Leading Construction Project Teams: The Effectiveness of Transformational Leadership in Dynamic Work Environments in Kurdistan

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Abstract— *The main aim of this study is to investigate the relationship between transformational leadership's characteristics and construction project team effectives. The study was carried out in five different construction companies in Erbil, Kurdistan. A quantitative method used to analyze the current study. 71 participants involved in this study. The results revealed that the highest value was for idealized influence characteristic = .737> 0.01 and P-value =.000 which means there is a strong positive relation between idealized influence and project construction team effectiveness.*

Keyword— *Construction project management, Erbil, Transformational leadership.*

I. INTRODUCTION

In today's competitive business environment and rapid globalizations of the business's world has had a vital influence in managing project team to achieve a successful project construction, along with effective communication with suppliers and project sponsor. Nowadays, construction project face many challenges when it comes in coordinating among team, project developer, project clients, banking sectors, contractors and designers. (Oladipo, et al., 2013), identified the main challenges facing construction industries, for instance building of a international learning competence, multinational flexibility, and developing preparation to enter competitive marketplace. In order maintain and sustain competitive in the marketplace, project construction is required to build an effective team project, therefore the project manager will have the main and essential role in building an effective project team. This study investigates the role of transformational project manager and its role in managing effective team project in running a construction project. Researcher chose Transformational leadership for current research. The definition of transformational leadership describes as perspective of leadership that produces positive changes in social system and individual which creates leaders who were followers. It improves morale, motivation and performance of followers. Increasing competition in construction industry verses high demand from users, little resources and knowledge on environment with high demand from users, contractors are striving to enhance the performance in their fields as per (Notgrass, 2013). According to (Beekun, 2012), reasons for dissatisfaction of clients in building industry were scrutinized in South Africa and identified various factors that influence performance of projects are contractors' lack of capabilities, conflict and substandard workmanship. As per (Voon, 2011), professions which are multidiscipline in nature are involved in a project results in project role differentiation which tends to unfavourable association among participants of project (Hu, et al., 2011).

II. LITERATURE REVIEW

At the present time, many leaders, academic scholars and project managers are giving many attentions and efforts in building effective team project (Pitts, 2013:25) and several scholars and project managers consider building effective project team to be one of the most significant leadership qualities that verify the projects' outcome and effective, and the construction project's capability to adapt and use effective project team which lead to have effective project construction management. The aim of this literature study is to determine the variables most probable to impact effective teams. In order to implement this, conversely, it is first essential to illustrate what is characterised and what does 'team' stand for. A team is further than simply a group of individual that work towards achieving a common objective Bai, and Yang, 2011:1916). A team is a group of individual who depend on mutual endeavour and on precise capabilities and skills of each co-dependent team player. Team associates share and split resource, authority and responsibility to obtain a common goal. Usually team members experience empowered to implement the essential tasks and duties within their distinct boundaries. Efforts and

outcomes by existing the cooperation among team members is experienced both within in seeking support and the team (Hölzle, 2010:781). In order to have effective and productive team members, project manager should control and monitor the effectiveness of the project team, recognize significant positive interdependence, face to face communication, and individually accountable (Rahman, et al., 2013:1965). Teamwork happens when project team members take action together to use capabilities required achieve specific objective (Conboy, 2010:274). The aim of project team building is to enhance group project efforts and problem solving (Holzmann, & Panizel, 2013:69). Numerous advantages have been demonstrated of effective team project ((Monteiro, 2013; Ofori, 2013; Pitts, et al., 2012; Rahman, et al., 2013; Conboy, 2010) including: transform a wider sense of aim into certain outcome objectives, creating and building the correct combine of capabilities to achieve high project outcome, successful methods of resolving team practice problems, explanation of the team's principle and function of each team member, illuminating core values to direct and guide the project teams' behaviour, and methods for utilizing conflicts in a positive way.

Therefore, this study investigates the influence of transformational leadership characteristics on effective project team in construction industries. According to (Groves, et al., 2011), transformational leadership has four elements which are individualized consideration, intellectual stimulation, Inspirational motivation, Idealized influence. Individualized consideration is where leader becomes mentor and tries to fulfill needs of the followers. Intellectual stimulation is where leader accepts risks, stimulates assumptions. Inspirational motivation is where leader inspires followers by showing vision and optimistic in nature. Idealized influence is where leader becomes epitome to followers who has ethics and acquires trust and respect from followers (Gundersen, et al., 2012).

The productivity of labour in construction industry has been huge challenge. According to (Hamstra, et al., 2011), majority of countries consists of 30% to 50% towards labor cost in total cost of the project and it is accurate image of operations' economic prosperity. The Architecture, Engineering, and Construction (AEC) Industry is trending towards different types of Augmented Reality (AR) technologies to enhance construction projects at different stages. AR is improvement of real world environment by covering images and virtual data on physical space (Breevaart, et al., 2014).

AR technologies are advantageous in three levels in Architecture, Engineering, and Construction (AEC) Industry and Facility Management (FM) Industry. The levels are Interaction level, Visualization level and Information Retrieval Level as per ((Hartog, et al., 2012). The cost of project performance affects the following factors as per (Jeremy, et al., 2012), are leadership skills, climatic condition, economic condition, coordination among participants of project, feedback and monitoring among participants of project, climatic conditions, top management, capabilities of project manager, decision making, and capabilities of owners (Oladipo, et al., 2013).

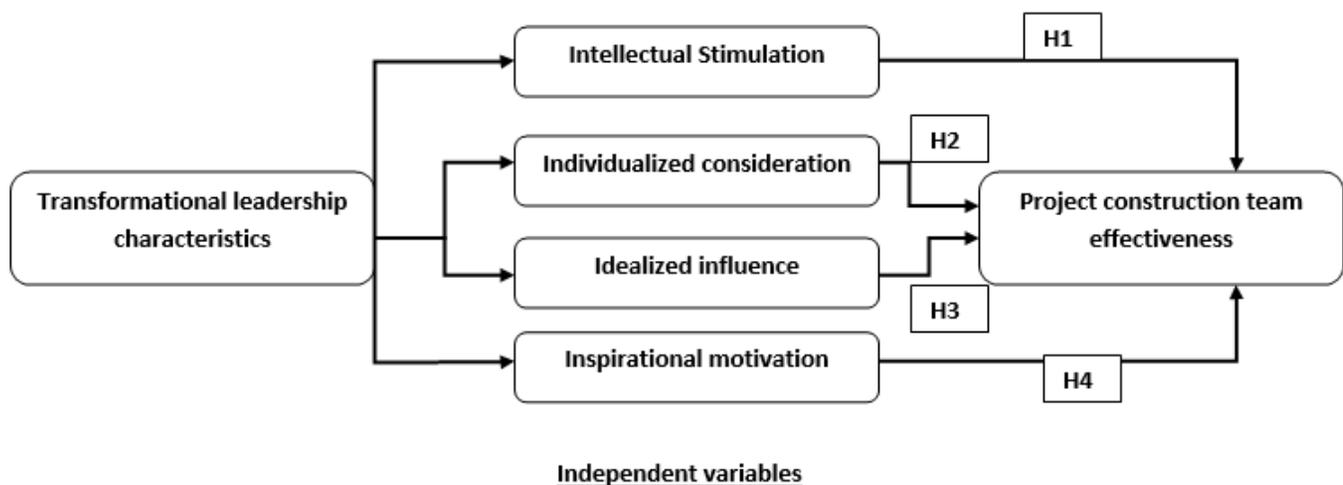## III. CONCEPTUAL FRAMEWORK

3.1 Research model

Fig.1: Research Model, by the author ,2017

3.2 Research hypothesis:

According the research model, the researcher developed the following research hypothesis:

H1: There is positive relationship between leader's intellectual stimulation and project construction team effectiveness.

H2: There is positive relationship between leaders' individualized consideration and project construction team effectiveness.

H3: There is positive relationship between leader's idealized influence and project construction team effectiveness.

H4: There is positive relationship between leader's inspirational motivation and project construction team effectiveness.

IV. RESEARCH METHODOLOGY

4.1 Design of the Study

The aim of this study is to examine the relationship between transformational leadership characteristics and project construction team effectiveness. A quantitative method used to analyse current study. The questionnaire was divided into two sections, the first section consisted of demographic questions; starting with respondent's age and respondents' gender. The second part of questionnaire consisted of 48 questions, 10 questions were related to intellectual stimulation characteristic, 10 questions were related to individualized consideration characteristic, 12 questions were related to idealized influence characteristic, 9 questions were related to intellectual stimulation characteristic, inspirational motivation and 10 questions were related to project construction team effectiveness.

4.2 Sampling Size and Target Population

The researcher used a random sampling method, where all participants had equal chances of being selected for the sample. The study was carried out at 5 construction companies in Erbil. The researcher distributed 90questionnaires; only 71 questionnaires were received and completed properly.

V. RESULTS AND ANALYSIS

Table.1: Demographic analysis

Items	Scales	Frequency	Percent
Age	**20-29**	15	21.1
	30-39	34	47.9
	40-49	18	25.4
	50+	4	5.6
Gender	**Male**	59	83.1
	Female	12	16.9

Source: by the author, 2017

Table (1) shows demographic analysis in this study, 21.1% of participants were from 20-29 years old, 47.9% of participants were from 30-39 years old, 25.4% of participants were from 40-49 years old and 5.6% of participants were from 50 years old and above. 83.1% from all participants were male and 16.9% were female.

Table.2: Reliability Statistics

Cronbach's Alpha	N of Items
.822	48

Source: by the author, 2017

Table (2) shows the reliability tests for four variables (intellectual stimulation, inspirational motivation, idealized influence and individualized consideration) as independent variables and project construction team effectiveness as dependent variable. Based on the reliability tests, the researcher found out Cronbach's Alpha for 15 items =.708 which are greater than .6 this means that 15 items were reliable for this study.

Table.3: Correlations analysis

Correlations					
Factors	Pearson Correlation	Intellectual stimulation	Individualized consideration	Idealized influence	Inspirational motivation
project construction team effectiveness	Pearson Correlation	.746**	.734**	.929**	.422**
	Sig.(2-tailed)	.000	.000	.000	.000
	N	71	71	71	71

Source: by the author, 2017

Table (3) shows the correlation between independent variables (intellectual stimulation, inspirational motivation, idealized influence and individualized consideration) and project construction team effectiveness as dependent variable. The value of R for between intellectual stimulation and project construction team effectiveness =.746** which indicates that intellectual stimulation is significantly correlated with project construction team effectiveness, the value of R for between individualized consideration and project construction team effectiveness =.734** which indicates that individualized consideration is significantly correlated with project construction team effectiveness, the value of R for between idealized influence and project construction team effectiveness =.929** which indicates that idealized influence is significantly correlated with project construction team effectiveness and the value of R for between inspirational motivation and project construction team effectiveness =.734** which indicates that inspirational motivation is significantly correlated with project construction team effectiveness.

Table.4: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.946a	.895	.889	.10374
a. Predictors: (Constant), Inspirational, Idealized, Individualized, Intellectual				

Source: by the author, 2017

As shown in the table (4), the value of R square = .895 which indicates that 89% of variables have been explained.

Table.5: ANOVA

ANOVAa						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6.047	4	1.512	140.463	.000b
	Residual	.710	66	.011		
	Total	6.757	70			
a. Dependent Variable: Project team effectiveness						
b. Predictors: (Constant), Inspirational, Idealized, Individualized, Intellectual						

Source: by the author, 2017

Table (5) shows the value of F for an independent variables and a dependent variable is 140.463 >1 which indicates there is a significant association between four independent variables and dependent variable.

Table.6: Coefficients

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	P-value
		B	Std. Error	Beta		
1	(Constant)	.167	.191		.875	.385
	Intellectual	.083	.106	.069	.778	.439
	Individualized	.400	.090	.366	4.455	.000
	Idealized	.737	.085	.727	8.687	.000
	Inspirational	-.267	.090	-.237	-2.962	.004
a. Dependent Variable: Project team effectiveness						

Source: by the author, 2017

Table (6) shows the coefficients analysis for this research. As seen in the above table the value Beta for intellectual stimulation characteristic = .083> 0.01, which means there is a weak positive relation between intellectual stimulation and project construction team effectiveness, the value Beta for individualized consideration characteristic = .400> 0.01, which means there is a weak positive relation between individualized consideration and project construction team effectiveness, the value Beta for idealized influence characteristic = .737> 0.01, which means there is a strong positive relation between idealized influence and project construction team effectiveness and the value Beta for inspirational motivation characteristic = -.267> 0.01, which means there is no relation between inspirational motivation and project construction team effectiveness.

VI.   CONCLUSIONS

The multiple regression analysis used to analyze the current study. The researcher found out that the highest value among all transformational leaders' characteristics was idealized influence. In terms of the first characteristics the results revealed that the value Beta for intellectual stimulation characteristic = .083> 0.01, which means there is a weak positive relation between intellectual stimulation and project construction team effectiveness, therefore; the first research hypothesis was weakly supported, the value Beta for individualized consideration characteristic = .400> 0.01, which means there is a weak positive relation between individualized consideration and project construction team effectiveness, therefore; the second research hypothesis was weakly supported, , the value Beta for idealized influence characteristic = .737> 0.01, which means there is a strong positive relation between idealized influence and project construction team effectiveness, accordingly the third research hypothesis was supported, the value Beta for inspirational motivation characteristic = -.267> 0.01, which means there is no relation between inspirational motivation and project construction team effectiveness, therefore the fourth research hypothesis was weakly supported.

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