

## **Transformational Leadership, Organizational Change and Organizational Innovation: Scale validation through Pilot Study**

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### *Abstract*



**Study Overview:** This study measured the factors and items of Transformational Leadership (TL), Organizational Change (OC) and Organizational Innovation (OI) based on the scale validation through pilot test in the organizational context of private banks of Sindh.

**Nature:** This study was absolutely quantitative and descriptive in nature.

**Data collection procedure:** Primary data sought through instrument (close-ended questionnaire) on 7-point Likert scale.

**Population & Sample:** First Line Managers (FLMs) were targeted for data collection, who were considered as the target population of the current study. A sample of 100 FLMs were taken into consideration for descriptive analysis through convenience sampling.

**Data analysis tools:** SPSS was used for descriptive analysis which including response rate of the survey, Demographic profile of the participants, Cronbach's Alpha (CBA), Mean, Standard Deviation (SD), Corrected Item Total Correlation (CITC) and Cronbach's Alpha If Item Deleted (CBAIID). Eventually, Factor Analysis (FA) measured by PLS-SEM.

**Results:** All factors and items measured significant and qualified to attain set threshold values of CBA, Mean, SD, CITC, CBAIID and FA except OI-1, OI-3, OI-5 and OI-7. Therefore, considered good fit for further testing for the main study.

**Conclusions:** Four items were considered to be revised or revisited out of thirty. However, all other items were taken into consideration for further testing to complete the main study.

**Future research directions:** This instrument was considered to be equally important for other sectors to collect the data and determine relationships between factors such as TL, OC and OI. A new factor can add further value in it.

**Keywords:** Transformational Leadership, Organizational Change and Organizational Innovation.

### **Introduction**

TL is different from other leadership styles of management in various ways (Tunio, Mahesar & Hakro, 2021). TL is divided into four dimensions i-e, Idealized Influence (II), Inspirational Motivation (IM), Intellectual Stimulation (IS) and Individualized Consideration (IC) (Bass, 1985). II described as leaders are exemplary role models for followers. They are trusted and respected by followers (Agote et al., 2015). IM described as leaders psychologically stimulate followers to do something innovative (Bass & Avolio, 1995). They believe goals can be accomplished by team efforts rather than individual efforts (Bass & Riggio, 2006). IS described as leaders promote critical thinking and problem solving approach at work consequently to make the organization as a better place of working (Geyer & Steyrer, 1998). IC described as leaders act as mentors and coaches, they address followers' needs and concerns on priority basis (Tunio, Mahesar & Hakro, 2021). Every dimension is associated with improving individual performance eventually, which has long lasting effect on organizational performance (Hakro, Hakro & Siddiqui, 2022). TL suppresses turnover intentions and augments commitment and satisfaction among followers (Bass, 1985). Commitment and satisfaction improve individual performance and so also organizational performance (Irtaimeh, Al-Mannai & Hakro, 2023). TL enhances trust between leader and follower (Hakro, Siddiqui & Patoli, 2024).

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**a. Significance**

This study was based on scale validation through pilot test for measuring TL, OC and OI in the organizational context of private banks of Sindh. Factors and items were measured keeping in view of the required threshold values of various tests. Study approved and disapproved factors or items if these were measured lower than the required threshold values.

**b. Aim & Objectives**

The aim of study was to measure the factor CBA, item Mean, SD, CITC, CBAIID and eventually FA of all factors and items of the study.

**Objectives:**

Six objectives were set to measure by SPSS and PLS-SEM. SPSS was used for measuring factor CBA of all factors, Mean of all items, SD of all items, CITC of all items and CBAIID of all items. Despite, FA measured through PLS-SEM.

- To measure factor CBA of all factors.
- To measure item Mean of all items.
- To measure item SD of all items.
- To measure item CITC of all items.
- To measure item CBAIID of all items.
- To measure FA of all factors.

**Literature Review**

**Organizational Change**

OC can take various shapes in organizational domain, it is a change in existing working methods, operations, plans and culture which affect the entire organization (Shin et al., 2012). OC is adopted by management to increase productivity and performance (Agote et al., 2016). It guides management to check standard performance with actual performance (Al-Mannai et al., 2017). OC is considered to be the behavioural shift from one state of action to another (Irtaimeh, Al-Mannai & Hakro, 2023). OC is designed and managed with a view to improve organizational performance (Hakro, Abbasi & Mahesar, 2021). There may be various causes of OC but the only aim is to survive, sustain and prosper in the face of ever increasing competition (Hakro, Hakro & Siddiqui, 2022).

**Organizational Innovation**

To bring innovation in thinking style and pragmatic applications at organization such as; production through team efforts, supply chain management, and quality control. Management can modify processes at large level (Irtaimeh & Bader, 2020). New managerial methods, marketing concepts, business strategies, and new organizational structure are all factors of OI (Armbruster et al., 2008). Technology plays vital role in all organizational functions and processes (Irtaimeh, Al-Mannai & Hakro, 2023). OI is blended concept of technological innovation, market innovation and administrative innovation (Al-Mannai et al., 2017). Together all these form OI (Shin et al., 2012).

**Conceptual model**

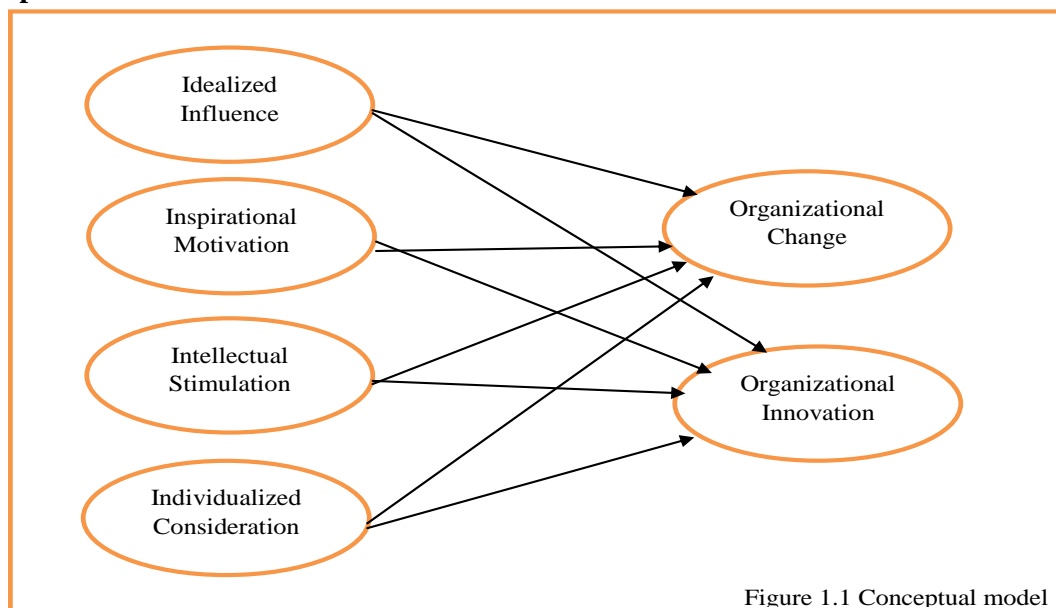


Figure 1.1 Conceptual model

**Research Design**

Research design is considered to be the complete and comprehensive plan to undertake the pragmatic research. It expresses every step that is enveloped into the current study for implementation. Particularly, it explains nature of the study, sources of data collection and also explains tools for data analysis. All steps are expressed below separately.

**Nature:** This study was absolutely quantitative and descriptive in nature.

**Data Collection Procedure:** Primary data sought through instrument (close-ended questionnaire) on 7-point Likert scale.

**Population & Sample:** First Line Managers (FLMs) were targeted for data collection, who were considered as the target population of the current study. A sample of 100 FLMs were taken into consideration for descriptive analysis through convenience sampling.

**Data Analysis Tools:** SPSS was used for descriptive analysis which including response rate of the survey, Cronbach’s Alpha (CBA), Mean, Standard Deviation (SD), Corrected Item Total Correlation (CITC) and Cronbach’s Alpha If Item Deleted (CBAIID). Eventually, Factor Analysis (FA) was measured by PLS-SEM.

**Table 1. Response rate of the survey**

S. No.	Bank Name	Questionnaires Distributed	Questionnaires Received Back	Response Rate in %
1.	ABL	13	13	100
2.	UBL	16	15	93.75
3.	MCB	15	15	100
4.	HBL	17	15	88.24
5.	MB	12	11	91.66
6.	SB	10	09	90
7.	BAF	08	08	100
8.	AB	09	08	88.88
9.	BAH	07	06	75
<b>Total</b>		<b>107</b>	<b>100</b>	<b>93.46</b>

ABL= Allied Bank Limited                      UBL= United Bank Limited                      MB= Meezan Bank  
 MCB= Muslim Commercial Bank                      HBL= Habib Bank Limited                      SB= Sindh Bank  
 BAF= Bank Al-Falah      AB= Askari Bank                      BAH= Bank Al-Habib

Table 1 indicated the response rate of the survey which is quite good because it is more than 93 percent out of 100. There were nine private banks of Sindh and 107 first-line managers, who participated in questionnaire survey. 100 questionnaires considered good fit for making data analysis. However, rest of the items were removed because of partially filled.

**Table 2. Demographic details of respondents**

Characteristic(s)	Category	Frequency	Cumulative %
<b>Gender</b>	Male	69	69
	Female	31	100
<b>Marital Status</b>	Married	83	83
	Single	17	100
<b>Age Group</b>	30-39	42	42
	40-49	36	78
	50 and above	22	100
<b>Education</b>	Bachelor 16 years	43	43
	Master 16 years	41	84
	MBA/M.Phil.18 years	16	100
<b>Experience</b>	3-7years	26	26
	8-12years	43	69
	13years & Above	31	100

Table 2 indicated the demographic details of respondents comprising of characteristic(s), category, frequency and cumulative %. Characteristic(s) further divided into Gender, Marital Status, Age Group, Education and Experience. Each characteristic(s) further divided into category such as; male, female, married, single, ranges of age, qualifications attained and experience earned. All numeric details are given above in the table.

**Table 3. Cronbach’s Alpha (CBA)**

Factor(s)	CBA
II	0.860
IM	0.888
IS	0.841
IC	0.866
TL	0.928
OC	0.915
OI	0.894

CBA= Cronbach’s Alpha

Table 3 indicated CBA values of all individual factors. Since, CBA was considered good at 0.70 that is set as the threshold value, if any factor measured exactly equal or above than the threshold value considered for further analysis. However, factors measured lower than the threshold value were removed from further analysis. Despite, all factors measured above than the threshold value thus considered good for further analysis.

**Table 4. Idealized Influence (II)**

Indicator(s)	M	SD	CITC	CBAIID
II-1	5.26	1.773	0.840	0.716
II-2	5.68	1.406	0.665	0.867
II-3	5.14	1.303	0.756	0.801

M=Mean SD=Standard Deviation CITC=Corrected Item Total Correlation

CBAIID=Cronbach’s Alpha If Item Deleted

Table 4 indicated one of the dimensions of TL that is II, which was measured by 3-items and all items were measured significant in terms of Mean and Cronbach’s alpha if item deleted. Mean was considered to be significant at the threshold value of 3.5 at the 7-point Likert scale and CBAIID was considered to be significant at the threshold value of 0.70 at the 7-point Likert scale. Therefore, all items were measured significant in terms of Mean and CBAIID. Hence, all items were considered good fit for further testing. However, CITC indicated mix of response received through the instrument at the 7-point Likert scale. Despite, SD indicated deviation or change.

**Table 5. Inspirational Motivation (IM)**

Indicator(s)	M	SD	CITC	CBAIID
IM-1	5.26	1.733	0.648	0.949
IM-2	4.66	2.001	0.882	0.749
IM-3	5.09	2.132	0.844	0.787

Table 5 indicated one of the dimensions of TL that is IM, which was measured by 3-items and all items were measured significant in terms of Mean and CBAIID. Mean was considered to be significant at the threshold value of 3.5 at the 7-point Likert scale and CBAIID was considered to be significant at the threshold value of 0.70 at the 7-point Likert scale. Therefore, all items were measured significant in terms of Mean and CBAIID. Hence, all items were considered good fit for further testing. However, CITC indicated mix of response received through the instrument at the 7-point Likert scale. Despite, SD indicated deviation or change.

**Table 6. Intellectual Stimulation (IS)**

Indicator(s)	M	SD	CITC	CBAIID
IS-1	5.17	1.747	0.765	0.719
IS-2	4.73	1.490	0.661	0.827
IS-3	4.53	1.904	0.714	0.779

Table 6 indicated one of the dimensions of TL that is IS, which was measured by 3-items and all items were measured significant in terms of Mean and CBAIID. Mean was considered to be significant at the threshold value of 3.5 at the 7-point Likert scale and CBAIID was considered to be significant at the threshold value of 0.70 at the 7-point Likert scale. Therefore, all items were measured significant in terms of Mean and CBAIID. Hence, all items were considered good fit for further testing. However, CITC indicated mix of response received through the instrument at the 7-point Likert scale. Despite, SD indicated deviation or change.

**Table 7. Individualized Consideration (IC)**

Indicator(s)	M	SD	CITC	CBAIID
IC-1	4.44	1.771	0.691	0.862
IC-2	4.43	1.855	0.751	0.809
IC-3	4.87	2.277	0.828	0.792

Table 7 indicated one of the dimensions of TL that is IC, which was measured by 3-items and all items were measured significant in terms of Mean and CBAIID. Mean was considered to be significant at the threshold value of 3.5 at the 7-point Likert scale and CBAIID was considered to be significant at the threshold value of 0.70 at the 7-point Likert scale. Therefore, all items were measured significant in terms of Mean and CBAIID. Hence, all items were considered good fit for further testing. However, CITC indicated mix of response received through the instrument at the 7-point Likert scale. Despite, SD indicated deviation or change.

**Table 8. Transformational Leadership (TL)**

Indicator(s)	M	SD	CITC	CBAIID
II-1	5.26	1.773	0.840	0.716
II-2	5.68	1.406	0.665	0.867
II-3	5.14	1.303	0.756	0.801
IM-1	5.26	1.733	0.648	0.949
IM-2	4.66	2.001	0.882	0.749
IM-3	5.09	2.132	0.844	0.787
IS-1	5.17	1.747	0.765	0.719
IS-2	4.73	1.490	0.661	0.827
IS-3	4.53	1.904	0.714	0.779
IC-1	4.44	1.771	0.691	0.862
IC-2	4.43	1.855	0.751	0.809
IC-3	4.87	2.277	0.828	0.792

Table 8 indicated TL as a whole, which was measured by 12-items and all items were measured significant in terms of Mean and CBAIID. Mean was considered to be significant at the threshold value of 3.5 at the 7-point Likert scale and CBAIID was considered to be significant at the threshold value of 0.70 at the 7-point Likert scale. Therefore, all items were measured significant in terms of Mean and CBAIID. Hence, all items were considered good fit for further testing. However, CITC indicated mix of response received through the instrument at the 7-point Likert scale. Despite, SD indicated deviation or change.

**Table 9. Organizational Change (OC)**

Indicator(s)	M	SD	CITC	CBAIID
OC-1	4.70	2.038	0.821	0.898
OC-2	5.15	1.395	0.600	0.911
OC-3	4.65	1.833	0.777	0.901
OC-4	4.95	1.209	0.569	0.913
OC-5	4.85	2.066	0.839	0.896
OC-6	4.80	1.128	0.487	0.916
OC-7	4.70	2.038	0.821	0.898
OC-8	5.15	1.395	0.600	0.911
OC-9	4.65	1.833	0.777	0.901
OC-10	4.95	1.209	0.569	0.913

Table 9 indicated OC as a whole, which was measured by 10-items and all items were measured significant in terms of Mean and CBAIID. Mean was considered to be significant at the threshold value of 3.5 at the 7-point Likert scale and CBAIID was considered to be significant at the threshold value of 0.70 at the 7-point Likert scale. Therefore, all items were measured significant in terms of Mean and CBAIID. Hence, all items were considered good fit for further testing. However, CITC indicated mix of response received through the instrument at the 7-point Likert scale. Despite, SD indicated deviation or change.

**Table 10. Organizational Innovation (OI)**

Indicator(s)	M	SD	CITC	CBAIID
OI-1	5.00	2.035	0.669	0.882
OI-2	5.09	1.870	0.781	0.871
OI-3	4.75	1.226	0.539	0.894
OI-4	5.16	2.282	0.777	0.871

OI-5	4.90	1.679	0.606	0.887
OI-6	4.90	1.617	0.616	0.886
OI-7	5.01	1.915	0.742	0.874
OI-8	4.99	1.957	0.688	0.880

Table 10 indicated OI as a whole, which was measured by 8-items and all items were measured significant in terms of Mean and CBAIID. Mean was considered to be significant at the threshold value of 3.5 at the 7-point Likert scale and CBAIID was considered to be significant at the threshold value of 0.70 at the 7-point Likert scale. Therefore, all items were measured significant in terms of Mean and CBAIID. Hence, all items were considered good fit for further testing. However, CITC indicated mix of response received through the instrument at the 7-point Likert scale. Despite, SD indicated deviation or change.

**Table 11. Factor analysis**

Indicator(s)	II	IM	IS	IC	OC	OI
II-1	0.922					
II-2	0.832					
II-3	0.906					
IM-1		0.830				
IM-2		0.944				
IM-3		0.935				
IS-1			0.910			
IS-2			0.810			
IS-3			0.893			
IC-1				0.861		
IC-2				0.884		
IC-3				0.926		
OC-1					0.786	
OC-2					0.772	
OC-3					0.748	
OC-4					0.750	
OC-5					0.808	
OC-6					0.704	
OC-7					0.777	
OC-8					0.785	
OC-9					0.747	
OC-10					0.750	
OI-2						0.920
OI-4						0.902
OI-6						0.855
OI-8						0.898

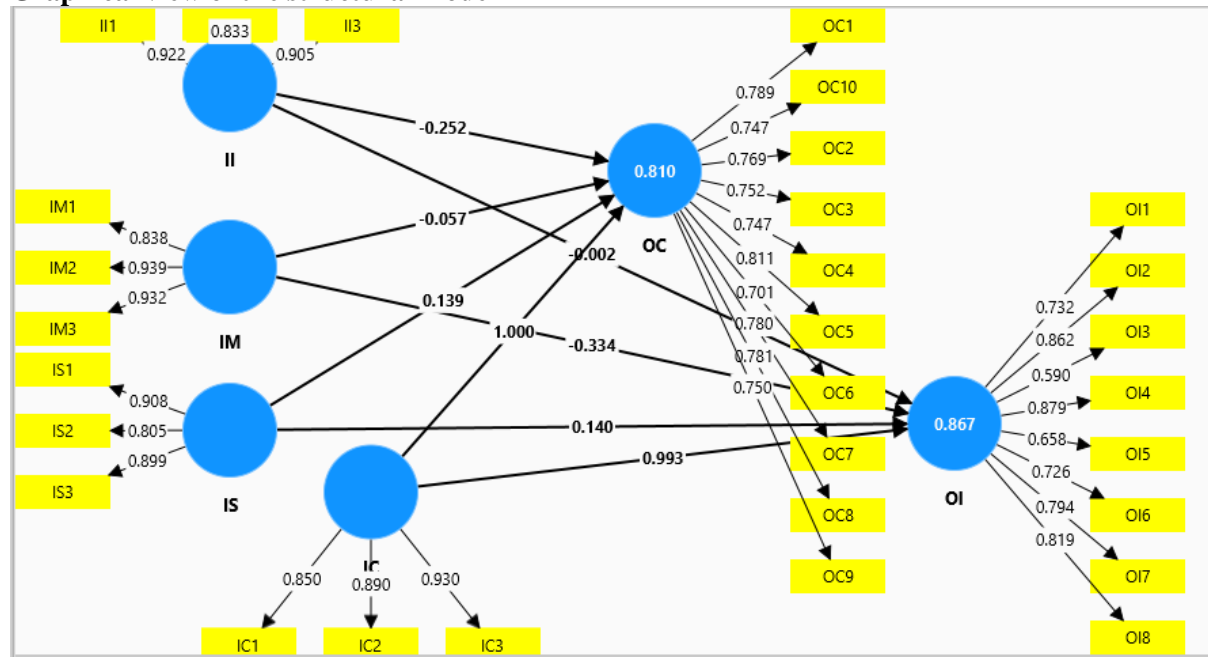
Table 11 indicated factor analysis where items were loaded in its own factor with requisite threshold value. The criterion was set to accept any item based on attaining the threshold value which was considered to be 0.70 at 7-point Likert scale. However, it was decided that if any item measured below than the threshold value considered to be revised or revisited. Therefore, all items attained the threshold value expect OI-1, OI-3, OI-5 and OI-7 which were measured below than the threshold value. Therefore, study proposed that these items will be revised or revisited and remaining items will be considered good fit for further data testing for the main study.

**Conclusions**

There were mainly three factors and 30-items. Since, TL was divided into four dimensions and each dimension was measured by three items. Thus, TL was measured by 12-items, OC was measured by 10-items and OI was measured by 8-items. The criteria were set to accept or reject any item based on attaining the threshold values of Mean and CBAIID. Therefore, all items of TL, OC and OI were measured significant on account of attaining the threshold values of Mean and CBAIID. Hence, considered good fit for further testing. This study corroborated items of three factors which will be tested further for determining relationships between the factors in the main study. Subsequently, factor analysis measured and all items qualified to attain threshold value of factor analysis which was set 0.70 at 7-point Likert scale. Eventually, study approved all items except OI-1, OI-3, OI-5 and OI-7 which were measured lower than the set threshold value. Thus, it was proposed that these items will

be revised or revisited before going to collect the data for the main study. However, remaining items considered good fit for further data testing.

**Graphical view of the structural model**



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