are also capable of playing significant role in the process of CE (Kanter, 1988; Peters & Waterman, 1982; Pinchott, 1985 & Quinn, 1985).

These statements are also validated from Carter & Jones-Evans (2006) that support for strategy of CE may come from top as well as middle management. Thus, the inclusions of middle as well as top managers are effective to validate research as well as the moderating variable. Survey has been conducted managers of Pakistan International Airline (PIA),

Pakistan Railway (PR) and Pakistan Customs (PC). At initial phase 250 questionnaires were circulated however due to spread of COVID-19, quarantine and busy schedule the number of received responses is much lesser than the expectations. Therefore, the study has been done on the sample of one hundred (150) respondents.

### **Questionnaire and Software**

The instrument used for this study is an adapted one although it is a junction of several studies in order to make respondent understand the gist of the question and reply effectively. The questionnaire has been developed through taking reference of Adeoti and Asabi (2018) who use Likert scale for compilation of questionnaire. Elements of innovativeness has been extracted mainly from Adeoti and Asabi (2018); Karacaoglu, Bayarkdaroglu and San (2013) and Ozdemirci (2011). Major elements of operational performance have been derived from Ikenna Julius and Ngozi Ursula (2017). However, to extract elements for the support of top management the study of Ireland Kuratko and Morris (2006) has been used.

For the purpose of analysis SMART PLS has been incorporated which has also been used by prior studies on CE, e.g. Umrani et al. (2018). However very few studies explored the effect of CE with reference to GLCs (George, Kotha, Parikh, Alnuaimi & Bahaj, 2016) especially with the context of firms from eastern world (Bierwerth et al., 2015). Hence it is legitimate to use SMART PLS as the study is associated with theory building approach (Hwang, Malhotra, Kim, Tomiuk & Hong, 2010) and smaller size of the sample is will not be issue for research and analysis. The study has four elements for innovativeness, three elements for top management support and six elements for operational performance. Therefore, through linking Wang Wang Wang Zhang and Liu (2012) and Schumacker and Lomax (2004) study uses sample size of 150 respondents as minimum sample size for study is based on 1-15 respondents per element.

### **STATISTICAL TESTING AND ANALYSIS**

Covariance Based Structural Equation Modeling (SEM) was the most potent tool for the analysis of complex models until 2010 although after that PLS-SEM getting popular and now it is preferred in almost all the domains of management sciences. Several studies indicated the major benefit of using PLS-SEM is the absence of distributional assumptions and hence can work on smaller as well as skewed (non-normal) data sets.

Moreover, it is found appealing to several researchers as it provides solution of complex models with different variables through structural paths. Software uses two different forms of measurement models i.e. formative models and reflective models for the purpose of analysis and p-value for hypotheses testing for each path-coefficient. SMART PLS also (Benitez, Henseler, Castillo & Schuberth, 2020). Moreover software also has the ability to link descriptive measures as well as inferential measures to both forms of measurement models (Hair, Risher, Sarstedt & Ringle, 2019).

### **Outer Loadings**

Table 1: Outer Loadings

	<b>Innovative- ness</b>	<b>Moderating Effect 1</b>	<b>Organizational Performance</b>	<b>Top Management Support</b>
<b>Inn1</b>	<b>0.798</b>			
<b>Inn2</b>	<b>0.699</b>			
<b>Inn4</b>	<b>0.655</b>			
<b>Inn6</b>	<b>0.673</b>			
<b>Innovativeness * Top Management Support</b>		<b>1.006</b>		
<b>OP1</b>			<b>0.604</b>	
<b>OP2</b>			<b>0.622</b>	
<b>OP3</b>			<b>0.829</b>	
<b>OP4</b>			<b>0.864</b>	
<b>OP5</b>			<b>0.855</b>	
<b>OP6</b>			<b>0.824</b>	
<b>TMS1</b>				<b>0.920</b>
<b>TMS2</b>				<b>0.909</b>
<b>TMS3</b>				<b>0.646</b>

Table 1 is used to indicate outer loading for each element associated with the construct of result of innovativeness on operational performance of the firm. The least weight for any element is 0.604 which is valid to be included as per Afthanorhan (2014) who indicated that values less than 0.6 must always be deleted if the study is not the exploratory one. However, for exploratory designs values of 0.4 are even acceptable (Hair Jr, Hult, Ringle & Sarstedt, 2016). However, deletion of any item having outer loading 0.6 or less is legitimate only when it aids to reliability of overall construct (Afthanorhan, 2014)

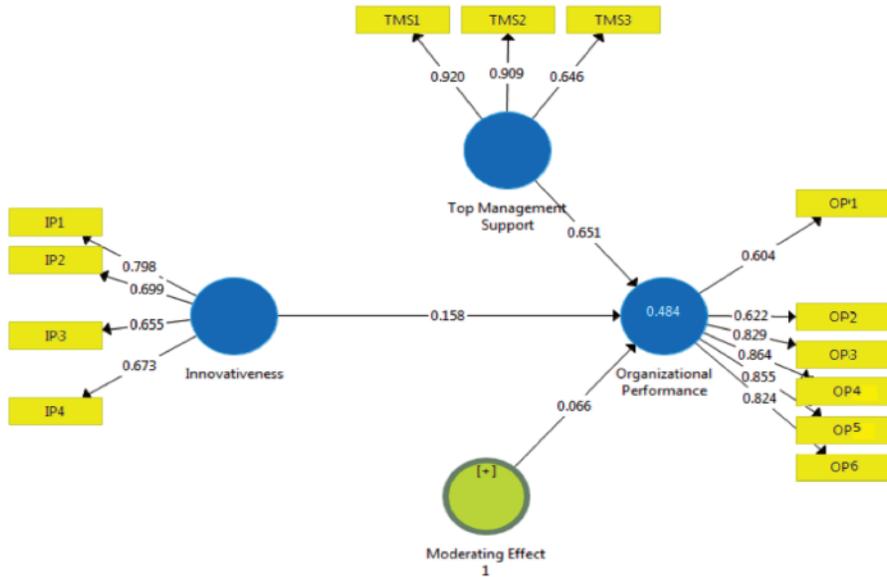


Figure 1: highlighting p-values to highlight confirmatory factor analysis (CFA) for the model showing effect of innovativeness on operational performance of the firm

### R Square

Table 2: Predictive Accuracy (Quality Criteria)

	R Square	R Square Adjusted
<b>Operational Performance</b>	0.637	0.598

Table 2 is used to indicate the variance caused by independent variable on dependent variable. Termed as predictive accuracy and purpose of the tool is to indicate predictive variance caused by independent variable through ordinary least square (Benitez et al., 2020). Pattern for analysis is same for the tool as analysis method for regression (Andreev, Heart, Moaz & Pliskin ,2009) while least accept value for relation is 0.26 and 0.75 or above indicates substantial relation (Cheah, Memon, Chuah, Ting & Ramayah, 2018).

Although in this study the value of  $R^2$  is 0.598 which is lesser than 0.75 and indicates moderate (fit) relationship (Henseler Ringle & Sinkovics, 2009 & Hair Ringle & Sarstedt, 2013). Similar has been indicated by another study that values between 0.3 and 0.6 for  $R^2$  are treated s moderate (Vargas-Sanchez, do Valle, do Costa Mendes & Silva, 2015). Thus, rounding off the value of  $R^2$  in table will yield 0.6 and confirms the moderate fit of the model used to measure innovativeness in GLCs of Pakistan.

## Construct Reliability and Validity

Table 3: Convergent Validity

	<b>Cronbach's Alpha</b>	<b>rho_A</b>	<b>Composite Reliability</b>	<b>Average Variance Extracted (AVE)</b>
<b>Innovativeness</b>	<b>0.712</b>	<b>0.729</b>	<b>0.800</b>	<b>0.502</b>
<b>Moderating Effect 1</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
<b>Organizational Performance</b>	<b>0.862</b>	<b>0.886</b>	<b>0.898</b>	<b>0.599</b>
<b>Top Management Support</b>	<b>0.766</b>	<b>0.762</b>	<b>0.871</b>	<b>0.697</b>

Table 3 is used to indicate construct reliability through Cronbach's Alpha ( $\alpha$ ), Dillon-Goldstein's rho & AVE (Sijtsma, 2009a&b). However, rho is better predictor of reliability than Cronbach's Alpha (Ravand & Baghaei, 2016). Table is also highlighting convergent validity which actually estimates the extent to which parameters associated with one latent variable are measuring same construct (Benitez, Henseler, Castillo & Schuberth, 2020).

Similar might be observed through the values of composite reliability and AVE, the two most important elements associated with composite reliability (Ab Hamid, Sami & Sidek, 2017). However, AVE is the element which has the ability to reflect convergent validity on individual bases. Study also provides the minimum range for the values of AVE and indicated that minimum of 0.5 is required as to reflect convergent validity (Benitez et al., 2020).

## Discriminant Validity

Table 4: Discriminant Validity via Heterotrait-Monotrait Ratio (HTMT)

	<b>Innovative-ness</b>	<b>Moderating Effect 1</b>	<b>Organizational Performance</b>	<b>Top Management Support</b>
<b>Innovativeness</b>				
<b>Moderating Effect 1</b>	<b>0.106</b>			
<b>Organizational Performance</b>	<b>0.431</b>	<b>0.120</b>		
<b>Top Management Support</b>	<b>0.376</b>	<b>0.296</b>	<b>0.813</b>	

Table 4 indicating discriminant validity through Heterotrait-Monotrait Ratio (HTMT), the purpose of discriminant validity is to reflect lack of correlation in the variables of same construct (Cheung & Lee, 2010). Similar has been explained by Benitez et al. (2020) that purpose of discriminant validity is to indicate that two latent variables which are different on theoretical measures are also different with respect to statistical measures. Study further indicates that Heterotrait-Monotrait Ratio (HTMT) is the

measures which must be considered by researchers in order to highlight discriminant validity in their models. However, 0.85 is the maximum value which might be achieved at the junction of two latent variables in order to assure discriminant validity (Hair Jr, Sarstedt Ringle and Gudergan, 2017).

Table 5: Total Effects through Path Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))	P Values
<b>Innovativeness → Organizational Performance</b>	0.158	0.168	0.069	2.307	0.021
<b>Moderating Effect 1 → Organizational Performance</b>	0.066	0.061	0.079	0.830	0.407
<b>Top Management Support → Organizational Performance</b>	0.651	0.660	0.068	9.511	0.000

Table 5 along with Figure 2 is highlighting impact of innovativeness on operational performance of GLCs of Pakistan. Both of these are highlighting the impact through inferential statistics which is used for hypotheses testing (Benitez et al., 2020) and premier criterion of effective measurement models in SMART-PLS (Hair et al., 2019). Table 5 used for hypotheses testing (Hair et al., 2019) uses t-values (Durate & Amaro, 2018) as well as p-values (Kock & Hadaya, 2018) to indicate relationship among variables of the construct. Though least t-value require to indicate relationship between two variables is 1.97 (Hair, Ringle & Sarstedt, 2011) and higher values are there to indicate stronger relationships (Duarte & Amaro, 2018).

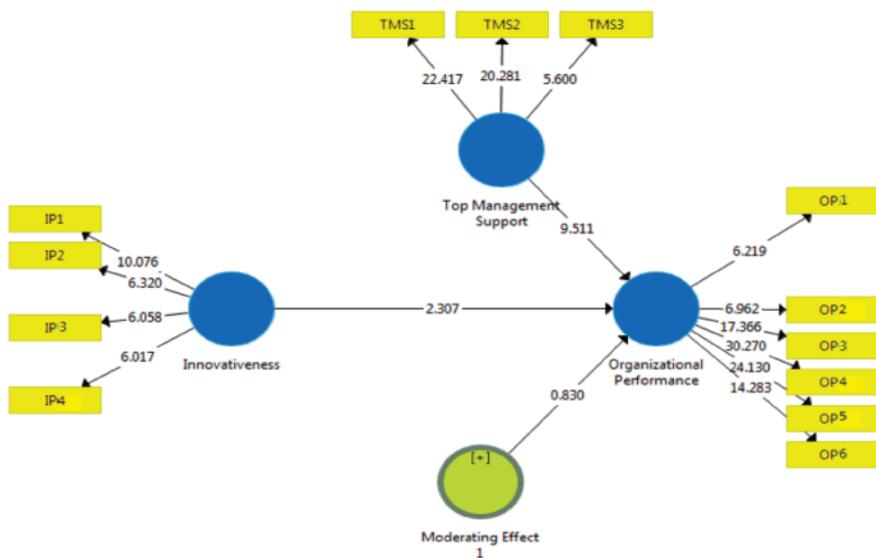


Figure 2 highlighting t-values in order to highlight path analysis for model of innovativeness on operational performance of GLCs of Pakistan

Therefore, in the light of these parameters it is deterministic to indicate that innovativeness is perceived as the component which might results in the optimization of operational performance of GLCs in Pakistan. Similarly, top management support is also perceived as the variable which is required to optimize operational performance of GLCs. However, moderation of top-management support for GLCs of Pakistan is nullifying the impact of innovativeness from the operational performance of the firm.

## **CONCLUSION AND DISCUSSION**

Results of the study are found coherent with the study of Entebang and Harrison (2019) which indicated the usefulness of innovation in GLCs.

Thus, on the bases of results obtained it is true to indicate that innovativeness is believed as variable which might induce performance of GLCs in Pakistan and might also reduce market pressure. Similarly, the findings of the study are also consistent with Ambad and Wahab (2016) that it has also been perceived that innovativeness is the element which is required to consistent launch of new technology and products so to have edge over rivals. Hence the findings oppose the indications of Wilson (2019), as top and middle managers of different GLCs of Pakistan are treating innovativeness as the potent predictor of optimized operational performance. On the other side findings of the study are also consistent with Kuratko et al (2011) as top and middle management of leading GLCs of Pakistan treat top-management support as influential variable for optimized level of performance for GLCs. Therefore, senior managers of GLCs must follow indications of Carter and Jones-Evans (2006) in order to support other managers in compiling their work effectively. This will also require senior management to be considerate and allocate flexible schedule, budgets, render training, development and motivation to other managers as indicated by Moige et al. (2016).

Thus, affirms the indications made by Carter and Jones-Evans (2006) that role of top management are critical in fostering process of innovation through flexible processes for planning and setting of objectives. However, moderation of top management support nullifies the perceived impact of innovativeness from the operational performance of GLCs. Thus, found coherent Kearney, et al. (2008) that innovation in public sector may create contradiction as it is against traditional values and procedures. Hence also found coherent with Bornis (2002) that GLCs are complex structures which might create severe hindrance to the process of innovation. Therefore, legitimate to declare lack of top management support in GLCs in Pakistan as the major hindrance to the process of innovation. Similar

was highlighted by MacMillan et al (1984) as major hindrance to corporate entrepreneurship. Though GLCs are free from complete pressure (Bornis, 2002) but presence of problem indicated by MacMillan et al (1984) in GLCs of Pakistan in 2020 is really an issue which requires proper attention. Therefore, it is the need of the time to indicate that the study has been conducted to incorporate workable models of CE as indicated by Nayyar (2017). However, after statistical analyses it has been determined that lack of top of management support is one of the top hurdles which create hindrance in the process of innovation in GLCs.

### **POLICY IMPLICATIONS**

Kuratko et al. (2014) indicated that CE is required not only for the growth of the organization but also for the economy and wellbeing of the nation. Therefore Nayyar (2017) highlighted the requirement of more workable model of CE for GLCs of Pakistan. However, lacking of top management support as indicated by MacMillan et al (1984) which is an issue require special consideration from government. Especially after COVID-19 as virus caused 0.8 % to 1.3 % decrease in GDP and also resulted in economic growth to 2.5% from 3.3% (Sareen, 2020). On the other side country is facing tremendous challenge as performance of GLCs is found significantly low. In fact, the loss accounted by PIA for 2014 is around 250 billion and accumulated loss of Pakistan Steel Mill for 2014-2015 is around 130 billion.

These Losses will not only produce negative impacts on Pakistan's economy but also produces negative impacts on public and support which they need from government. In fact, study also highlight requirements of effective corporate entrepreneurship, autonomy of board of directors (BoDs) and requirement of entrepreneurial behaviors from BoDs (Iftikhar, 2015). Therefore, in the light of these indications there is a special requirement of innovativeness in technologies as well as products of GLCs in order to optimize performance of the firm and also to support economy of the country.

### **AREA FOR FUTURE RESEARCH**

Keeping in view requirement posit by Nayyar (2017) more studies might be conducted through considering models given by Covin and Slevin (1991) in the context of GLCs of Pakistan. This study only worked on only one variable which was not only inconclusive as per Bierwerth et al. (2015) however there is still requirement of studies which may inquire impact of other variables associated with construct of CE. Especially which remains inconclusive LIKE strategic-renewal and corporate Bierwerth et al. (2015) or indicated by Banda and Kazonga (2018) in the contemporary model of CE.

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