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The Relationship between Transformational Leadership and Organizational Citizenship Behavior: An Empirical Evidence from the Banking Sector of Pakistan

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Abstract:

The relationship between transformational leadership and organizational citizenship behavior was investigated in the present paper. In doing so, the data was collected using survey from the six large banks of Pakistan; where the middle managers of those banks were the respondents of the study. The analysis for the study was conducted using Smart-PLS software keeping in view its robustness and high reliability. The results suggest that transformational leadership has significantly positive relationship with organizational citizenship behavior. The research limitations, future recommendations for researchers and managers are discussed in the last part of the paper.

Keywords: Transformational leadership, Organizational Citizenship Behavior, Banks in Pakistan

1. Introduction

The performance of employees has always been considered as the key towards the success of organization. Job performance of employees has remained the topic of interest for the managers for any type of business, its nature and scope (Motowidlo & Scotter, 2004; Borman & Motowidlo, 2014). Transformational leadership is viewed as a more motivational approach to leadership than other managerial approaches and has significant impact on organizational citizenship behavior (OCB) (Colquitt, Lepine, & Wesson, 2010). Organizational citizenship Behavior or extra role behavior is important at work place to be innovative to generate, promote and to realize creative ideas to bring organizational successes (Janssen & Van Yperen, 2004; Lee, Tan & Javalgi, 2010). A sound leadership leads to productive results for the organization and encourages all individuals towards success.

Some academic attention is found in the relationship of leadership, job performance, and organizational citizenship behavior. The impact of leadership style on job performance, have been recognized in many studies conducted in the environment of the Western countries (Avolio, Zhu, Koh & Bhatia, 2004; Bodla & Hussein, 2009; Kark, Shamir & Chen, 2003). Wofford, Whittington, and Goodwin (2001), Geyer and Steyrer (1998), Bass (1985) pointed out in their studies that the leadership concentrate on strengthening relations in between managers and employees, they define the expectations of their subordinates, explain their roles and fulfill their requirements as they seek expected level of performance.

Therefore, this study builds theoretical link through Leader Member Exchange (LMX) theory as recommended by Wang, Law, Hackett, Wang and Chen (2005) to further investigate the relationship of leadership styles with organizational citizenship behavior.

2. Literature Review

2.1. Organizational Citizenship Behavior

Organizational citizenship behaviora component of job performance which refers to effectiveness of individual behaviors that contribute to the organizational objectives as defined by (McCloy, Campbell & Cudeck, 1994; Motowidlo, Borman & Schmit, 1997; Organ, 1988).Regardless of an extensive history of apprehension on issues of condition, the construct of the employee performance has not yet been mapped completely. Campbell (1990), Motowidlo and Van Scotter (1994) argued that the investigation of employment complicated techniques is accessible to recognize the tasks and significant behaviors, but their focal point is mainly experimental and normally precise jobs or job families. Therefore, they have not formed reasonable hypothetically fundamental

underlying dimensions which can be used to portray the performance necessities of jobs in all-purpose. More theoretical attempts to divide the area of performance are opening to confirm hopeful symbols. They adopt extremely unusual conceptual orientations, dissimilar investigative approaches to conventional employment and the other, but they unite on the difference between task performance and contextual performance (Motowidlo & Van Scotter, 1994; Borman & Motowidlo, 1993; Borman & Motowidlo, 2014).

As reported in Motowidlo and Van Scotter (1994), Katz and Kahn (1978) the theoretical scheme is more fundamental for the job performance and partitioning is tripartite splitting up between i) to join the organization and remain in, ii) to meet the expected standards or even exceeding standards as framed by organization, and iii) be innovative, and spontaneous to go ahead of the roles and actions in terms of cooperation with all members, giving suggestions to bring improvements, protection against harm, carry out personal development and building the image of organization. Further, Orr, Sackett, and Mercer (1989) have confirmed about the importance of two actions by providing empirical support on it.

According to Motowidlo and Van Scotter (1994), the model of Campbell's (1990) has brought a very important feature between the job performance behaviors, which add to the effectiveness of organization. This involves task ability and behaviors of performance, which ultimately contribute overall organizational effectiveness in different ways. The task competence in the Campbell model are more highly saturated with the prearranged role performance, and other factors are more highly saturated with elements of organizational behavior citizenship, pro-social behavior, and the spontaneity of the organization. Therefore, three associated themes run through these efforts to clarify the value of common practice. One is the difference between a given behavior and decision-making roles. Secondly the set effectively flavored carry and cooperation of behavior in organizational citizenship behavior, pro-social behavior, and spontaneity of the organization. The third task is to pass the competency and performance of mission-related behaviors is the dissimilarity between the performance behaviors. Bass (1990) suggested that transformational leadership can create recognition and internalization of enviable values, as opposite to the limited objective of transactional leadership to create a submissive workforce. The potential link between transformational leadership and OCB is further elaborated in the following section.

2.2. Transformational Leadership and Organizational Citizenship Behavior

According to Gardner and Stough (2002) transformational leadership is more effective in comparison to transactional leadership style. Lowe, Kroeck, and Sivasubramaniam (1996) argued that these two leadership styles; transformational and transactional cannot be termed as the contradictory leadership styles. One leader may act both as a transformational and transactional in style. The assumption that transformational leadership is more effective in comparison to transactional leadership is supported by some strong evidences (Bass, Avolio, Jung, & Berson, 2003; Dvir, Eden, Avolio & Shamir, 2002; Shah & Hamid, 2015a; Shah & Hamid, 2015b). According to Bass et al. (2003) and Dvir et al. (2002) transformational leadership is more correlated to the high level of efficiency and effectiveness in comparison to transactional leadership style that is a smaller amount connected with efficiency and output.

Argyris and Schon (1996) Glynn (1996) Hurley and Hult (1998) stated that transformational leadership motivates the individuals to bring innovation in processes, adopt positive changes, and create a dynamic learning environment that would ultimately improve the overall organizational and individual performance. In the controlling part of management decision making the transformational style of leadership does not emphasize heavily on the punishment and contingent reward system but the transactional leadership style is more related to such controlling decisions (Waldman, Bass, Francis & Yammarino, 1990). Moreover, the leadership style that is based on change adoption and change management always sets up a cohesive understanding to succeed in learning the business dynamics and human resource practices and it has a big impact on the attitudes and behaviors of the followers. Transformational leadership redirects the attention of the intellectuals towards the new challenges and problems in real scenario in the organizations.

The empirical evidence supports the positive association between transformational leadership and OCB (Podsakoff, MacKenzie, Moorman & Fetter, 1990). This view is also supported (Podsakoff, Todor, & Skov, 1982; Podsakoff, Todor, Grover, & Huber, 1984; Sims & Szilagyi, 1975; Smith, Organ, and Near, 1983; Avolio & Bass, 1988; Bass, 1985). Besides that, more recent literature also supports this notion (Lian, & Tui, 2012; Shin, 2012; van Dijke, De Cremer, Mayer, & Van Quaquebeke, 2012; Hasan, 2013; Jiao, Richards, & Zhang, 2011). Since most of these studies have looked into the collective influence of leadership styles on OCB or job performance as a whole. Therefore, present study aims at investigating the postulated relationship between transformational leadership and OCB. Particularly, the study emphasizes on six large banks of Pakistan where the phenomena has not yet been observed fully.

3. Methodology

3.1. Sample and Population

For this study the survey was conducted on bank managers of large six banks of Pakistan. To conduct this survey, the banks of Sindh province of Pakistan were considered as population with 1314 bank managers (Pakistan Banks Association, 2014). The appropriate sample size was calculated as 302 using guidelines of Krejcie and Morgan (1970). In order to get expected number of questionnaires a sum of 500 questionnaires were sent with returned envelopes out of which 297 questionnaires were received.

3.2. Measures

Organizational Citizenship Behavior was measured using the scale of Williams and Anderson, (1991). This scale comprised of 30 items. Whereas, 20 items from Multifactor Leadership Questionnaire (MLQ) were used on transformational leadership developed by Bass and Avolio (1995).

In order to get responses from the bank managers on transformational leadership style and OCB a five point Likert scale was used with two extreme ends 1= strongly disagree and 5= strongly agree.

3.3. Demographic Profile of the Respondents

While analyzing demographic profiles of the respondents it was found that a larger portion of respondents were in the age group of 31 to 40 years. It was also found that a significant number were male respondents with 94.9 percent. It was found that around 40 percent managers were with 5 to 10 years of experience and around 90 percent were graduates as far as education is concerned.

Characteristics	Frequency	Percentage
Gender		
Male	282	94.9
Female	14	4.7
Age		
20-30 years	74	24.9
31-40 years	116	39.1
41-50 years	82	27.6
51 and above	24	8.1
Experience		
Less than five years	46	15.5
5 to less than 10 years	117	39.4
10 to Less than 15	49	16.5
15 to less than 20	32	10.8
20 to less than 25	17	5.7
25 to less than 30	15	5.1
30 and above	21	7.1
Qualification		
Undergraduate	22	7.4
Graduate	271	91.2
Post Graduate	4	1.3

Table 1: Demographic Profile of Respondents

4. Analysis and Results

Prior to perform data analysis; the linearity, normality and multicollinearity related assumptions were assessed (Hair et al., 2010; Tabachnic & Fidell, 2007). Once these assumptions were satisfactory the partial least square (PLS) path modeling was used for analysis (Wold, 1974,1985) using Smart PLS 2.0 (Ringle et al., 2005).

4.1. Measurement Model Results

For the present study reliability, internal consistency reliability and discriminant validity on individual items were ensured to assess psychometric properties for scales used in the study. Outer loadings were used by following on Hair, Hult, Ringle, and Sarstedt, (2014) for determining reliability on individual items.

Latent Variables	Items	Loadings	AVE	CR
OCB	JPOCB28	0.6198	0.504367	0.876043
	JPOCB32	0.6899		
	JPOCB33	0.7822		
	JPOCB34	0.7821		
	JPOCB35	0.7573		
	JPOCB36	0.6313		
	JPOCB37	0.689		
TRFIC	LS26	0.697	0.543071	0.703303
	LS28	0.7748		
TRFIIA	LS16	0.7422	0.590743	0.742507
	LS23	0.7942		
TRFIIB	LS12	0.7844	0.649987	0.78775
	LS30	0.8275		
TRFIM	LS24	0.8265	0.62898	0.771911
	LS7	0.7582		
TRFIS	LS27	0.7393	0.632403	0.774002
	LS27	0.7393		

Table 2: Results of Measurement Model

	1	2	3	4	5	6
OCB	0.710188					
TRFIC	0.357345	0.73693351				
TRFIIA	0.319455	0.334499	0.76859807			
TRFIIB	0.370462	0.412856	0.327222	0.80621771		
TRFIM	0.324597	0.409566	0.452966	0.384162	0.79308259	
TRFIS	0.345564	0.500298	0.355161	0.445989	0.327316	0.795238

Table 3: Correlation and Discriminant Validity
 Note: bold diagonal figures are the square root of AVE.

The loadings related to the study are presented in Table 2. In the present study 0.5 or above loadings were reported (Barclay, Thompson, & Higgins, 1995; Chin, 1998). Bagozzi and Yi, (1988) and Hair et al., (2011) stated that internal consistency reliability, the composite reliability coefficient should not be less than 0.7. Hence this study meets the internal consistency reliability. In addition to this, the average variance extracted (AVE) was reported to determine discriminant validity following Fornell and Larcker, (1982).As suggested, the square root of AVE meets the criteria of being greater from the correlations among latent variables. The table 3 shows discriminant validity.

4.2. Structural Model Results

The bootstrapping method was used with 5000 bootstraps and 297 cases (Hair, Sarstedt, Ringle, & Mena, 2012) for assessing significance of path coefficients. The path coefficients can be viewed inFigure 1 and Table 4.

Relationship	Beta	SE	t-statistics	Decision
Transformational -> OCB	0.47964	0.04166	11.512328	Supported

Table 4: Path Coefficients and Hypothesis testing

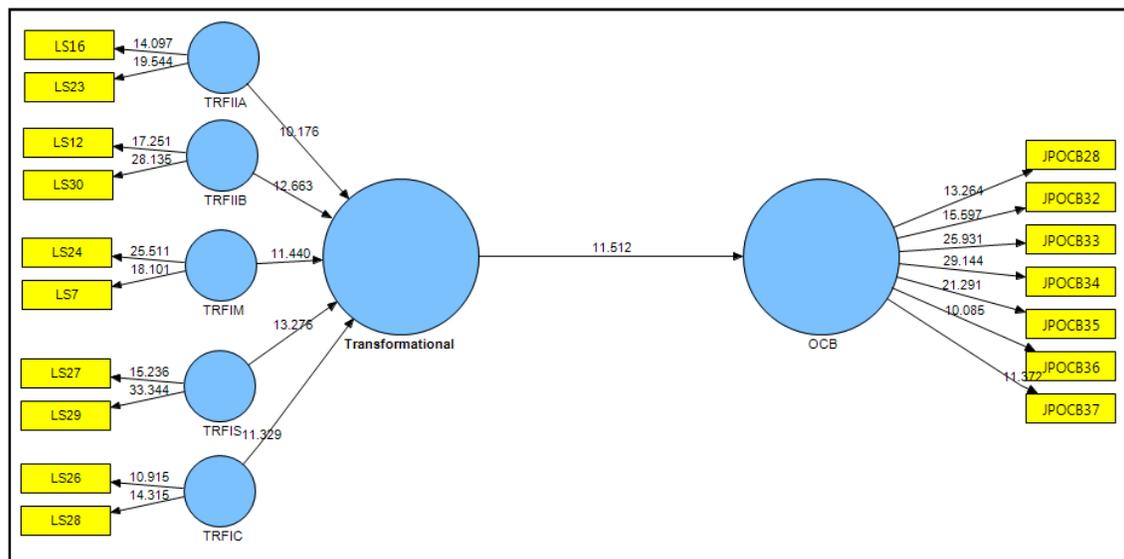


Figure 1: Assessment of structure model

The relationship between transactional leadership and job performance is discussed in Table 4. According to which the path coefficient from transactional leadership to job performance is 0.08 (t-value = 1.90). Hence it suggests that there is a positively significant relationship between transactional leadership and job performance. Table 5 presents the r-square value of job performance which is 0.23. This informs us that the transactional leadership explains 23 percent of the variance in the job performance.

Latent Variable	Variance Explained
Organizational Citizenship Behavior	23%

Table 5: Variance Explained in the Endogenous Variable

5. Discussion, Recommendations and Conclusion

The objective of the study was to analyze transformational leadership and organizational citizenship behavior. It was found that transformational leadership has positive relationship with organizational citizenship behavior. This is consistent with past studies

conducted by (Lian, & Tui, 2012; Shin, 2012; van Dijke, De Cremer, Mayer, & Van Quaquebeke, 2012; Hasan, 2013; Jiao, Richards, & Zhang, 2011).

In relation with Leader Member Exchange (LXM) theory (Graen, 1976), the present study suggests empirical support that transformational leadership is positively related to increase job performance of employees with OCB. It shows that transformational leadership style is perceived to be significant factor that influences employee's OCB. The present study suggests that leaders with transformational style may influence considerably OCB and job performance of employees; the prominent leaders may consider this style of management.

The present study tests the relationship of transformational leadership with OCB in large six banks of Pakistan. Based on, LMX theory the results of the study show positive relationship in between both these variables. Therefore, it is suggested to further expand the scope of study by adding other banks of the country to view the relationship and to obtain further evidences to validate these results. In the present study only transformational leadership styles was included for analysis. For future studies other leadership styles may also be included for measuring job performance and OCB. This study might also have limitations particular due to its cross-sectional design the further analysis on longitudinal basis is suggested.

Despite with several limitations the present study reports a positive relationship in between transformational leadership style and organizational citizenship behavior. Therefore, it is concluded that transformational leaders can significantly contribute in the job performance and OCB of employees which finally increases the organizational output.

6. References

- i. Argyris, C., & Shon, D. A. (1996). *Organizational learning II: Theory, method, and practice*. London: Addison-Wesley.
- ii. Avolio, B. J., & Bass, B. M. (1988). *Transformational leadership, charisma, and beyond*.
- iii. Avolio, B. J., Bass, B. M., & Zhu, F. W. W. (2004). *Multifactor leadership questionnaire: manual and sampler set*. Menlo Park CA: Mind Garden.
- iv. Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the academy of marketing science*, 16(1), 74-94.
- v. Barclay, D., Higgins, C., & Thompson, R. (1995). The partial least squares (PLS) approach to causal modeling: Personal computer adoption and use as an illustration. *Technology studies*, 2(2), 285-309.
- vi. Bass, B. M. & Avolio, B. J. (1995). *The Multifactor Leadership Questionnaire*. Palo Alto, CA: Mind Garden.
- vii. Bass, B. M. (1985). *Leadership and performance beyond expectations*.
- viii. Bass, B. M. (1990). *Bass and Stogdill's handbook of leadership, 1990. Theory, Research & Managerial Applications*.
- ix. Bass, B. M., Avolio, B. J., Jung, D. I., & Berson, Y. (2003). Predicting unit performance by assessing transformational and transactional leadership. *Journal of applied psychology*, 88(2), 207.
- x. Bodla, M. A., & Hussain, G. (2009). Followers' Needs and Leadership Styles: An Empirical Fit among Banking Professionals of Pakistan. *International Journal of Global Business*, 2(2), 61-80.
- xi. Borman, W. C., & Motowidlo, S. J. (2014). *Organizational citizenship behavior and contextual performance: A special issue of human performance*. Psychology Press.
- xii. Borman, W. C., & Motowidlo, S. M. (1993). Expanding the criterion domain to include elements of contextual performance. *Personnel selection in organizations*; San Francisco: Jossey-Bass, 71.
- xiii. Campbell, J. P. (1990). Modeling the performance prediction problem in industrial and organizational psychology. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology*. Vol. 1, pp. 687-732. Palo Alto: Consulting Psychologists Press.
- xiv. Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern methods for business research*, 295(2), 295-336. *Development Journal*.
- xv. Colquitt, J., LePine, J. A., Wesson, M. J., & Wu, X. (2010). *Organizational behavior: essentials for improving performance and commitment*. Dongbei University of Finance & Economics Press.
- xvi. Dvir, T., Eden, D., Avolio, B. J., & Shamir, B. (2002). Impact of transformational leadership on follower development and performance: A field experiment. *Academy of management journal*, 45(4), 735-744.
- xvii. Fornell, C., & Bookstein, F. L. (1982). Two structural equation models: LISREL and PLS applied to consumer exit-voice theory. *Journal of Marketing research*, 440-452.
- xviii. Gardner, L., & Stough, C. (2002). Examining the relationship between leadership and emotional intelligence in senior level managers. *Leadership & Organization Development Journal*, 23(2), 68-78.
- xix. Geyer, A., & Steyrer, J. (1998). Messung und Erfolgswirksamkeit transformationaler Führung. *Zeitschrift für Personal forschung/German Journal of Research in Human Resource Management*, 377-401.
- xx. Glynn, M. A. (1996). Innovative genius: A framework for relating individual and organizational intelligences to innovation. *Academy of Management Review*, 21, 1081-1111.
- xxi. Graen, G. (1976). Role-making processes within complex organizations. *Handbook of industrial and organizational psychology*, 1201, 1245.
- xxii. Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks, CA: SAGE.
- xxiii. Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139-152.
- xxiv. Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, 40(3), 414-433.

- xxv. Hair, J. F., Black, B. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis*. 7th Edn., Prentice-Hall, Upper Saddle River, New Jersey.
- xxvi. Hassan, H. A. (2013). Promoting organizational citizenship behavior among employees-the role of leadership practices. *International Journal of Business and Management*, 8(6), p47.
- xxvii. Hurley, R. F., & Hult, G. T. (1998). Innovation, market orientation, and organizational learning: An integration and empirical examination. *Journal of Marketing*, 62, 42-54. <http://dx.doi.org/10.2307/1251742>.
- xxviii. Janssen, O., & Van Yperen, N. W. (2004). Employees' goal orientations, the quality of leader-member exchange, and the outcomes of job performance and job satisfaction. *Academy of management journal*, 47(3), 368-384.
- xxix. Jiao, C., Richards, D. A., & Zhang, K. (2011). Leadership and organizational citizenship behavior: OCB-specific meanings as mediators. *Journal of Business and Psychology*, 26(1), 11-25.
- xxx. Kark, R., Shamir, B., & Chen, G. (2003). The two faces of transformational leadership: empowerment and dependency. *Journal of applied psychology*, 88(2), 246.
- xxxi. Katz, D., & Kahn, R. L. (1978). *The social psychology of organizations*.
- xxxii. Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educ Psychol Meas*.
- xxxiii. Lee, O. F., Tan, J. A., & Javalgi, R. (2010). Goal orientation and organizational commitment: Individual difference predictors of job performance. *International Journal of Organizational Analysis*, 18(1), 129-150.
- xxxiv. Lian, L. K., & Tui, L. G. (2012). Leadership styles and organizational citizenship behavior: The mediating effect of subordinates' competence and downward influence tactics. *Journal of Applied Business and Economics*, 13(2), 59-96.
- xxxv. Lowe, K. B., Kroeck, K. G., & Sivasubramaniam, N. (1996). Effectiveness correlates of transformational and transactional leadership: A meta-analytic review of the MLQ literature. *The Leadership Quarterly*, 7(3), 385-425.
- xxxvi. McCloy, R. A., Campbell, J. P., & Cudeck, R. (1994). A confirmatory test of a model of performance determinants. *Journal of Applied Psychology*, 79(4), 49.
- xxxvii. Motowidlo, S. J., & Van Scotter, J. R. (1994). Evidence that task performance should be distinguished from contextual performance. *Journal of Applied psychology*, 79(4), 475.
- xxxviii. Motowidlo, S. J., Borman, W. C., & Schmit, M. J. (1997). A theory of individual differences in task and contextual performance. *Human performance*, 10(2), 71-83.
- xxxix. Organ, D. W. (1988). *Organizational citizenship behavior: The good soldier syndrome*. Lexington Books/DC Heath and Com.
- xl. Orr, J. M., Sackett, P. R., & Mercer, M. (1989). The role of prescribed and nonprescribed behaviors in estimating the dollar value of performance. *Journal of Applied Psychology*, 74(1), 34.
- xli. Pakistan Banks Association (2014).
- xlii. Podsakoff, P. M., MacKenzie, S. B., Moorman, R. H., & Fetter, R. (1990). Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. *The Leadership Quarterly*, 1(2), 107-142.
- xliii. Podsakoff, P. M., Todor, W. D., Grover, R. A., & Huber, V. L. (1984). Situational moderators of leader reward and punishment behaviors: fact or fiction?. *Organizational behavior and human performance*, 34(1), 21-63.
- xliv. Podsakoff, P. M., Todor, W. M., & Skov, R. (1982). Effects of leader contingent and no contingent reward and punishment behaviors on subordinate performance and satisfaction. *Academy of Management Journal*, 25(4), 810-821.
- xlv. Ringle, C. M., Wende, S., & Will, S. (2005). *SmartPLS 2.0 beta*: University of Hamburg, Hamburg. Retrieved from <http://www.smartpls.de/forum/index.php>.
- xlvi. Shah, S. M. M., & Hamid, K. B. A. (2015b). Moderating Role of Performance Appraisal Politics on Transformational Leadership and Job Performance. *Journal for Studies in Management and Planning*, 1(11), 676-683.
- xlvii. Shah, S. M. M., Hamid, A., & Bin, K. (2015a). Transactional Leadership and Job Performance: An Empirical Investigation. *Sukkur IBA Journal of Management and Business*, 2(2), 69-81.
- xlviii. Shin, Y. (2012). CEO ethical leadership, ethical climate, climate strength, and collective organizational citizenship behavior. *Journal of Business Ethics*, 108(3), 299-312.
- xlix. Sims, H. P., & Szilagyi, A. D. (1975, August). Leader reward behavior and subordinate satisfaction and performance. In *Academy of Management Proceedings* (Vol. 1975, No. 1, pp. 161-163). Academy of Management.
- l. Smith, C. A., Organ, D. W., & Near, J. P. (1983). Organizational citizenship behavior: Its nature and antecedents. *Journal of applied psychology*, 68(4), 653.
- li. Tabachnick, B.G. and Fidell, L.S. (2007), *Using Multivariate Statistics* (5th ed.). New
- lii. van Dijke, M., De Cremer, D., Mayer, D. M., & Van Quaquebeke, N. (2012). When does procedural fairness promote organizational citizenship behavior? Integrating empowering leadership types in relational justice models. *Organizational Behavior and Human Decision Processes*, 117(2), 235-248.
- liii. Waldman, D. A., Bernard M. Bass, & Francis J. Yammarino. (1990). Adding to Contingent Reward Behavior: The Augmenting Effect of Charismatic Leadership. *Group & Organization Studies*, 15, 381-394. <http://dx.doi.org/10.1177/105960119001500404>.
- liv. Wang, H., Law, K. S., Hackett, R. D., Wang, D., & Chen, Z. X. (2005). Leader-member exchange as a mediator of the relationship between transformational leadership and followers.
- lv. Wofford, J. C., Whittington, J. L., & Goodwin, V. L. (2001). Follower motive patterns as situational moderators for transformational leadership effectiveness. *Journal of Managerial Issues*, 196-211.
- lvi. Wold, H. (1974). Causal flows with latent variables: partings of the ways in the light of NIPALS modelling. *European Economic Review*, 5(1), 67-86.
- lvii. Wold, H. (1985). Partial least squares. In S. Kotz & N. L. Johnson (Eds.), *Encyclopedia of statistical sciences* (Vol. 6, pp. 581-591). New York, NY: Wiley.
- lviii. York: Allyn and Bacon.