

Relationship of Emotional Intelligence from the Diversity Perspective in Project Outcomes in Technology Projects

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Abstract

The purpose of the quantitative correlational research study was to examine if a significant relationship existed between the Emotional Intelligence (EI) competencies of Hispanic team members and project outcomes within the technology sector in the United States. Therefore the objective was to explore the degree of association or relationship between the identified predictor and criterion variables. The predictor variables included the EI competencies: Emotional Self-Awareness(ESA), Emotional Self-Management(ESM), Emotional Awareness of Others(EAO), Emotional Management of Others(EMO), and the criterion variables: Project Timeliness(PT), In-Budget Project(PB), and Scope Creep(SC).

Index terms— emotional intelligence, emotional, intelligence, hispanics, diversity, project outcomes, ei, ei competencies, technology, quantitative, correlational

1 Introduction

esides the business pressures to keep projects performing, the technology sector faces ever increasing diversity in its workforce, bringing to the project teams challenge of developing soft skills such as emotional intelligence (EI). In the present study, the focus was on the Hispanic population because few researchers have conducted studies involving the significant value of EI and project outcomes from the Hispanic perspective. The number of Hispanics in the work force has experienced dramatic growth and is projected to continue to grow. According to the U.S. Census Bureau (2010), 50.5 million Hispanics were living in the United States, approximately 16 percent of the entire population. By July 1, 2050, the Hispanic population in the United States could reach 132.8 million (U.S. Census Bureau, 2010). The present study was an opportunity to contribute to the body of knowledge of technology management by exploring the relationship of EI competencies and project outcomes, which could deepen the understanding of the influence of diversity within the project team and the influence to the outcomes of the projects. The present study could deepen the understanding of EI, from the Hispanic perspective, and how it could influence project outcomes, and as the number of Hispanics entering the workforce will increase, the understanding of this relationship will become important for project leaders.

2 II.

3 Objective

The purpose of the quantitative correlational research study was to examine if a significant relationship existed between the Emotional Intelligence (EI) competencies of Hispanic team members and project outcomes within the technology sector in the United States. Therefore the objective was to explore the degree of association or relationship between the identified predictor and criterion variables. The predictor variables included the EI competencies: Emotional Self-Awareness, Emotional Self-Management, Emotional Awareness of Others, Emotional Management of Others, and the criterion variables: Project Timeliness, In-Budget Project, and Scope Creep.

4 III.

5 Literature Review

The general concept of EI was delineated to be a form of social intelligence, which has implications for the individual and others about emotions and feelings (Salovey & Mayer, 1990). In their writings, Salovey and Mayer (1990) acknowledged the association between two aspects of individuals' personality—cognition and emotion. The concept limits the EI scope as the capacity of individuals to interpret others' emotions and the ability to control their own emotions.

Organizational leaders acknowledged the need to have skilled workers to keep project losses to a minimum, because skilled labor has an important effect on project outcomes. Individuals with high EI competencies could have positive emotions and reduce the negative environment in the organization. A positive environment allows for the development of effective selfacceptance, personal growth, and relationships with the rest of the team, positively influencing projects' outcome.

Othman, Abdullah, and Ahmad (2009), observed that employees' EI competencies influence work effectiveness. The use of EI influences the way in which individuals interact within the team, shaping team innovation, team effectiveness, and employee behavior, attitudes, and particularly for the research study, the outcome of projects. If leadership lacks EI, the team's environment would provide inadequate support to sustain team development that would benefit project outcomes (Othman et al., 2009; Ramesar, Koortzen, & Oosthuizen, 2009).

Recent research studies concluded that EI competencies are better predictors of employees' performance than the traditional intelligence quotient (IQ) (Yildirim, 2007). Cherniss (2001) claimed that emotionally intelligent organizations show commitment, dedication, cooperation, and creativity, whereas EI competencies are needed to improve the outcome of the project. Project leaders may be overlooking other competencies among project team members that could help the team to achieve the project's objectives (Turner & Lloyd-Walker, 2008). Goleman (2000) interviewed approximately 3,000 executives about their experiences in the workplace and concluded a positive relationship existed between leadership and EI. Leaders could enhance their leadership styles by understanding the competencies of EI, analyzing which of the EI competencies they lack, and working on developing or improving those competencies (Goleman, 2000). Goleman, Boyatzis, and McKee (2002) worked to adjust the EI concept to be compliant with the business environment and to be recognized as an essential factor for business success.

IV.

6 Research Methodology

Research study was to examine if significant relationships existed between two sets of identified variables (Salkind, 2008). The hypotheses were tested to provide information about the variables, the null and alternative hypotheses were:

H o 1: There is no statistically significant relationship between a Hispanic employee's use of EI competencies and the project outcomes.

H a 1: There is a statistically significant positive relationship between a Hispanic employee's use of EI competencies and the project outcomes.

H o 2: There is no predictive value in the relationship between EI competencies of Hispanic employees as appraised by the Genos EI and the outcomes of projects.

H a 2: There is predictive value in the relationship between EI competencies of Hispanic employees as appraised by the Genos EI and the outcomes of projects.

7 a) Population and Sample

The targeted population for the research study included Hispanic American professionals who worked in technical projects. As members of a rapidly growing minority group in the United States, Hispanic Americans were also more commonly found in project management teams, either as leaders or as members of the teams.

8 b) Participants

Research study accessed LISTA members, emails were sent inviting members from the technology sector to participate. A selection process was in place to ensure only participants working in the technology sector participated. The introductory questions on the survey set the criteria for the participants, where the sampled population requirements are described in table 1. Scope creep: This refers to the process by which stakeholders, customers, or team members add additional work to the project after the project scope has been defined and established among interested parties.

9 Emotional Self-Awareness:

Reflects on the selfconsciousness of temperamental attributes that could be displayed in private and public associated to an individual's behavior Emotional Self-Management: Self-management is also known as self-control and relates to individuals' actions that regulate their own behavior. Emotional Awareness of Others:

The ability of individuals to acknowledge others' emotions and understand when other individuals are expressing their emotions.

Project Timeliness: Timeliness describes a project including all tasks related to the project-completed on time, based on the planned schedule.

10 d) Measures

The Genos EI inventory included 70 questions. For the statistical analysis, the following EI competencies were considered as predictor variables: Emotional Self-Awareness (ESA), Emotional Self-Management (ESM), Emotional Awareness of Others (EAO), and Emotional Management of Others (EMO). The analysis on construct validity showed that the Genos EI (Gignac, 2010) was best suited for the EI model when assessments represent overall EI scores with some divisions overlapping the social and personal competencies. The Genos EI assessment tool was created fundamentally using the "method of rational scaling" (Gignac, 2010, p. 55). The Genos EI assessment tool is grounded on the observations of two developments: (a) a positive correlation exists between all items found in specific scale, and (b) all elements have a positive correlation with the total score of the particular scale (Gignac, 2010).

The Project Outcomes instrument included 25 questions. The reliability coefficients values of Project Budget PB and Scope Creep SC met the criteria. The Project Timeliness PT was close to the value .70 and was considered acceptable to use in the statistical analysis. The project outcomes survey instrument was used to generate project-related data from participants about scope creep, project cost, and project timeliness. The instrument included Likert-type questions, the answers to which were easier to tabulate. The answers were collected by the web host, and data was downloaded for statistical analysis in the form of an electronic spreadsheet. The variables values were generated from the answers from all participants, and the values were used in the multiple regression correlational analysis.

11 e) Data Collection

The method of distributing and collecting the survey instruments was accomplished by using webbased assessments. One assessment was the Genos EI (Genos, 2008), and the other was the project outcomes survey, custom designed by a consultant experienced in survey design.

12 f) Data Analysis

The variables were labeled by the Genos EI tool as Emotional Self-Awareness (ESA), Emotional Self-Management (ESM), and Emotional Awareness of Others (EAO), Emotional Management of Others (EMO). The criterion variables or the project outcomes included scope creep, in-budget project cost, and project timeliness. The correlation analysis used was the multiple regression using regression coefficients (Creswell, 2009). Because the research study was using two or more variables, multiple regression was used to analyze the effects, collectively and separately, of the predictor variables on the criterion variables (Creswell, 2009).

Correlation statistical tests were conducted to discover and measure the degree of relationship between two or more of the research variables to determine if two or more of the research variables might have been related in a consistent manner. Using correlational statistics provided the evidence of predicting scores and examined the effect of multiple variables on the other research variables, requiring the use of multiple regression analysis (Creswell, 2009).

V.

13 Results

The

14 Multiple Regression Analyses

a) Project Timeliness PT Project Timeliness PT criterion variable of R equal to 0.470; the strength of association of R² was calculated to be equal to 0.221. The results indicated the overall model was significant: F Changes at (4, 83) = 5.885, with $p < 0.001$. Regression degrees of freedom df is equal to 4, and the residual degrees of freedom was equal to $87 - 4 = 83$ with one outlier.

The results calculated suggested that at 22.1% of the variability in the scores, of the Project Timeliness PT criterion variable, are associated with the EI competencies. Project Timeliness PT multiple regression analyses, the results yielded the following prediction equation: Predicted Project Timeliness-PT = $-0.219 + 0.169$ (ESA) -0.081 (EAO) -0.122 (ESM) $+ 0.223$ (EMO). For the regression analyses, the Type I error rate was set to 0.05.

15 b) Project Budget PB

Project Budget PB criterion variable R was equal to 0.418. The strength of association is R² was equal to 0.174. The results indicated the overall model was significant, F Changes at (4, 83) = 4.383, with $p < 0.001$. The regression degrees of freedom and Type I error remained the same as they were listed at the Project Timeliness PT criterion variable analyses. The numbers demonstrated that the model is significant and statistic results

indicated that at 17.4%, the variability in the in-budget project cost criterion variable scores was associated with the predictor variables of EI competencies. On the third chart for the Project Budget PB, the multiple regression analyses, the results yielded the following prediction equation: Predicted Project Budget PB = $-1.2 + .097$ (ESA) $-.095$ (EAO) $-.009$ (ESM) $+ .215$ (EMO).

16 c) Scope Creep SC

Scope Creep SC criterion variable R is equal to 0.362. The strength of association is R² is equal to 0.131. The results indicated that the overall model was significant, F Changes at (4, 83) = 3.123, with $p < 0.019$. The regression degrees of freedom and Type I error remained the same as they were listed at the Project Timeliness PT criterion variable analyses. The numbers indicated that this model is significant, and statistic results indicated that 13.1% of the variability in the scope creep criterion variable scores was associated with the predictor variables of EI competencies. Scope Creep SC multiple regression analyses, the results yielded the following prediction equation: Predicted Scope Creep SC = $3.866 - 0.96$ (ESA) $+ 0.125$ (EAO) $- 0.109$ (ESM) $+ 0.213$ (EMO).

VII.

17 Summary and Conclusion

The results of the statistical analyses were convincing in establishing a statistically significant relationship between EI competencies, identified as predictor variables: Emotional Self-Awareness (ESA), Emotional Self-Management (ESM), Emotional Awareness of Others (EAO), Emotional Management of Others (EMO), and the Project Outcomes identified as criterion variables: Project Timeliness (PT), In-Budget Project (PB), and Scope Creep (SC). The relationship between Project Timeliness PT and EI competencies was moderate and positive; the relationship between Project Budget PB and EI competencies was also moderate and positive, while the relationship between Scope Creep SC and EI competencies was positive and weak.

After the statistical analyses, both null hypotheses were rejected, and results supported both alternate hypotheses. The statistical analyses results supported the alternate hypotheses Ha₁, and Ha₂, confirming a relationship between ESA, ESM, EAO, EMO, and Project Timeliness PT, Project Budget PB, Scope Creep SC, within the identified population. A predictive value between the predictor and criterion variables was supported within the identified population. For project managers and project stakeholders of high tech projects employing a diverse workforce, a significant recommendation is to explore the possibilities of integrating EI in the employee development curriculum for project teams. Project managers should explore means to make EI training a routine part of employee development. Managers might also practice EI skills in their daily interactions with project team members inside and outside the organization. For the short term, the employee development programs could include EI training for selected team members, then prioritize the critical projects, which could benefit from an EI trained workforce. Then, for the long term, the deployment of EI development programs could be implemented in stages throughout the organization.

18 VIII. Suggestions for Further Studies

While team members working in projects outside the high tech industry and from other ethnic backgrounds may dissent, the findings of the present research study strongly supported future researchers' efforts to expand on the present topic. Future researchers might consider a wider scope by addressing greater diversity and considering demographic data to understand more clearly how EI could improve project success rate in organizations. Additional studies could be conducted to examine ways for organizational leaders to comprehend the application of the EI concept to manage individuals working on project teams more effectively.

A recommendation is to conduct similar studies to build upon the findings of the present study to include other races and demographic information. The objective would be to provide greater clarity and more evidence to construct a firmer basis for promoting the deployment of EI development programs. Such studies might support the use of EI in project teams in the workplace in different business fields. Another strong recommendation is to consider the additional information provided by the use of 360 degree appraisals to control the possibility of incorporating selfbias due to the self-reporting assessment tools. Academics and research communities interested in project stakeholders and project managers' roles and project management in general must continue to strive to clarify the EI construct for comprehensibility and adoption.

These efforts would involve researching, identifying, and understanding EI competencies and the implications of using EI with working project teams. Another recommendation is to refine and develop the measurement instruments used to generate the data needed to capture the information about the EI competencies. The results of these recommended research studies could provide common ground to the different areas of thoughts about EI, assisting to mature and further refine the EI construct. The goal would be that EI researchers would agree upon a solid EI concept, unifying the EI construct, and consequently, providing significance for the EI studies to society and to leaders.

19 IX.

20 Recommendations

210 For project managers and project stakeholders of high tech projects employing a diverse workforce, a significant
211 recommendation is to explore the possibilities of integrating EI in the employee development curriculum for project
212 teams. Project managers should explore means to make EI training a routine part of employee development.
213 Managers might also practice EI skills in their daily interactions with project team members inside and outside
214 the organization. For the short term, the employee development programs could include EI training for selected
215 team members, then prioritize the critical projects, which could benefit from an EI trained workforce. Then,
216 for the long term, the deployment of EI development programs could be implemented in stages throughout the
217 organization.

218 The EI concept would integrate the development programs and job-related training provided to employees to
219 improve their skills, providing a foundation for practicable knowledge. Having EItrained project team members
220 should produce better and cohesive teams, providing them with the tools needed to improve their opportunities
221 to complete successfully the projects assigned to them.

222 While research study results were found from studying the specific targeted population, Hispanics, and industry
223 selected, high tech, these findings may provide some insight and value to other industries and populations. The EI
224 concept may be applied to many industries and populations, providing potential benefits to leaders, to managers,
and to employees in their attempts to improve the success rate of projects in the organizations. ^{1 2}



Figure 1: G

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Item	Value	
Participants	LISTA Members	
N	88	
Requirements	?	More than 5 years of experience
	?	Working in technology
	?	Companies with more 15 employees
	?	Working on project teams of more than five individuals
Geographical Location	?	Continental United States

*[Note: c) Operational Definitions*Project budget: Refers to accomplish a project's tasks or to complete the project, once the project budget has been defined and established. Emotional Management of Others: The ability to use the awareness of emotions, including other individuals to manage interactions and emotions successfully.]

Figure 2: Table 1 :

Project Outcome PT PB SC Note. For all outcomes, $n = 88$, standard error for skew = 0.257, and standard Correlation is significant at the 0.01 level (2-tailed)

Correlation is significant at the 0.05 level (2-tailed)

Project Timeliness, Project Budget, and Scope Creep Correlations

Null Hypothesis 1 Findings: From the correlation matrix

for project timeliness, the Project Timeliness PT criterion

variable shown indicated that the project timeliness

EI Competency Project Timeliness PT criterion variable had a moderate Range Mean Null hypothesis 1 res
ESA positive correlation of 0.360 for ESA, 0.250 for ESM, 33 39.28 stated as H_0 1: There is no statistically
EMO the EI competencies and project timeliness. The Project 40 37.45 between the identified variables from
Total EI Budget (PB) criterion variable illustrates the in-budget 232 261.34 competencies and project outco
project cost criterion variable had a moderate positive Note. For all competencies, $n = 88$, standard error fo
EAO, and 0.393 for EMO. The results from the

correlation coefficients supported a moderate positive

relationship between the EI competencies and the in-

from
the cor-
relation
coeffi-
cients
sup-
ported
a weak
to
moderate
positive
rela-
tionship
between
the EI
competencies
and
scope
creep.

project
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and EI
compe-
tencies,
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two
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