

# Impact of Leadership and Communication on Project Success with the Mediating Effect of Affective Commitment in Virtual Projects

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## Abstract

Despite growing interest on the issues of communication, leadership style and commitment, studies examining the interplay between all of these three variables are lacking. This paper attempts to address this gap. It draws on survey data involving 225 virtual project managers. Socio-economical changes nowadays have significant influence on the project success rate. The motive quantitative correlational research is inspecting connection among leadership style and communication (independent variable), having the mediating effect of affective commitment what's more, dependent variable, project success in virtual projects. The whole project professionals received 3-part personally administrative questionnaire. Response rate is 93.2%. The findings designated statistically significant relationship among leadership style, communication on project success in virtual projects and affective commitment contributes as mediation in these relationships. This is helpful for virtual project managers. Limitations and future direction have also been discussed.

**Keywords:** leadership: communication, affective commitment and project success

## INTRODUCTION

### 1.1 Background of the Study

The new standard shows up: virtual team. Geographically dispersed teams are testing the conventional leadership roles (Tovey, 2005). Offices experience enormous changes. The expanding pattern towards scattered project teams makes another perspective of leadership in virtual project teams (Pearce, 2004). Previous investigation on effect of leadership in traditional surroundings was direct and personal project team (Pauleen, 2003). Virtual project teams distinctive (Bock, 2003) through ICT projects virtual interface geologically scattered employees (Crom, 2005). Despite the fact that isolated through miles' smooth lands, virtual project teams work firmly together. Virtual project teams to encounter over telephone calls, video conferencing, and email other specialized instruments (Beranek and Martz, 2005). Virtual project teams assume imperative part in molding the future organizations (Reilly, Lojeski, and Reilly, 2005). Associations can mediate all the more rapidly to contend quickly altering business environment with rapidly admission know-how inside organization paying little heed to the employee's site (McKinney, Barker, Smith and Davis, 2004).

Globalization determines requirement virtual project teams in work environment (Harvey, Novicevic, and Garrison, 2005). The outcome is that manager must comprehend the leadership behavior implication in virtual situation projects (Callan, 2003). A portion properties saw in the most transformational leaders, for example, vision and charisma, might not healthy interpret in virtual environment, the project team (Crom, 2005). Position signs muddled in virtual project teams (Harvey et al.). Firms that need to put into practice the virtual projects team to comprehend the particular styles of leadership and control the effect of various leadership styles in virtual environment projects (Beranek and Martz, 2005). Leadership styles literature, particularly transactional and transformational leadership is broad; in any case, just a little number of studies on initiative talk about how leadership style impacts venture achievement (Barbut, 2005). Indeed, fewer researches exist with respect to leadership style and project accomplishment in virtual project (Dube and Pare, 2004). This evaluate effectiveness particular management firm can enhance the choice and preparing of leaders of virtual project team. Improvements thusly can help firm who are attempting to grow universally (Beranek and Martz, 2005). The leadership problem in virtual project teams is inexorably critical problem some firms, especially the individuals who are looking for worldwide development (Chinowsky and Rojas, 2003). Whereas it displays to be strong leadership imperative accomplishment a virtual environment projects, leadership takes structure not all that reasonable.

## 1.2 Statement of Problem

Failed projects cost organizations large number of dollars every year (Jarman, 2005), and failed administration is one primary driver of project failure (Piccoli et al., 2004). The issue is inability to distinguish leadership style and correspondence that ought to convey passionate arrangement in virtual situation projects may bring about projects that unsuccessful and may antagonistically influence execution of corporate vital objectives and targets (Goodbody, 2005).

## 1.3 Significance of the Study

Business organizations are turning out to be increasingly worldwide and rivalry from local and foreign sources is developing altogether (Harvey et al., 2005). Thus, organizations highlight the dispersed virtual project teams (Beranek and Martz, 2005). Numerous organizations depend on abilities experts situated far and wide. Virtual project teams permit organizations assemble maximum capable worker's specific projects, irrespective position of employees (Zakaria, Amelinckx, and Wilemon, 2004). Since industry condition is turning out to be progressively more troublesome it gets to be questionable, and moves speedier, the traditional organizational might be excessively humiliated, making it impossible to react successfully (Saunders, Van Slyke, and Vogel, 2004). Advancement and teamwork permit expanded utilization of virtual project teams (Saunders et al.). The future of every sector incorporate a virtual project teams (Avolio and Yammarino, 2003). Enterprises performing virtual undertaking teams hope to diminish land costs, lessened transportation costs, enhanced profitability, higher benefits, natural advantages, and expanded admission worldwide marketplaces (Piccoli et al., 2004). Information gathered in study may have critical consequences for business associations that want to deploy virtual project teams.

## 1.4 Research Questions

**RQ1:** Is Leadership Style significant predictor of affective commitment and the project's success is the success of virtual communication effects of the project?

**RQ2:** Communication is a significant predictor of affective commitment and project success?

**RQ3:** Is emotional commitment to a significant predictor of project success?

**RQ4:** Does affective commitment mediate relationship among leadership style and project success, communication and project success?

## 1.5 Research Hypothesis

**H1:** There is a significant positive relationship among Leadership Style and affective Commitment.

**H2:** There is a significant positive relationship among Leadership Style and Project Success.

**H3:** There is a significant positive relationship among Communication and Project Success.

**H4:** There is a significant positive relationship among Communication and affective Commitment.

**H5:** There is a significant positive relationship among affective Commitment and Project Success.

**H6:** There is mediating effect of affective Commitment among Leadership Style and Project Success.

**H7:** There is mediating effect of affective Commitment among Communication and Project Success.

## LITERATURE REVIEW

### 2.1 Project Success

The aim of quantitative correlation survey examines relationship among independent variables dependent variable management, project success in virtual project teams. This segment examines factors literature demonstrated that the effect of the project success dependent variable. The literature reviews about the success factors of the project, Turner and Muller (2005) discovered literature to great extent overlooked through project director and his or her leadership style (p. 49). Understanding project's success kept creating subsequent to start of 1970. At first, meaning of project success concentrated on estimation of time, expense and nature of projects revenues (Belout and Gauvreau, 2004). As project administration system built up, nature of arranging and points of view all partners ended quantify project success imperative. Different variables, for example, the powerful utilization of project item improvement staff, profiting clients and nature measure project success (Kendra and Taplin, 2004).

Understanding the success or failure the project might not same different people in diverse characters. The concept of the project's success is a topic often discussed yet rarely understood through all stakeholders. A "literature review revealed two separate perspectives on project success: traditional opinion the triple restraints of time, cost and quality and improved visibility with regard to the different views of all stakeholders of the project (Collins & Baccarini, 2004; Hughes, Tippet, & Thomas, 2004). Among other success criteria may include the satisfaction of stakeholders, contribution to the organization's strategic goals and team satisfaction."

## 2.2 Leadership Styles

Organization of the future will need leaders who can manage uncertainty and competition in an increasingly diverse workforce achieves organizational profitability (Antonakis, Cianciolo, and Sternberg, 2004). Past descriptions leadership includes motivating and inspiring (Avolio, 2004), which influences the behavior of others toward group goals (Barbut, 2005), and directs others to achieve concrete results (Chia-Chen, 2004). Lead when shared, is a dynamic, interactive and influential (Kark, Shamir, & Chen, 2003). Because the goal of this study determine how leadership style independent variable influences virtual project team success, dependent variable, an overview of major styles of leadership is needed.

## 2.3 Affective Commitment

Emotional commitment is the sort of commitment to positive communication among association and individual, since they both comparable values (Shore and Tetrick, 1991). Those who stayed in organizations with strong commitment to keep up its position and in light of the fact that they require work, as that they need him (Meyer et al., 1993, p. 539). Researchers furthermore concentrate representative work experience demonstrates workers experience is in accordance with desires fulfill their vital needs tendency to create more grounded enthusiastic connection to association (Dunham et al, 1994. Hackett et al, 1994; Meyer et al., 1993).Feinstein (2002), organizational commitment portrayed comprising two develops are affective duration (Allen and Meyer, 1990).

## 2.4 Communication

Interactions within organization are based on the established system of communication among employees, which will be held in four directions of communication flows: Vertical flow of communication is communication among managers and workers. There is a vertical downward - upward communication. The report downward vertical communication communicated hierarchy, from the heads of the highest hierarchical level managers at the grassroots level through direct contact, and then the lowest levels of the hierarchical pyramid structure -to executors. The lack of information coming from the higher hierarchical structures that relate to the tasks is a potential source of stress and insecurity among employees (Donnelly, Gibsson, Ivancevich, 1998). The upward vertical communication or input messages are sent from executors to managers. High level of organizational performance requires effective upward vertical communication, which is difficult to achieve, especially in larger organizational systems. But the upward vertical communication is especially important for general decisions. During the organizational communication, top management wants to hear the voice of employees and learn organizational problems, and there through given the opportunity to express their opinions, needs and influence in decision-making (Donnelly, Gibson, Ivancevich, 1998; Markovits et. Al., 2007).

**Horizontal flow of communication** occurs among employees who work in the same or a different organizational unit, and is equal in status, in terms of a hierarchical pyramid structure. The contents of the message may be a request for assistance and cooperation in carrying out the tasks as to achieve personal, social and emotional relationships, formal or informal interaction among managers and workers of different units, and with the same status, allowing coordination of activities. It exists in two versions: Solving problems or performing tasks in the department (communication among employees the same department) and activities among departments (among employees from different units) (K ralev, 2001).

**Lateral (diagonal) flow of communication** in an organization is especially important in cases where workers are not effectively communicating through other courses, organizational communication. There is an advantage over vertical and horizontal communication flow in situations where it is used to minimize the time and effort required to communicate messages in large organizational systems and among different organizational units.

**Informal flow of organizational communication** enables informal transmission of information among employees, through informal, unofficial ways, and serves as a mechanism in certain situations, that is significantly faster than the formal flow of communication system. In organizations where the unwanted side effects are minimized through improving the availability of information for employees using other communication streams. In practice, the application of the internal flow of communication allows management to provide feedback on the views of employees, their feelings and thoughts and messaging to staff, if not available, to be transferred to the same formal manner.

## 2.5 Communication and commitment

Generally, few studies analyzed immediate connection among correspondence and responsibility (for instance, Robert and O'Reilly, 1974; van Vuuren et al, 2007; Bambacas and Patrickson, 2008). Notwithstanding, there is restricted group of exploration that focuses to impact of correspondence organizational responsibility. Guzley (1992) found that representative view organizational correspondence emphatically connected with worker'sorganizational duty. Varona (1996) found huge positive relationship among correspondence and

organizational responsibility of workers. Thornhill et al (1996) additionally contended that correspondence seen as key organizational system to bolster representative cooperation that stimulates sentiment organizational responsibility. It found that useful communication climate positively influences insight, gives, information gathering and full of feeling duty.

Van Vuuren et al (2007) researched impact of interchanges supervisor for organizational responsibility to worker and found critical impact of past correspondence on the dedication. In later study, senior HR supervisors, and Bambacas Patrickson (2008) inspected how interpersonal relational abilities impact organizational commitment. It found directors' capacity tune in, clarity and reports, and capacity to lead most extreme significance for supervisors they expect to raise subordinated organizational responsibility.

## **2.6 Effective commitment and project success**

Parsons 1960 related to affective commitment with an individual commitment to "continue and intensify certain activities or type bulk system" (p.172) Nyhan 1999 identified affective commitment as part of organizational effectiveness and employee adoption as an organizational goals and values, which is also known as a success project.

## **2.7 Leadership Style and Affective Commitment**

To increase the organization's top management, employee engagement is to increase employee involvement in decision-making and effective communication. Emotional commitment to the organization is considered the baseline.

The study described the idea of the organization's commitment to continue separation related costs were made through reference. Normative commitment to the organization is to proceed with the claim that employees (Meyer et al., 2010) as responsible. The three-stage model (links) survey of employee involvement, based on the sum of responsibility (normative commitment) and (progression order), based on a suction base (affective commitment) and three types of organizational commitment, he says. Maybe there is a strong normative commitment to remain in the room, because the organization is obliged to feel better, they Employees with a strong emotional commitment. Furthermore, how many employees are concerned about the continuing commitment to high life; and a good salary?

## **2.8 Project Success and Communication**

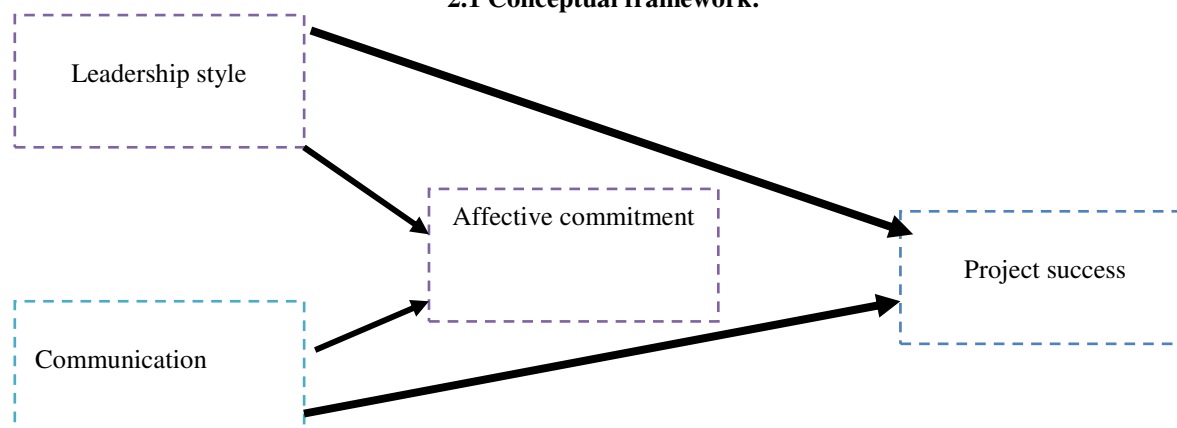
Virtual project teams work firmly together, although numerous miles, time zones and societies separate them. Virtual project teams are under through phone calls, video conferencing, email or other specialized instruments, for example, application sharing (Zhang et al., 2005). Another worldview for leadership appears, and virtual environment exchanging part of leadership abilities (Tovey et al., 2005). For some reasons, with corporate mergers, globalization, need rapidly moving markets and client requests, expanding many-sided quality of innovation, travel expenses, and this pattern toward adaptability in labor, association change from the old methods for working together to another way (Piccoli et al., 2004).

Organizations using virtual project teams exploit resources and employ best people for job, irrespective anywhere people live (Beranek & Martz, 2005). However, the distance among team members in virtual project teams often limited face-to-face communication prevents the major management function (Sobel-Lojeski & Reilly, 2006). Failure to adhere to a performance measure enables coaching and mentoring difficult. Clean lines of communication vital to success of virtual project team. Without clear lines of communication, mistakes, mistrust, unspoken aspects and unresolved conflicts may occur (Lee-Kelley Crossman, & Cannings, 2004). Ziguers (2003) proposed a virtual project teams could eventually learn how to communicate effectively as a direct team in development intra-group relations. This process will take longer virtual project teams than traditional teams because informal interviews are the basis for the development of the relational bonds (Ziguers).

## **2.9 Relationship among leadership styles and project success/failure**

Opinion of Turner & Pearce that leadership style and competence managers are vital for effective business performance; that were established through other scholar's correlation among them organizations and company's performance. Furthermore, Zhang (2004) distinguished importance of project success Project leadership to may relate to project type. Precisely, difficulty of project was obtainable in literature as having possible impact on moderating relationship among leadership practices and project success rate. Participation inside group and execution every colleague, and addition execution of group all in all are unequivocal variables for success of project. Without performing group, it hard to guarantee project success and administration performing group leaders touched off flame power and set limits inside group for its working. Moreover, project prompted success requires overseer to get work that cooperation productively and successfully. The entire procedure requires that leader's unmistakable vision, clarity of thinking in viable arranging and capacity to pull gifted and effective group. This, together with utilization of leadership styles achieves project success.

### 2.1 Conceptual framework:



### RESEARCH METHODOLOGY

Researcher selected project managers of virtual companies as unit of analysis. The sample size for this research dissertation is 225 managers of virtual project. Researcher use convenience sampling technique. Data collected from the targeted population through questionnaires.

#### 3.1 Statistical technique

Study the relationship among leadership, teamwork and success of project, project manager is, Pearson moment correlation, descriptive statistics, analysis of factors linear regression was used in research is identify significant impact of leadership Styles, communication affecting mediating emotional effort, the success of the project, items along with demographic issues are considered responses workers manufacturing organizations. To measure responses 5 points Likert scale is used.

#### 3.2 Reliability and Validity

##### Reliability

To test consistency estimation unwavering quality investigation is led. Stability, inside dependability and inter observer consistency most noticeable components identified with unwavering quality examination. To process general score various inquiries totaled test whether their reactions adjusted to each other or not. Cronbach's alpha is measured investigate unwavering quality of overview. The satisfactory scope of Cronbach's alpha is .70 or more prominent (Bryman and Bell, 2003).

##### Reliability Analysis

Description of Variables	Cronbach's Alpha
Leadership style	0.77
Communication	0.86
Affective commitment	0.90
Project success	0.85

##### Measurement

- ❖ **Leadership style:** Scale was developed through Bass 1985
- ❖ **Communication:** Scale was developed through Downs & Adrian, 1997
- ❖ **Affective commitment:** Scale was developed through Allen & Meyer (1990)
- ❖ **Project success:** Scale was developed through (Pinto and Slevin 1988)

### DATA ANALYSIS

#### 4.1 Data Screening and Missing Values

In the current study, a total of 250 questionnaires were distributed to project management team members of different virtual project firms out of which 233 questionnaires were returned at the reliable response rate of 93.2%. Out of which 8 questionnaires has missing values. All the survey questionnaires were verified during the data screening process. In the present study 8 questionnaires were excluded because of missing values in data analysis. Missing values were addressed manually through using the case list-wise deletion method. This technique includes deleting questionnaires from specific measurable investigation, all surveys that missing information erased. In this strategy, single discarded estimation of only a single variable in examination is reason for case to avoid from measurable investigation.

## 4.2 Sample Description

Table 4.1 demonstrates the sample description of Project Management team members of different sector demographics (gender, age, Firm Nature, team size, job tenure and project budget). In current study, total of 225 complete questionnaires were after addressing missing values, beyond that 13 respondents were in the range of 20-30 years old, 53 team members in range of 31-40 years old whereas 113 members 41-50 years and remaining 46 team members above 50 years. Additionally, Project management teams are male dominant, therefore most of the respondents in the current study were male (74.7% male and 25.3% Female). Further information was obtained about the firm nature of project management teams, out of all 24.4% were for IT firms, 58.7 were from Telecom firms, 10.2% were from manufacturing concerns and remaining 6.7% were from firms other than above.

**Table 4.1** Demographic Description of Participants

Demographic	Demographic Features	Frequency	Percentage
Age	20-30	13	5.8
	31-40	53	23.6
	41-50	113	50.2
	51 or greater	46	20.4
	Total	225	100.0
Gender	Male	168	74.7
	Female	57	25.3
	Total	225	100.0
Firm Nature	IT	55	24.4
	Telecom	132	58.7
	Manufacturing	23	10.2
	Other	15	6.7
	Total	225	100.0
Team Size	Less than 6 Members	62	27.6
	6-15 Members	135	60.0
	More than 15 Members	28	12.4
	Total	225	100.0
Job Tenure	Less than a year	62	29.38
	1-5 years	97	45.97
	6-10 years	24	11.37
	Above 10 years	11	5.21
	Total	211	100.0
Project Budget	Less than 100,000	22	9.8
	100,000<>500,000	21	9.3
	More than 500,000	182	80.9
	Total	225	100.0

Furthermore, it was identified that 27.6% teams were having team members less than 6 members, 60 percent of the total project teams were having team members 6 to 15, whereas, 12.4% teams were having more than 15 members. Further information was obtained on the job tenure, 65.8% of the team members were less than one year, 17.3% were in the range of 1-5 years of job experience and 6.2% were in the range of 5-10 years of job experience while 10.7% of the team members were in the range of experienced more than 10 years. At the end, further information obtain regarding demographics of project teams on the project budget. Total of the 225 team projects, 9.8% teams were having budget for their project less than 100,000, while 9.3% of the total teams were having budget more than 100,000 but less than 500,000 for their project, whereas, remaining 80.9% of the project teams were having budget more than 500,000 for their project.

## 4.3 Correlation analysis

To find the Pearson's moment correlation, the researcher applied data imputation method to calculate average value of each construct. In previous studies, researchers have computed mean values through SPSS (Laschinger and Grau, 2012; Nixon, Yang, Spector and Zhang, 2011; Campana and Hammoud, 2013) but in the current study AMOS 21 is used to impute the data. Table 4.2 represents the correlation values of "Leadership Style", "Communication", "Affective Commitment" and "Project Success". The mean value of "Leadership Style" is 3.6067 close to 4 it means majority of respondents agree and .77687 is standard deviation "Leadership Style" that displays almost 78% disparity amongst responses. Furthermore, "Leadership Style" positively significantly

correlated ( $r = .637^{**}$ ,  $r = .489$  and  $.611^{**}$ ) with “Communication”, “Affective Commitment” and “Project Success” at  $P < .01$  respectively. The mean value “Communication” is 3.6200 closes to 4 it means the majority of the respondents were agree and .82952 is the standard deviation of “Communication” which shows 83% variation among responses. Moreover, “Communication” is also significantly correlated ( $r = .637^{**}$ ,  $r = .631$  and  $.628^{**}$ ) with “Leadership Style”, “Affective Commitment” and “Project Success” at  $P < .01$  respectively. The mean value “Commitment” is 3.8896 closes to 4 it means majority of respondents agree and .76975 is standard deviation “Communication” that displays 77% difference between responses. Furthermore, Affective commitment is also significantly correlated ( $r = .489^{**}$ ,  $r = .631$  and  $.577^{**}$ ) with “Leadership Style”, “Communication” and “Project Success” at  $P < .01$  respectively. While the mean value of “Project Success” is 3.6200 which also closes to 4 and indicating that overall all the team members are agree and standard deviation of “Project Success” is .82952 which means there is 83% variations in the responses.

**Table 4.2** Means, Standard Deviation and Pearson’s Moment Correlation

Variables	M	SD	LS	EC	AC	PS
LS	3.6067	.77687	1			
C	3.6200	.82952	.637 <sup>**</sup>	1		
AC	3.8896	.76975	.489 <sup>**</sup>	.631 <sup>**</sup>	1	
PS	3.6236	.84277	.611 <sup>**</sup>	.628 <sup>**</sup>	.577 <sup>**</sup>	1

<sup>\*\*</sup>. Correlation is significant at the 0.01 level (2-tailed).

<sup>\*</sup> $P < .05$ ; <sup>\*\*</sup> $P < .01$ ; M= Mean; SD= Standard Deviation;

LS= “Leadership Style”; C= “Communication”; AC= “Affective Commitment”; PS= “Project Success”

#### 4.4 Factor Analysis

In the current study, the researcher applied confirmatory factor analysis on a sample of 225 responses of team members, total numbers of extracting factors are confirmed through confirmatory factor analysis.

#### 4.5 Leadership Style

Like compulsory point testing of conceptual models, suitability computed variables must check. The results of confirmatory factor analysis (CFA) demonstrated one factor in construct of Leadership Style. These factors further confirmed through confirmatory factor analysis through AMOS 21. The construct of leadership style (LS) consisted of 27 items adopted Bass (1985), to investigate the extent to which leadership style can affect project success. In current study, confirmatory factor analysis tested in form combine researcher take leadership style as overall variable that’s why researcher selected 15 questions form 3 types of leadership style. The criteria for removing items set on basis of factor loadings and residual values of each item. The factor loadings  $> .30$  or above selected to retain item while  $\pm 2.80$  selected standard value each residual to delete items (Brown, 2006).

**Table 4.3:** Confirmatory Factor Analysis of “Leadership Style”

Statistics	Fit Indices	Acceptable Threshold value	Single factor Model
Absolute Fit	$\chi^2$	As close as to Zero	96.767
	DF	As close as to Zero	30
	CMIN/ DF	As low as 2 and as high as 5	3.226
	GFI	$> .95$	.910
	RMR	$< .05$	.075
	RMSEA	$< .08$	.100
Incremental Fit	NFI	$> .90$	.887
	TLI	$> .90$	.877
	CFI	$> .95$	.918
Parsimony Fit	AGFI	$> .90$	.835

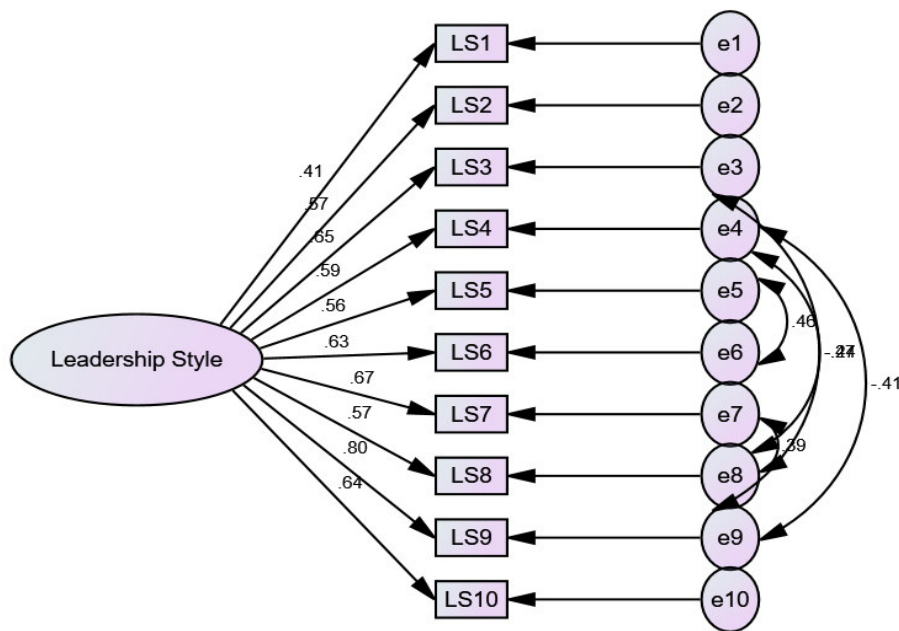


Figure 4.1 Single Construct of Leadership Style

#### 4.6 Affective Commitment

Like compulsory point testing of conceptual models, suitability of computed variables must check. “The results of confirmatory factor analysis (CFA) demonstrated one factors in construct affective commitment. These factors further confirmed through confirmatory factor analysis through AMOS 21. The construct affective commitment (AC) consisted of 7 items adopted Allen & Meyer (1990) to investigate the extent to which virtual project managers perceived that how much strong or weak relation with this variable. In current study, a confirmatory factor analysis tested.

Table 4.4: Confirmatory Factor Analysis of “Affective Commitment”

Statistics	Fit Indices	Acceptable Threshold value	Single factor Model
Absolute Fit	$\chi^2$	As close as to Zero	15.657
	DF	As close as to Zero	4
	CMIN/ DF	As low as 2 and as high as 5	3.914
	GFI	>.95	.978
	RMR	<.05	.022
	RMSEA	<.08	.114
Incremental Fit	NFI	>.90	.989
	TLI	>.90	.969
	CFI	>.95	.992
Parsimony Fit	AGFI	>.90	.993

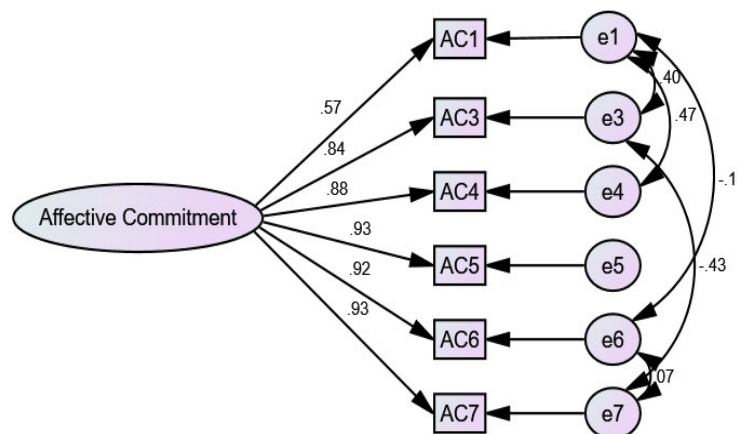


Figure 4.2 Single Construct of Affective Commitment

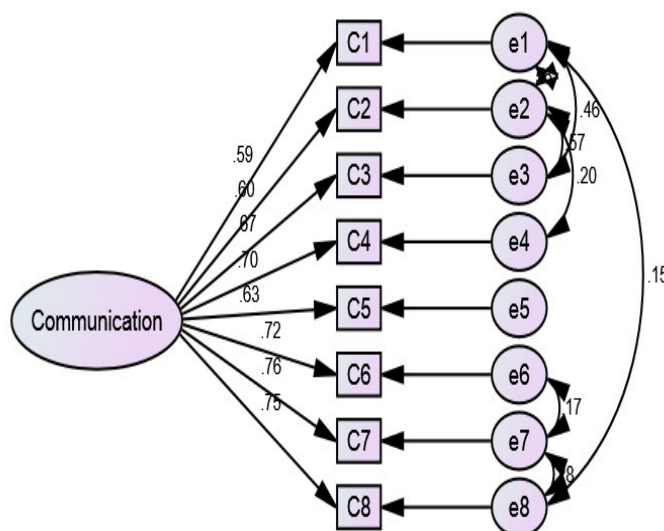


#### 4.7 Communication

The construct of “Communication” was consisted of 15 items adopted from (Downs & Adrian, 1997), to investigate the “Communication” of managers. Results single factor model of communication and all items loaded on single factor. After model specification all items factor loading more than .30 and seven items eliminated and few residuals correlated modification indices guided. The results of single factor model dramatically extremely good and Chi square value was also in good range. The values of goodness of fit index  $\chi^2/df= 23.875(13)$  not so high and remaining values like GFI=.974, CFI=.989, RMR=.028 and RMSEA=.061 displayed in table 4.18. After comparing fit indices in all models, in current study single factor model selected to examine further analysis of communication. The range of standardized factor loadings in single factor model is displayed in figure 4.20 that is in quite acceptable range.

**Table 4.5** Confirmatory Factor Analysis of “Communication”

Statistics	Fit Indices	Acceptable Threshold value	Single factor Model
Absolute Fit	$\chi^2$	As close as to Zero	23.875
	DF	As close as to Zero	13
	CMIN/ DF	As low as 2 and as high as 5	1.837
	GFI	>.95	.974
	RMR	<.05	.028
	RMSEA	<.08	.061
Incremental Fit	NFI	>.90	.976
	TLI	>.90	.975
	CFI	>.95	.989
Parsimony Fit	AGFI	>.90	.928



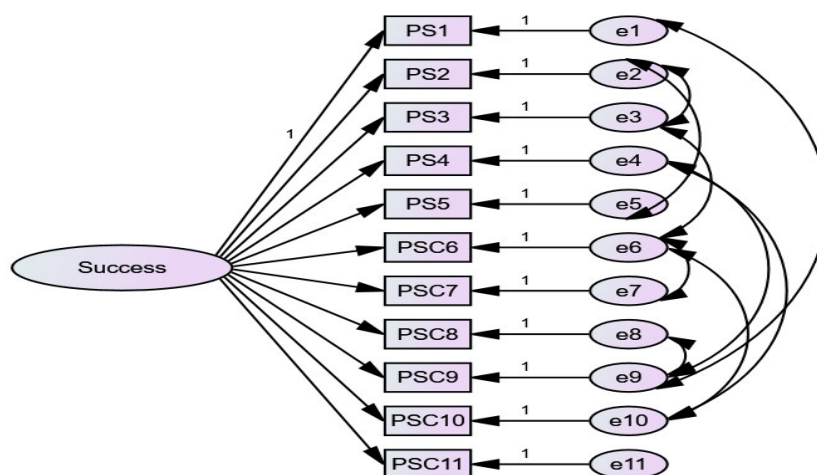
**Figure 4.3** 1-Factor Model of Communication

#### 4.8 Project Success

The construct of Project Success (PS) was consisted of 12 items adopted from the scale developed through (Pinto and slevin 1988), to investigate Project Success of virtual project in Pakistan. In present study, CFA was tried as pre model determination and post model particular to look at best model for Project Success. CFA tested criteria taking out item determined to premise of variable loadings and residual estimations of every item. Factor loading >.30 or above chosen to sustain item while  $\pm 2.80$  chosen standard estimation of each residual to delete items (Amran, 2006; Brown, 2006). The consequences of model specification demonstrated statistically idealize fit, in satisfactory range. Another try made to get best results, a single factor model of project success tried and every one of 12 items loaded on single component. The aftereffects of post model determination drastically good and Chi square value likewise in great extent. The estimations of integrity fit list exceedingly flawless and remaining qualities like GFI= .944, CFI= .961, RMR= .046 and RMSEA= .074 as appeared in table 4.22. The range of standardized factor loadings in after the model determination are .62 to .94 that entirely satisfactory or more set standard for holding items as appeared in figure 4.23.

**Table 4.6:** Confirmatory Factor Analysis of “Project Success”

Statistics	Fit Indices	Acceptable Threshold value	Single factor Model
<b>Absolute Fit</b>	$\chi^2$	As close as Zero	77.514
	DF	As close as Zero	35
	CMIN/DF	As low as 2 and as high as 5	2.215
	GFI	>.95	.944
	RMR	<.05	.046
	RMSEA	<.08	.074
<b>Incremental Fit</b>	NFI	>.90	.932
	TLI	>.90	.939
	CFI	>.95	.961
<b>Parsimony Fit</b>	AGFI	>.90	.895



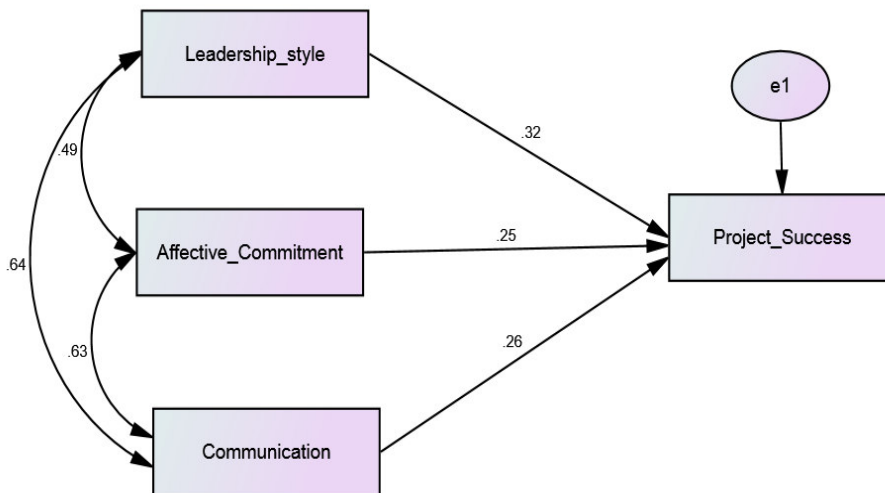
**Figure 4.4** CFA of “Project Success”

**4.9 Structural Equation Modeling (SEM)**

In the current study, structural equation modeling (SEM) is used to present path analysis exogenous and endogenous variables through AMOS 21. Figure 4.16 presents the direct relationship among Leadership Style, Communication, Affective Commitment, and Project Success. To explore there is statistically significant relationship or not. Structural model developed through utilizing observed variables on premise of hypothetical framework. Data imputation connected to calculate mean estimation of each observed variable in chart. Every path indicates all variation explained in endogenous variable as for exogenous variables.

**4.10 Direct Effect (Regression Analysis)**

Figure 4.37 presents the standardized direct effects among the “Leadership Style”, “Communication”, “Affective Commitment and “Project Success” among project team members. Table 4.37 shows the significant direct impact of “Leadership Style” ( $\beta = .317$ ;  $P < 0.05$ ), “Affective Commitment” ( $\beta = .255$ ;  $P < 0.05$ ) and “Communication” ( $\beta = .264$ ;  $P < 0.05$ ) on “Project Success”.



**Figure 4.5** Direct Effect of Independent variables on Dependent Variable

**Table 4.7:** Standardized Estimates of Direct Effects

Indications of relationship of variables		Standardized Estimate	S.E.	C.R.	P	Results	
PS	<---	LS	.317	.067	5.160	***	Significant
PS	<---	AC	.255	.067	4.169	***	Significant
PS	<---	C	.264	.070	3.822	***	Significant

#### 4.11 Indirect Effect

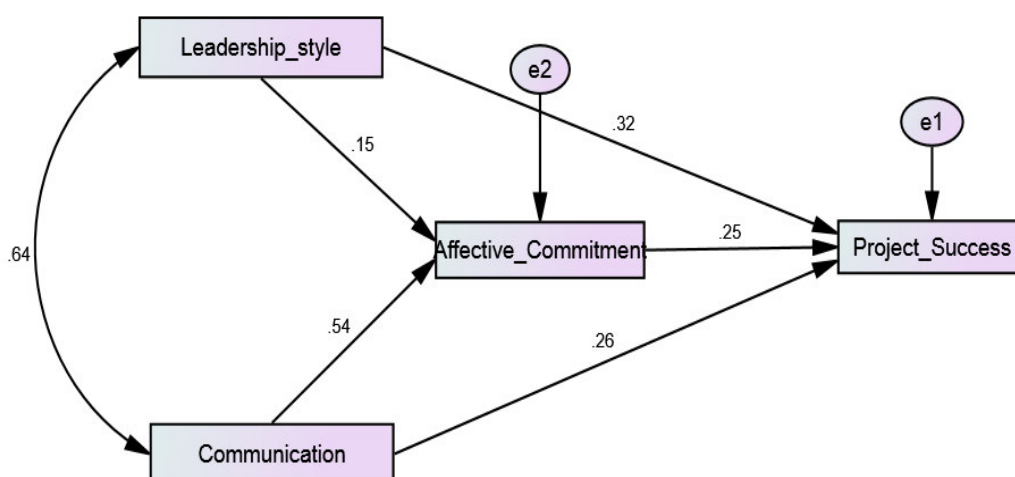
In this research, all direct effects investigated using structural equation modeling then affective commitment included as mediating among relationship of leadership style and project success. Figure 4.31 illustrates that when affective commitment tested among relationship of leadership style and project success, the direct relationship of Leadership Style significant ( $\beta = .317$ ;  $P < 0.05$ ). Table 4.38 displays total effect ( $\beta = .355$ ;  $P < 0.05$ ) of leadership style on project success along mediating effect of affective commitment while indirect effect ( $\beta = .037$ ;  $P < 0.05$ ) as displayed in table 4.38. Results indicate partial mediation that displays that there exists significant mediating impact of affective commitment among relationship of leadership style and project success in project management team members.

The direct relationship communication significant ( $\beta = .264$ ;  $P < 0.05$ ). Table 4.38 displays the total effect ( $\beta = .402$ ;  $P < 0.05$ ) communication on project success along mediating effect affective commitment while the indirect effect ( $\beta = .137$ ;  $P < 0.05$ ) as displayed in table 4.38. Results indicate partial mediation that displays that there exists significant mediating impact of affective commitment among relationship of communication and project success in project management team members.

**Table 4.8:** Direct, Indirect and Total Effects of Constructs

Endogenous Variables	Effects	LS	C	AC
Affective Commitment	Direct Effects	.146	.538	.000
	Indirect Effects	.000	.000	.000
	Total Effects	.146	.538	.000
Project Success	Direct Effects	.317	.264	.255
	Indirect Effects	.037	.137	.000
	Total Effects	.355	.402	.255

LS= "Leadership Style"; C= "Communication"; PS= "Project Success"



**Figure 4.6** Structural Analysis of Path Model

**Table 4.9: Summary of results**

Research Question	Hypotheses	Results
RQ1: Is Leadership Style a significant predictor of affective Commitment and Project Success?	There is significant positive relationship among Leadership Style and affective Commitment.	Supported
	There is significant positive relationship among Leadership Style and Project Success.	Supported
RQ2: Is Communication a significant predictor of affective Commitment and Project Success?	There is significant positive relationship among Communication and Project Success.	Supported
	There is significant positive relationship among Communication and affective Commitment.	Supported
RQ3: Is affective Commitment a significant predictor of Project Success?	There is significant positive relationship among affective Commitment and Project Success.	Supported
RQ4: Does affective Commitment mediate the relationship among Leadership Style and Project Success, Communication and Project Success?	There is mediating effect of affective Commitment among Leadership Style and Project Success.	Partially Supported
	There is mediating effect of affective Commitment among Communication and Project Success.	Partially Supported

## CONCLUSIONS AND RECOMMENDATIONS

The aim of current quantitative correlation study was to determine relationship among independent variables, leadership style and dependent variable, project success in virtual projects. Three-part study containing of series questions concerning respondent demographics, PIP and MLQ formed the basis for the reported data. Chapter 5 uses findings from Chapter 4 to reach conclusions, developing implications and develop recommendations for further study.

### 5.1 Conclusions

Evidence presented in Table 4.9 which shows statistically significant relationship among leadership style and project success in virtual projects. “Initial figures reflect a positive correlation among leadership style and nature of the project success. Based virtual project teams, state cues are harder to read (Reilly et al., 2005).” Some of the qualities attributed to leaders such as charisma and vision, may not translate well into the virtual environment of the project team. With more individuals working in physically displaced virtual environments, there are fewer opportunities for nonverbal cues expressed through body language, dress and behavior to support clear communication (Bock, 2003). Since virtual project environment may limit many leading features conclusion that the style line could be effective it is understandable. In the current study indicate that the result of communication also plays a very important role in the success of the project. Affective engaged employees are a competitive advantage for the company because they emotionally connect to the enterprise and to put efforts on the project success instead of their personal goals. The study shows that emotional commitment has a mediating

role among relationship style of leadership and communication on the success of the project.

### 5.2 Limitations

The constraints of study members agreed to assist intentionally, quantity of members surveyed, and amount of time accessible lead study. People getting survey could pick not to take an interest or to pull back from the study whenever. Both instruments contain questions requiring subjective reactions. Project managers reacting to study instrument likely gave subjective analysis of project success and leadership style. Bias might be obvious on grounds that project managers, in their own retrospections, might not dependably precisely reviewed real circumstances. The passing of time may add to error of recall. Members welcome to response to survey in light of involvement with recent virtual project to decrease the passage of time, in this way eliminating risk of project failure.

### 5.3 Implications

Findings from the current study are useful for organizations that have created or plan to create a virtual project teams, especially deployment leadership style. "The future each sector includes virtual project teams (Avolio & Yammarino, 2003)." These conclusions which can lead practical management strategies and developing new model of management virtual project teams. Leaders can use the knowledge gained from the study in order to improve virtual team project success using the appropriate leadership style. Recruiting and training a virtual team project leader can also improve on the basis of knowledge. The results demonstrate leadership skills and communication are associated with the success of virtual projects. The study was limited to individuals who agreed to participate voluntarily.

### 5.4 Recommendations for Further Study

Recommendations for further research include replication study with greater geographic target population and sample testing emerging leadership in virtual project teams, and the inclusion of other variables success of the project, such as risk assessment skills and effective communication. The study was regional in nature, since the target population was limited. Other studies could replicate methodology studies in other parts of the country or the world to see if similar results are obtainable. The study did not address the difference among the assigned leaders and leaders emerging. Further studies should explore the differences and similarities among the styles of leaders and styles of leaders emerging in virtual teams. The difference among the assigned leadership and the emerging leadership is important. Assigned to an individual leader is assigned to a position of leadership (Bass, 1990). Leadership takeover function is assigned management (Northouse, 2004). Emerging leader has the same status as the other members of the team at first, but gradually emerges as the leader of the team at the moment of time (Bass, 1990; Northouse). The model could evolve identifying styles leading emerging virtual project teams based on styles of transformational leaders. The present study examined the relationship among leadership style and project success in virtual projects. Failed leadership is one of main causes of project failure (Piccoli et al., 2004). However, other variables, such as risk, technology, culture and language can also contribute to project failure. Future studies should examine effects of other independent variables on success of the project.

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