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Influence of Transformational Leadership Factors on Project Success

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Abstract

Researchers and practitioners are trying hard to analyze the leadership into a widespread and general set of processes, methods, and measures. Attempts are being made by various researchers to discover the best leadership practices having larger success stories. The purpose of this inquiry is to investigate the impact of transformational leadership factors on project success. In this empirical investigation, transformational leadership has been discussed by combining two different leadership models in this study. The data were obtained from 125 project managers selected through systematic random technique working on different higher education commission projects in Pakistan and analyzed using PLS-SEM. The results unveiled six dimensions of transformational leaders from two different leadership models that have better responsiveness towards project success i.e. model the way, inspired a shared vision, challenge the process, enable others to act, encourage the heart and individual consideration. This study adds the body of knowledge in leadership and project management by presenting current times transformational leadership dimensions particularly for ensuring project success. Further, the current study elaborates various dimensions of transformational leadership that are helpful of project managers to boost project success. This is a unique inquest to compare the dimensions of two different transformational leadership models in relation to project success and present a comprehensive package based on dimensions that are relatively more effective to ensure project success.

Keywords: transformational leadership, inspire a shared vision, model the way, enable others to act, encourage the heart, individual consideration, project success, project leadership.

1. Introduction

Project leadership remained unlucky to capture the interest of researchers and practitioners since its inception (Turner & Muller, 2005). However, now the discipline is rapidly being acknowledged throughout the world. Meanwhile, the literature suggests that it was the early 1990s when entities, along with researchers across various disciplines recognized the significance of project management (Haughey, 2011). Furthermore, Shenhar and Dvir (2007) argued that field of project management is not as rich and wide in literature as the other fields of management sciences are. However, from the last decade, project management and its success factors have been investigated quite well (Sebestyen, 2017; Turner, 2009). Project management has now gained ubiquitous importance irrespective of the region (Aga et al., 2016). Turner (2009) strongly claimed that present world economy is project oriented and it constitutes almost 30% of the global economy. In addition, project failure rate won the attention for researchers and practitioners than project success rate in numbers (Sebestyen, 2017; Zwikael & Smyrk, 2012). Because of the inherent feature of uniqueness, the failure probability resides side by side (Meredith & Mantel, 2010). Arguably, the projects tend to cause innovation and process change (Damanpour, 2010), a source of organizational performance enhancement, above all contribute toward national economies (Lewis et al., 2002; Zhang et al., 2018). For the reasons, they captured handsome human and financial resources by several organizations and project investors, despite of naked failure risks (Shenhar & Dvir, 2007; Zwikael & Smyrk, 2012)

In last three decades, the flavor of researchers for their inquiry has been shifted from project failures to project success factors; therefore, project success factors gained importance in overall management of the project (Ika, 2009; Zhang et al., 2018). For this reason alone, researchers and practitioners started investigating the factors responsible for entire success of the project. Among those factors, project leadership stands distinctive (Alderman & Ivory, 2011; Geoghegan & Dulewicz, 2008). For Dey (2009), lacking effective leadership skills in a project may cause failure, wherein effective leadership skills exist at the top for project success factors (Cetin & Kinik, 2015). Extant literature on management, organizational behavior and entrepreneurship management heavily relied upon leaders for the good fate of the desired outcome, yet vital role of leadership in the success of project needs to be separately investigated (Turner et al., 2009; Zhang et al., 2018). No doubt an excellent blend of literature exists for leadership, available in numerous layers and quarters since its discovery. Robbins (2013) counts Transformational Leadership (TL) theory among theories of the running century. Hence, a significant role of leadership in the success of entrepreneurial ventures, organizational advancement exists seamlessly and has not yet been explored for government-owned and controlled institutions in Pakistan. The study in hand tends to examine transformational leadership performances of project managers and counter the influence on success factors for projects in HEC (Higher Education Commission), Pakistan.

The study adds the body of knowledge by offering a combination of two transformational leadership models. The current study examined leadership behaviors with total six dimensions, the five dimensions of (Kouzes and Posner, 2007) i.e. challenging the

process, enabling others to act, modeling the way, encouraging the heart, inspiring a shared vision, and one dimension from Bass and Avolio (1995) i.e. individualized consideration. The reasons of this amalgamation are described comprehensively in Table 2. The authors have offered this conception to fully understand the transformational leadership particularly, in project management. Equally, there is no universal set of measures that can put project success into a nutshell. By the reasons of being subjective in nature, it varies from person to person. Consequently, quantification of project success is open to more than one interpretation in nature (Baccarini, 1999; Balwat, 2019; Ika, 2009; Liphadzi et al., 2015; Thomas & Fernandez, 2008). The present inquiry represents a different perspective of Project Success (PS). First by offering a combination of traditional measures of aka iron triangle consisting of cost, time and quality and emerging parameters of PS; the impact of PS on organizational success (Müller et al., 2012) and ironically client satisfaction (Papadopoulos et al., 2012).

Furthermore, project leadership has also been utilized in various organizations settings such as, IT (Lee-Kelley and Leong Loong, 2003; Yang et al., 2012), construction projects (Meng, 2012; Yang et al., 2013), clinical research projects (Kangis and Lee-Kelley, 2000), design consulting projects (Cheung et al., 2001). Likewise, Arsenault (2007) specified that higher educational institutions are not different from other organizations. These institutions also have to face similar challenges like others and they equally need the skippers in the shape of effective leadership.

Therefore, the study has been conducted in a developing country. In Pakistan, the situation of PS is worst as compared to other countries. In 2007, in an evaluation report of the Asian Development Bank, the average PS rate in Pakistan was 58% from 1985-2006 (Daily Times, 2007). The report further elaborated, that project success rate in these years remarkably remained static in Pakistan with little or no performance improvement. Furthermore, sector-wise performance was quoted in that report and educational projects succeeded with an average rate of 29%. Despite learning from previous mistakes there is an increasing trend toward project failures than project success in Pakistan. Shahbaz (2013) summarized the performance of Pakistan with ADB's operations in a decade from 2002-2012. Disturbingly, the average project success rate continued the previous drift and remained 48%. The evaluation report on the basis of various programs and projects concluded that the performance of Pakistan was less than successful even less than satisfactory. Therefore, the study will be an effort to overcome the increasing failure rates in Pakistan by highlighting the importance of Project Managers' Transformational Leadership (PMTL) behaviors in PS.

This study aims to serve twofold:

- To examine the direct effect of project managers' transformational leadership behaviours on project success factors.
- To examine empirically which of the project managers' transformational leadership behaviour contribute significantly toward the project success factors?

The paper instigates with a review of existing literature on transformational leadership models and relationships between transformational leadership dimensions and project success. Then it suggests a model that links these two variables. Then, the model is established using a sample of 125 project managers working on various projects of HEC

Pakistan. Finally, the results are offered along with theoretical and managerial implications of the study, its limitations and future calls.

2. Literature Review

Past recollection of classical projects has enacted the existence of project management since the man started to produce goods and serve the communities (Brooks, 1995; Sebestyen, 2017; Yourdon, 2004). The concept of the project officially gets fame US army opt modern mechanisms for supplying weapons right after World War II. Many organizations put efforts to channelize the ideas of project management in the field of trade and commerce for organizational success i.e. The International Project Management Association, RAND Corporation and Project Management Institute (Cleland, 1981; Frame, 1994; Heerkens, 2002). Around the globe, Project Success (PS) rate has a very bleak track record (Zwikael & Smyrk, 2012). Such as, a survey containing small, medium and large size organizations of the USA conducted by The Standish Group (2001) claimed that almost 76% of the projects were challenged or failed while the rest stood successful. According to Standish Group edition 2009, the success rate of projects stood at 32% and rest have dual nature either challenged (44%) or unsuccessful (24%). The PS is the need for current times for developing countries and developed countries as well. In this context, Andersen et al. (2006) explained the various reasons that caused project failure i.e. selection of inappropriate team members, failure to meet time constraints, exceeding the estimated budget and failure to produce desired quality. The project failure is the resulting factor of poor human resource management and not solely the outcome of technical issues (Cowie, 2003; Elrehail, Emeagwali, Alsaad, & Alzghoul, 2017). On the other hand, Korrapati and Rapaka (2009) argued that most projects succeed because of leadership styles of project managers.

Additionally, project leadership has also been studied in various organizations such as, (IT) services projects (Thite, 2000; Lee-Kelley and Leong Loong, 2003; Yang et al., 2010), construction projects (Meng, 2012; Odusami et al., 2003; Yang et al., 2011; 2013), clinical research projects (Kangis and Lee-Kelley, 2000), design consulting projects (Cheung et al., 2001) and in complex projects of NASA (Mulenberg, 2000). All of these cited experts acknowledged the effectiveness of transformational leadership in their respective fields.

In contrast, Keegan and Den Hartog (2004) compared the transformational leadership style between the project and functional managers. During their study, they concluded that there was no significant difference between leadership styles of both managers. Moreover, they found no association among transformational leadership and subordinate commitment, stress, and motivation. Likewise, Lee-Kelly and Loong (2003) conducted research on 62 IT project leaders in UK and found no significant association of leadership style with project and organizational success. Limsila and Ogunlana (2008) committed research on 52 project managers in the construction industry of Thailand, simply through direct relationship to project performance. According to them, transformational leadership was positively associated with project performance.

Effective leadership has been discussed in decades and has proven an effective source of performance in different sectors (Conger & Toegel, 2002; Goffee & Jones, 2000; Higgs, 2003; Zhang et al., 2018). Among other theories of leadership, TL stands distinctive for improving performance in the workplace (Imran et al., 2016; Tyssen et al., 2014; Yang et

al., 2011), but rarely found in project management (Kissi et al., 2009). Transformational leaders not only can create a win-win situation but also can transform the interest of the followers by prominence of organizational goals. These leaders hold a charisma and can help in getting synergic effects through the strength of followers. Besides, Ergeneli et al. (2007) heightened that TL theory is reflected as evolving theories as they have marked new milestones in leadership theory to get the desired results in every single facet of organization. It is evident from the existing literature that most of the studies conducted in context to PS and project manager's leadership were conduct in developed countries (Banks et al., 2016; Dulewicz & Higgs, 2005; Geoghegan & Dulewicz, 2008; Hassan et al., 2017; Kissi et al., 2013; Müller & Jugdev, 2012). There is very scant research that has been conducted on PS in developing countries despite of its acute importance to better organizational health (Boamah et al., 2017; Bouwmans et al., 2017; Kuen et al., 2009; Takahashi et al. 2012). Moreover, importantly, Morgan (2012) emphasized that further research is indeed needed on project success in developing countries particularly, in the Asian context.

2.1 Comparison of Transformational Leadership Models

Owing to the importance of Transformational Leadership (TL), the researchers closely observed the behaviors of TL and constructed categories to quantify the performance of leaders, among these Posner and Kouzes (1988) and Bass (1985) are prominent. TL has been operationalized by well-known researchers, such as Bass and Avolio (1995) who differentiated transactional leadership from transformational leadership through the psychometric process and attested the effectiveness of the later. Similarly, the angle of Posner and Kouzes (1988) is considered most suitable for dynamic environments. The authors abridged the transformational leadership in a tabular manner (see Table 2).

Table 1: Similarities of Different Transformational Leadership Models

Dimensions of Posner and Kouzes (1988)	Dimensions of Bass and Avolio (1995)	Dimensions of Bradford and Cohen (1984)	Dimensions of Conger and Kanungo (1987)	Dimensions of Bennis and Nanus (I985)
Model the way	Idealized Influence and Inspirational Motivation		Take high personal risk to support the vision	
Inspire a Shared Vision	Inspirational Motivation	Determine and build a common vision	Advocate an appealing yet unconventional vision	Management of attention through vision
Challenge the Process	Intellectual Stimulation			
Enable others to Act		Build a shared responsibility team		Develop commitment and trust
Encourage the Heart			Behave with confidence and enthusiasm	
	Individualized Consideration	Continuously develop the skills of individuals	Sensitive to the needs of the followers	

Source: extended and adapted from (Podsakoff et al., 1990)

It is obvious that the TL is sharing the similar foundations discussed by different researchers in different times. It compelled the researchers to explore and understand the characteristics of transformational leadership. Greater part of researchers has unanimity about the effectiveness of transformational leadership (Geoghegan & Dulewicz, 2008; Turner et al., 2009; Lo, 2011). These studies authorized the researchers to analyze the effectiveness of transformational leadership in project success especially in developing country. The current study tends to portray the transformational leadership in a better way by combining five dimensions indicated by Kouzes and Posner (2007) and single dimension from Bass and Avolio (1995). It may provide better insights of transformational leadership behaviors especially in project management. Hence, the study postulates the following hypothesis:

- H_1: The project managers' transformational leadership behaviours influence project success positively and significantly.
- H_{1a}: 'Model the Way' (an aspect of transformational leadership) influence project success positively and significantly.
- H_{1b}: 'Inspire a Shared Vision' (an aspect of transformational leadership) influence project success positively and significantly.
- H_{1c}: 'Challenge the Process' (an aspect of transformational leadership) influence project success positively and significantly.
- H_{1d}: 'Enable Others to Act' (an aspect of transformational leadership) influence project success positively and significantly.
- H_{1e}: 'Encourage the Heart' (an aspect of transformational leadership) influence project success positively and significantly.

- H_{1f}: 'Individualized Consideration' (an aspect of transformational leadership) influence project success positively and significantly.

Table 2: Similarities and Difference between Transformational Leadership

Dimensions (Kouzes & Posner, 2007)	Characteristics	Dimensions (Bass &Avolio, 1995)	Characteristics
Model the Way (MTW)	• Leaders establish rules that help people for achieving goals. • Becomes role model. • Communicate the complex tasks in easiest ways. • Always earns respect by giving helping arms.	**Idealized Influence**	• Leaders discuss most important beliefs and values. • Arise a strong sense of purpose among followers. • Contemplate the ethical and moral decisions. • Explore new possibilities of old process • Make realize the importance of trust among each other. • Offer themselves as role model
Inspire a Shared Vision (ISV)	• They set examples with performance. • They communicate vision clearly. • They disseminate the vision and achieve required performance. • They recognize followers and others as well.	**Inspirational Motivation**	• Disseminate the significance of objectives • Always indulge in motivational thoughts • Discuss the future optimistically • Clearly communicate the compelling vision of the organization.
Challenge the Process (CP)	• They always have a close eye on the opportunities and know how to grab. • Challenges are always welcomed to form innovative outcome. • They have risk of failure in their mind. • Continuous learning process is the essence in case of failure.	**Intellectual Stimulation**	• Leaders challenge the normal ideas and present innovative ideas. • Think critically about the given situation. • Consider all possible perspectives to solve problems. • Encourage innovativeness and non-traditional methods to handle the traditional problems.
Enable others to Act (EOA)	• Build trust, foster collaboration. • Get people involved in work actively. • Raise self-confidence	This dimension of Kouzes and Posner, (2007) is different from Bass and Avolio (1995) Model	

	among followers.		
Encourage the Heart (EH)	• Appreciate people for their contribution and create a culture of celebrating victories and values. • Rewards are shared and followers are encouraged publicly. • Represent their successful followers as heroes.	This dimension of Kouzes and Posner, (2007) is different from Bass and Avolio (1995) Model	
This dimension of Bass and Avolio (1995) Model are different from Kouzes and Posner, (2007) Model		**Individualized Consideration**	• Spend more time in coaching and teaching • Pay attentions individually rather than the group. • Help individuals to develop their strengths • They listen others' concerns attentively.

Model of Kouzes and Posner (2007) and Bass and Avolio (1995)

The researchers selected the Kouzes and Posner (2007) as a dominant model for two main reasons. First it is more detailed as compared to Bass and Avolio (1995) model and secondly, its inventory is more comprehensive and is rated on 10 point Likert scale which may produce better results.

Table 3: Comparison between Bass and Avolio (1995) and Kouzes and Posner (2007) Inventories to Measure Transformational Leadership Behaviors

	Bass and Avolio (6S form) MLQ	**Kouzes and Posner (LPI)**
Dimensions	4	5
Likert Scale	5	10
Total No. of questions for transformational leadership	12	30
Average questions under each dimension	3	6

3. Methodology

The current study finds that the project managers' transformational leadership can serve as an important feature in framing the required project success. The present study is correlational as well as causal in nature. In addition, the study applied a survey methodology to get the responses from the desired sample. The survey questionnaire was adopted from the Kouzes and Posner's (2007) Leadership Practices Instrument (LPI) for the first five dimensions of transformational leadership and Bass and Avolio (1995) Multifactor Leadership Questionnaire 6S form for the later proposed dimension of leadership i.e. 'individualized consideration'. To cater the project success, Pinto (1986) inventory was applied. This questionnaire was sent to 198 project managers with a prepaid envelope, imprinted with correspondence address through TCS Pakistan. Moreover, based on the guidelines of Krejcie & Morgan (1970), the sample size was selected. The following table has been developed by the researchers with the help of information provided by HEC Pakistan.

Table 4: HEC Projects

Sr No.	Provinces/ States	Overall Projects (I)	Selection Of Project Managers (I/4), K=4	% of Projects
1	Federal	122	31	16%
2	HEC	115	29	15%
3	Punjab	227	57	29%
4	Sindh	151	38	19%
5	Khyber Pakhtunkhwa	101	25	13%
6	Baluchistan	44	11	5%
7	Gilgit Baltistan	7	2	1%
8	Azad Jammu & Kashmir	21	5	2%
Total		**788**	**198**	**100%**

The sample was selected by applying the systematic random technique, which resulted in 198 respondents (project wise). A response of 129 questionnaires was received in which 125 questionnaires qualified for data analysis resulting in response of 63% (see Table 5). The researchers applied the variance based technique, for better co-variance based technique the sample of 200 or above observations is recommended for authentic results (Hair et al. 2014). The researchers, for the reason, decided to choose PLS-SEM technique, following the key arguments of (Hair et al., 2011; Hair et al., 2012b; Ringle et al., 2012). The application of PLS-SEM is ever increasing and frequently used for multivariate analysis in social sciences (Hair et al., 2012a; Hair et al., 2013b; Hair et al., 2012c). Furthermore, the statistical power of PLS-SEM is greater than its covariance-based counterpart, especially while dealing with small sample sizes (see also Lu et al., 2011; Reinartz et al., 2009). Keeping in view the current study settings, the researchers found PLS-SEM suitable as a co-variance based method.

Table 5: Sample Description

Sr #	Demographics	Frequencies	Percentage
Q1: Gender			
		Frequency	Percent
Valid	Male	83	66.4
	Female	42	33.6
	Total	125	100.0
Q2: Total Job Experience			
		Frequency	Percent
Valid	< 5 years	20	16.0
	< 10 years	51	40.8
	< 15 years	33	26.4
	< 20 years	8	6.4
	> 20 years	13	10.4
	Total	125	100.0
Q3: Total Experience as Project Manager			
		Frequency	Percent
Valid	< 5 years	53	42.4
	< 10 years	52	41.6
	< 15 years	17	13.6
	< 20 years	2	1.6
	> 20 years	1	.80
	Total	125	100.0
Q4: Qualification			
		Frequency	Percent
Valid	Bachelor Degree 2 years	2	1.6
	Bachelor Degree 4 years	27	21.6
	Master Degree without project specialization	42	33.6
	Master degree with project specialization	41	32.8
	Others	13	10.4
	Total	125	100.0
Q5: Position in the organization			
		Frequency	Percent
Valid	Top/Executive Management	28	22.4
	Middle Management	67	53.6
	Functional Management	30	24.0
	Total	125	100.0
Q6: Professional training provided by Organization			
		Frequency	Percent
Valid	Yes	46	36.8

	No	79	63.2
	Total	125	100.0
Q7: Have any professional certification			
		Frequency	Percent
Valid	Yes	75	60.0
	No	50	40.0
	Total	125	100.0
Q8: Nature of Project			
		Frequency	Percent
Valid	Information Technology	35	28.0
	Construction	21	16.8
	Lab Research & Equipment	9	7.2
	Infrastructure Development	11	8.8
	Human Resource Development	17	13.6
	Facilities for student/Faculties	9	7.2
	Library	4	3.2
	Research and Development	12	9.6
	Residential Projects	1	.8
	Basic Sciences	3	2.4
	Medical Sciences	2	1.6
	Other	1	.8
	Total	125	100.0

4. Data Analysis

The researchers met the primary assumptions before going for testing the structural model i.e. homoscedasticity, linearity, data normality, multicollinearity among independent variables and detection of outliers. The study sample was collected from the higher education sector of Pakistan. The personnel dealing and designated as project managers on HEC projects were the unit of analysis. Additionally, Table 5, represents the description of the study sample. Using PLS-SEM, the study data were screened out from two stages; measurement model and structural model. The following sections elaborate on these requirements.

4.1 Testing the Measurement Models

Reliabilities and validities of the indicators are essentially required to authenticate the reflective measurement models, otherwise, constrained to go for testing the structural model. Indicator reliability can be measured in terms of internal consistency measures (Vinzi et al., 2010). Besides, discriminant & convergent validity of the constructs are required to meet the indicator's validities (Hair et al., 2011). The results of outer loadings of study items are narrated in Table 6 qualifying the preferred level of 0.7 (Hair et al., 2014) and the few are found greater than the minimum stipulated criteria, i.e. ≥ 0.4 (Churchill, 1979; Henseler et al., 2009; Hulland, 1999). Conclusively, the Table exhibits that the outer loadings of each items is well above than 0.6.

Table 6: Outer Loading

Items/ Constructs	PS	EH	CP	IC	EOA	MTW	ISV
CA-1	0.704						
CA-2	0.794						
CA-4	0.747						
CC-1	0.631						
CC-2	0.718						
CC-3	0.654						
CC-5	0.711						
PMG-1	0.663						
PMG-2	0.641						
PMG-3	0.705						
PMG-4	0.665						
PP-3	0.681						
PP-4	0.722						
PP-5	0.713						
PP-6	0.726						
PP-7	0.777						
PP-8	0.754						
EH-1		0.864					
EH-2		0.732					
EH-3		0.812					
EH-4		0.824					
EH-5		0.782					
EH-6		0.804					
CP-1			0.875				
CP-2			0.843				
CP-3			0.816				
CP-4			0.853				
CP-5			0.897				
CP-6			0.872				
IC-1				0.774			
IC-2				0.820			
IC-3				0.833			
EOA-1					0.864		
EOA-2					0.793		
EOA-3					0.764		
EOA-4					0.715		
EOA-5					0.704		
EOA-6					0.793		
MTW-1						0.743	
MTW-2						0.724	
MTW-3						0.777	
MTW-4						0.804	

MTW-5						0.752	
MTW-6						0.644	
ISV-1							0.783
ISV-2							0.812
ISV-3							0.714
ISV-4							0.825
ISV-5							0.773
ISV-6							0.794
MTW= Model the Way, ISV= Inspire a Shared Vision, CP= Challenge the Process, EOA= Enable Others to Act, EH= Encourage the Heart, PS= Project Success, PP= Project Performance, PMG= Project Mission and Goals, CC= Client Consultation, CA= Client Acceptance							

It is pertinent to mention that the study results achieved indicator reliability; as a next step internal consistency is required (Hair et al., 2013). The Internal consistency can be tapped through composite reliability (CR) Cronbach's alpha. However, the researchers have argued that CR is more influential device to cater the internal consistency (Hair et al., 2013). To be on safer side, the researchers have validated the items on both reliability measures i.e. Cronbach's alpha and CR (see Table 7). As a next step, convergent validity is the next standard for validation of measurement model. Convergent validity is evaluated through Average Variance Extracted (AVE). However, to meet the minimum criteria of AVE, six of the items were removed on the basis of lower factor loadings from the project success factors i.e. (PP1,2, PMG5, CC4, CA3,5) (Hair et al., 2014).

Table 7: Dimension Model Quality Criteria

	Cronbach's α	**CR**	**AVE**
Transformational Leadership			
Model the Way	0.837	0.880	0.554
Challenge the Process	0.929	0.944	0.739
Inspire a Share vision	0.877	0.907	0.617
Encourage the Heart	0.893	0.917	0.649
Enable others to Act	0.867	0.900	0.600
Individualized Consideration	0.748	0.856	0.665
Project Success Factors (PSF)	0.937	0.944	0.501

Finally, discriminant validity is to verily test to the study measurement model. Evidently, the discriminant validity must qualify the criteria set by the Fornell-Lacker criterion (Hair et al., 2011). Moreover, the Fornell-Lacker criterion validates that the square roots of the AVEs are higher than all inter-construct correlations, which checks the discriminant validity of the variables (Hair et al., 2011). The results of Fornell-Lacker criterion are pinned up in Table 8. To sum, the study constructs have qualified the requirements of measurement model.

Table 8: Fornell-Larcker Criterion

EH	EOA	IC	ISV	MTW	PS
0.806					
0.281	0.776				
0.153	0.307	0.814			
0.196	0.218	0.244	0.787		
0.188	0.213	0.348	0.431	0.749	
0.383	0.415	0.535	0.583	0.575	0.709
Note: The figures in bold are representing the square roots of AVEs and non-bold values are depicting correlations of study latent variables					
MTW= Model the way, ISV= Inspire a shared vision, CP= challenge the process, EOA= Enable others to act, EH= Encourage the heart, PS= Project success					

4.2 Validation of Structural Model

The structural model of research has been analyzed through collinearity diagnostic, predictive relevance and statistical significance (Hair et al., 2011).

4.2.1 Assessment of Collinearity

Variance Inflation Factor (VIF) is used to validate the issue of collinearity and data accuracy. The problem of collinearity not only can affect the study results but also can decrease predictive power of the variables (Hair et al., 2006). VIF values must remain below 5.0 to claim the non-collinearity among the variables (Hair et al., 2013). Distinctly, findings disclose non-significant collinearity in the model as VIFs of all predictor constructs are below threshold value of 5.0 (see Table 9).

Table 9: VIF Values in PLS

Constructs (Reflective Model)	VIF
Enable others to Act	1.281
Encourage the Heart	1.270
Individualized Consideration	1.541
Challenge the Process	1.983
Model the Way	1.538
Inspired a Shared Vision	1.580

4.3. Statistical Significance of Structural Models

PLS-SEM has been used to draw structural models to test the path coefficients that explained the statistical significance between endogenous and exogenous constructs. Following the guidelines of Vinzi, et al., (2010), extant research has used the method of bootstrapping in SMARTPLS 3.0 for more robust and reliable results. Ringle et al., (2005) explained that bootstrapping normally used when two tailed test is applying to find out the path coefficients using t-test. On the other hand, bootstrapping can also be applied in reflective models at measuring the significance level of variables (Hair et al., 2013). Generally, bootstrapping is introduced to deal with coefficients (i.e. outer loading, path coefficient and, outer weights) are substantial by assessing standard error of estimate. Importantly, bootstrapping procedure eliminate the chances of error as it draws with replacement sub-samples from the original set of data (Hair et al., 2013). In current

study, bootstrapping was applied with 500 subsamples that have made the data at nearly equal to actual data. It is evident from the social sciences studies that 5% level of significance is normally used to affirm path or relationship statistically while applying two tailed test (Sarstedt et al., 2014).

It is pertinent to mention that similar to other covariance base methods, goodness of fit indices are not required in PLS-SEM (Hair et al., 2013; 2014; Vinzi et al., 2010) but Q-Squared (predictive relevance) has been used in PLS-SEM to measure the model validity. The decision criteria applied for structural model is greater than zero for endogenous constructs coupled with Q^2 test as introduced by Stone (1974) and Geisser (1975). In Q^2 test, predictive relevance is ensured if values are above zero and only used for reflective constructs (Vinzi et al., 2010). The factor loadings of overall model have shown in Figure 1.

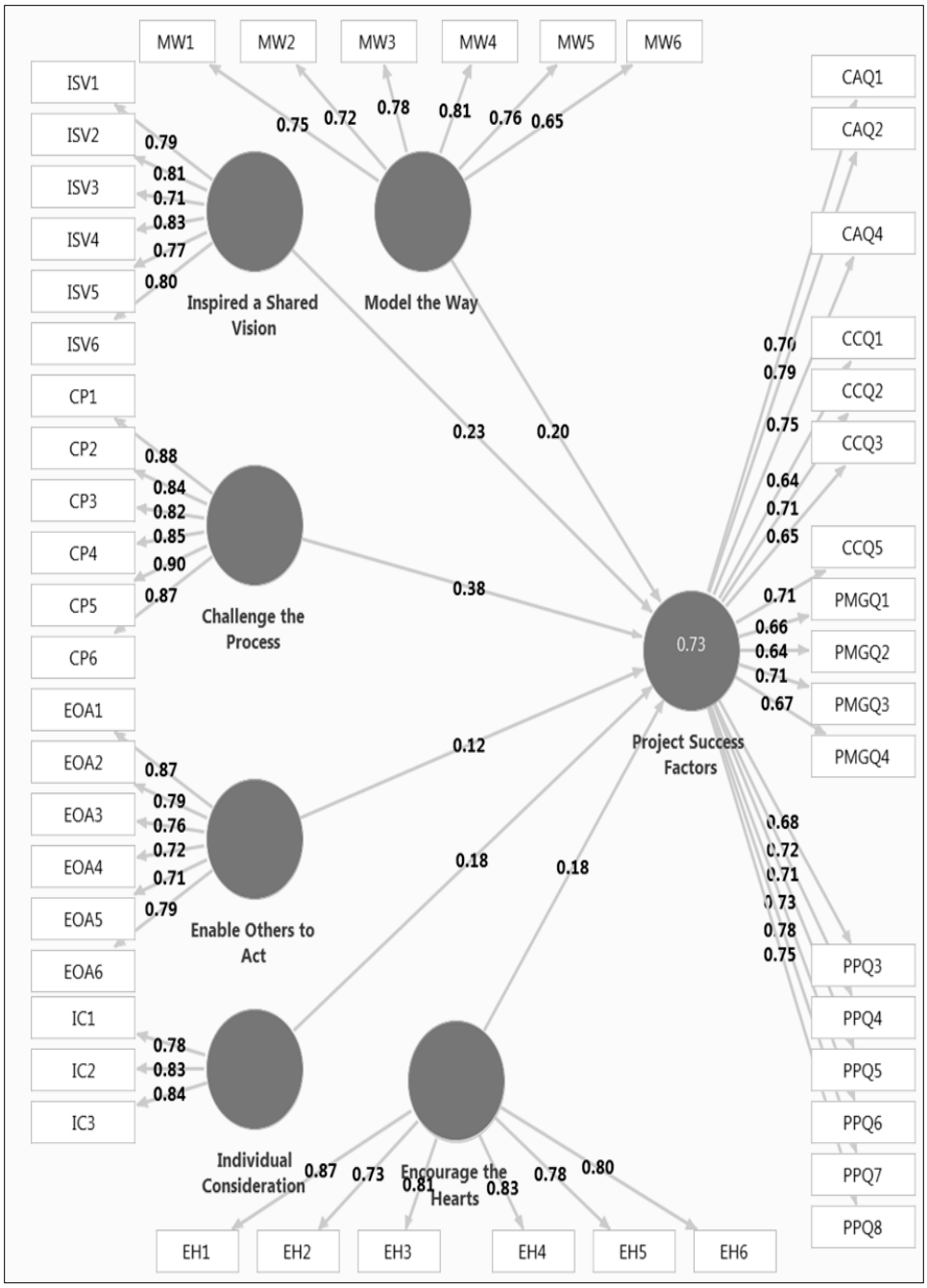

Figure 1: Measurement Model / Outer Model for Exogenous Latent Variables

Using the procedures introduced by Hair et al.,(2013), predictive relevance is ensured by way of obtaining cross validating redundancy. For better understanding of the readers, structural models have been drawn with respect to hypothetical relationships.

Table 10: Statistical Results of the Model 1

Relationship	**Coefficients**	***t*- value**	**R^2**	**Q^2**
H_1 PLB→PS	0.831***	29.127	0.692	0.690
Note: The significance is measured at 0.01				
PLB = Project Leadership Behaviors, PS = Project Success Factors				

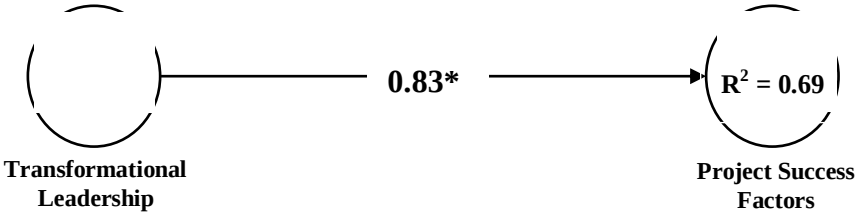

Figure 2: Hypothetical Relationship of Model 1

The structural paths for model 1 to test the hypothesis 1 has been demonstrated in table 10 and measuring the direct impact of PMTL on PS. The results are in line with the hypothesized relationship at $\rho<0.01$(see figure 2). The Q-Square value is stood at 0.690 that is an indication that the overall structural model is valid as the value is above zero (Hair et al., 2013). Further, decision parameters based on value of R^2 suggest that project success factors have been 69% explained with the help of transformational leadership in controlled environment.

Table 11: Model No. 2 (Dimension wise)

Relationships	Coefficients	*t*- value	R^2	Q^2
H1a MTW → PS	0.202***	3.451		
H1b ISV → PS	0.223***	3.167		
H1c CP → PS	0.389***	5.885		
H1d EOA → PS	0.122**	2.041		
H1e EH → PS	0.178***	2.692		
H1f IC → PS	0.172***	2.723		
Project success Factors	1.00	1.00	0.718	0.654
Note: ** and *** represent 5% and 1% level of significance respectively				

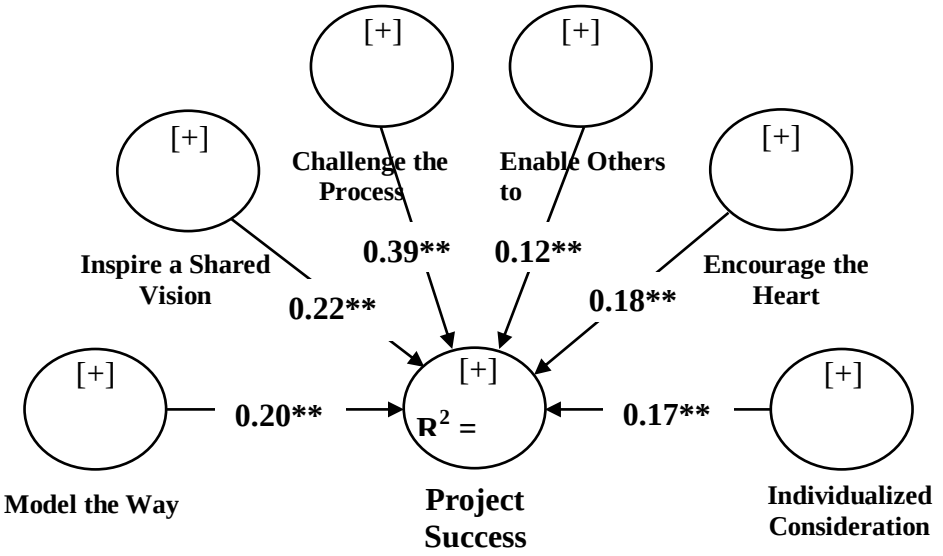

Figure 3: Detail Relationship Model

To investigate the direct effects of each dimension of PMTL behavior on PS, model 2 was drawn and shown in table 10. At 5% level of significance, all relational paths have direct effect on project success (see figure 3). Moreover, the value of Q-Square (i.e. 0.653>0) is also evident that structural model is ensured the overall validity requirement as elaborated by Hair et al., (2013). Similarly, in response to R^2 value, 72% variation was found in project success due to these factors.

5. Discussions and Conclusions

The current quantitative inquiry investigated the impact of transformational leadership dimensions of project success by addressing two basic questions. To response the research question 1 the researchers strived to know the effects of PMTL behaviors on PS factors in Pakistan. This relationship was tested by taking the average of 6 leadership behaviors by combining two well-known TL models (see table 2, Kouzes and Posner, 2007; vs Bass and Avolio, 1995). The combination was selected in direction to advance the existing models of transformational leadership, resulted in affirmation. However, it was found that PMTL positively and significantly affects PS factors ($p < 0.01$) in higher education projects in Pakistan. The results suggested that a project manager practicing transformational leadership behaviors can be effective toward improving the project success rates in developing country like Pakistan. Moreover, it serves as a guideline to the existing project managers to practice transformational leadership to improve the efficiency and effectiveness of project success. However, as a single construct transformational leadership provides significant impact on project success factors. The findings remain consistent with (Clark, 2012; Kissi et al., 2013; Yang et al., 2013).

The research question 2 — has been answered by testing all of the leadership behaviors individually with project success. Specifically, the researcher strived to know the effects of combined Transformational Leadership (TL) models by employing into the project success factors, in scenario of Pakistan. The study witnesses uniqueness that each of the TL dimensions was positively and significantly related with project success. Interestingly, the researcher theoretical conception is substantiated empirically, as each of

the leadership behaviors lacks multicollinearity and absorbing a space in the improvement of transformational leadership in general, and specifically in project management. However, it was found that all of the dimensions of PMTL are positively and significantly affecting the PS factors ($p < 0.05$) in higher education commission projects in Pakistan. In line with the results of the second research question, the results suggested that a project manager practicing transformational leadership behaviors can be effective toward improving the project success rates. Moreover, it serves as a guideline to the existing project managers that there is no need to be rigid by following only one transformational leadership style as there is room of flexibility because the ultimate purpose of every model is to improve the effectiveness and efficiency in the desired outcome. However, the combination of six of the transformational leadership dimensions provides significant impact on project success factors by explaining substantial R^2. The findings remain consistent with (Braun et al., 2013; O'Donnell, 2010; Maqbool et al., 2017; Sumner, Bock, and Giamartino, 2006). The researcher postulates that combination of transformational leadership behaviors can be practiced by project managers.

5.1 Limitations

Beside the theoretical extension of the current study in the field of transformational leadership and project management, the current study has several limitations that should be kept in mind before generalizations of the results. First, the key attention is given only to those factor which is extant literature suggests, there may be other factors that can directly or indirectly effect the Project Success (PS) in context to Project Managers' Transformational Leadership (PMTL) behavior. Second, the researchers face data collection issues from public sector organizations and restricted to only 125 complete questionnaires, this small sample may mislead if the results will be generalize on larger population. Due to small sample (i.e. 125 valid questionnaires), SmartPLS 3.0 was used, although it is very useful and latest technique to get the results while having sample size but extant literature used other techniques to inquire results of complex model i.e. AMOS & LISREL. Third, the current inquiry deployed quantitative method of analysis having some valid reasons the relationship between PMTL and PS factors may also be conferred through qualitative techniques. Fourth, empirical data of the this study have been obtained from the higher education projects in Pakistan only that may restrict generalizability on business oriented industries in Pakistan and in other emerging economies. As such, the researchers are of the view that analysis of the study in Pakistan may also be relevant to other Asian emerging economies. Last, the common method bias in cross sectional time horizon studies may also harm the results.

5.2 Future Directions

The researchers are recommending the following future avenues keeping in view the limitations and research design of the current empirical inquiry. First, projects that are backed by government agencies are less responsive to give data. It seems that respondents were less keen to provide the relevant information through mail questionnaire. Thus, future studies can use different methods to improve the response rate such as personal questionnaire distribution. Future studies can be held on different organizations as there is much need to fill the research gap in this particular area. Moreover, it will be preferable to conduct longitudinal studies instead of cross sectional provided that, project managers get and practice the required skills, so that the results can be more reliable and linked to prior results. The study combined two different

transformational leadership models in higher education projects, the same or extended models can be applied in different industries and economies. Finally future researches must be held in other similar or advanced economies by spreading the recent research with other variables to examine the effect of project leadership on project success.

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