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Демонстрационный вариант и методические рекомендации по направлению «Менеджмент»

Профиль: «Управление проектами: проектный анализ, инвестиции, технологии реализации» **КОД – 143**

Время выполнения задания – 180 минут

Прочитайте статью[1] и сделайте её критический анализ на русском языке.

1. Introduction

An unsuccessful project results in losses to project stakeholders. According to Strohmeier *(1992)*, project managers spend approximately 88% of their working hours interacting with different stakeholders. Such huge interaction calls for those project managers who can lead effectively in addition to managing conflicts so as to build better relationships, thus ensuring success in their projects *(Lewis, 1998)*. As Lechler *(1998)* stated: "When it comes to project management, it's the people that count." As a result, there has been a shift from a technical bias (hard or technical skills) to project manager behaviors (soft skills) *(Leybourne, 2007)*.

With regard to the human side of project management, much has been highlighted on identifying the skills, technical expertise, attributes, and qualities required for a successful project manager. For example, the International Project Management Association (IPMA) Competence Baseline *(2006)* classifies 46 competency elements into three groups: contextual, behavioral, and technical competencies. The Project Management Competency Development Framework – Second Edition, published by Project Management Institute (PMI) *(2007)* describes project manager competency in terms of knowledge, performance, and personal competence. The Association for Project Management (APM) Competence Framework *(2008)* is similar to the IPMA Competence Baseline, but has some different competence elements. These are comprehensive studies; as project managers maintain the progress, the mutual interactions and tasks of the various parties, there will continue to be a need for an in-depth study on the human side of project management. A study on the relationship styles of Hong Kong's construction managers highlighted that human skills were of the utmost significance in project management *(Rowlinson, Ho, Yeun, 1993)*. Sunindijo, Hadikusumo, and Ogunlana *(2007)* also emphasized that human factors assume critical importance in ensuring project success. Unfortunately, these soft skills (the human side of the projects) have not received sufficient consideration in the project management literature *(Skulmoski, Hartman, 2010; Hyvari, 2006)*. Gehring *(2007)* posited that "… to increase the probability of project management success, the project manager must understand the leadership competencies that are required and what personality traits he or she has that compliments or competes with these competencies." Dvir, Sadeh, and Malach-Pines *(2006)* highlighted the significance of aligning a project manager's management style and personality with project type. Thal and Bedingfield *(2010)* found connections between personality traits and project manager success. Although we value these specific analyses, we believe that an extended scope of behavior dimensions (project managers' soft skills) – through a larger, theoretical model – is needed for an entire view of the significant role different behavioral aspects play in project management. There arises the following research question: *What are the relevant aspects of project managers' soft skills in project success and their connections?*

[1] Подготовлена на основе: Maqbool R., Sudong Y., Manzoor N., Rashid Y. (2017) The Impact of Emotional Intelligence, Project Managers' Competencies, and Transformational Leadership on Project Success: An Empirical Perspective // *Project Management Journal*, 48(3), P. 58-75.

2. Hypotheses Development

Studies have revealed that the project manager's role is vital to project success; however, the literature has largely ignored the effects of emotional intelligence (EI), project manager's competencies, and his or her leadership approach to project success *(Turner, Müller, 2005; Avolio, Yammarino, 2013)*. In order to carry out an in-depth study on the impact of these factors on project success, the following section will construct the relevant hypotheses.

Emotional Intelligence and Its Linkage to Project Success "Emotional intelligence" (EI) is the "ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" *(Salovey, Mayer, 1990)*.

The importance of emotional intelligence has been studied in the project management literature *(Adams, Anantatmula, 2010; Clarke, 2010; Othman, Abdulah, Ahmad, 2009; Geoghegan, Dulewicz, 2008)*. According to Salovey and Mayer *(1990)*, researchers are deliberating on the important aspects of the human personality; in other words, emotional intelligence, along with leadership style, and their roles in achieving organization excellence. Carmeli *(2003)* also found that emotionally intelligent senior managers perform their jobs better compared with their peers with lower emotional intelligence. In the field of project management, Mount *(2006)* assessed the skills related to the success of project managers in 74 international petroleum corporations, and found that, of all the skills that contributed to project managers' success, 69% were the emotional competencies (self-confidence, influence, achievement orientation, teamwork, and coordination); 31% were business expertise; whereas there was none (0%) in the area of cognitive skills, such as conceptual or analytical thinking. Another study by Geoghegan and Dulewicz *(2008)* was carried out to identify whether a significant relationship existed among emotional quotient (EQ) dimensions (self-awareness, sensitivity, influencing, and motivation) and project success. Having analyzed the data gathered from 52 project managers in the United Kingdom, the researchers found a significant relationship between EQ dimensions and project success. Turner and Lloyd-Walker *(2008)* reported that emotional intelligence capabilities greatly contribute to project success.

In their study, Müller and Turner *(2007)* studied the leadership competency profiles of 400 successful project managers from all around the world *(Müller, Turner, 2010)*. They used the leadership development questionnaire, based on the model by Dulewicz and Higgs *(2005)* and a compound measure of project success (ten success criteria), and found correlations among leadership competencies and project success. The result indicated that the EQ subdimensions (influence, motivation, and consciousness) of successful project managers significantly contributed to their success in all types of projects *(Müller, Turner, 2010)*.

Zhang, Zou, and Zillante *(2013)* found that Chinese construction project managers considered eight emotional intelligence competencies to be important for the successful management of their projects. These included empathy, inspirational leadership, teamwork and collaboration, conflict management, influence, change catalyst, service orientation, and organizational awareness. Rezvani et al. *(2016)* conducted their study on the Australian defense industry and reported the significant relationship between project managers' emotional intelligence and project success with the mediation role of job satisfaction and trust. The studies of Pryke, Lunic, and Badi *(2015)* and Sunindijo et al. *(2007)* identified that the role of emotional intelligence is useful in leader - follower communication and leads to enhanced project performance. Sunindijo *(2015)* reported that emotional intelligence has a significant influence on project cost performance and project quality performance. Therefore, we hypothesize the following:

***H1**: Emotional intelligence has a significant positive effect on project success.*

Project Managers' Competencies and Their Linkage to Project Success

Mount *(2006)* studied the relationships among emotional intelligence and project managers' competencies. His study was aimed at identifying the job competencies associated with the higher performance of project managers.

In 2010 Clarke combined these competencies with the behavioral items within project management: he selected items from the Project Manager Competency Development Framework *(2007)* and grouped 24 project management behaviors into four project management competence domains; namely, communication, team work, attentiveness, and managing conflict. Clarke concluded that his study's results suggested that emotional intelligence ability and empathy explain the individual differences among project managers that influence their better performance.

Ekrot, Kock, and Gemünden *(2016)* found that project management competence retention (PMCR) is positively associated with average project success of the organization. They further explained that project management competence retention is obtained by formal development perspectives in project management, such as a career path or qualification opportunities, as well as establishing a formal lessons learned system. Brière, Prouix, Flores, and Laporte *(2015)* found that project managers' competencies are very important during crucial project changes and these are important for project management capacities. Whereas the study of Loufrani-Fedida and Missonier *(2015)* that the project managers' competency factor works as a complement to organizational competencies, but it is not so useful if used as an alternative to organizational competencies) Thus, the role of project managers' competencies along with organizational competencies is vital in improving project performance. Some knowledge, skills, and abilities have emerged as especially relevant to the success of all projects, regardless of project size or complexity; these include participation, documentation, implementation, development, maintenance of quality assurance processes, critical thinking, project reviews, communication, leadership, and flexibility *(Gallagher, Mazur, Ashkanasy, 2015)*. In sum, we formulate the following hypothesis:

H2*: Project managers' competencies have significant positive effects on project success.*

Transformational Leadership and Its Linkage with Project Success

The project manager's role as leader is a proactive one. Müller, Geraldi, and Turner *(2012)* stated that the important soft-success factor in any project is the role of the project manager as a leader, rather than a manager. Project managers do require having the requisite skills to lead their subordinates, should be forward thinking, try to anticipate the things, in order to take the necessary steps to prevent problems or, if unavoidable, try to recover from those problems as soon as possible *(Avolio, Yammarino, 2013)*. As leader, a project manager must know and satisfy people's needs; to understand what drives people; and to promote their interests while pursuing the project's objectives; to make the appropriate decisions while managing conflicts. This requires project managers to display effective leadership qualities in order to lead their team members toward the achievement of desired performance.

Goleman *(2003)* highlighted that "effective leaders are alike in one crucial way: they all have high degrees of emotional intelligence." He argued that effective leaders possess the ability to employ the right type of leadership for the prevailing situation in the organization. Transformational leadership style has been studied by most researchers with many positive findings. Transformational leadership is defined as one that stimulates awareness and interests in groups; fosters confidence of groups and individuals; and endeavors to drive the subordinate's concerns about growth and achievements rather than mere existence *(Gardner, Stough, 2002)*. Transformational leadership is

measured with four sub-scales; namely: idealized influence, intellectual stimulation, inspirational motivation, and individualized consideration *(Bass, Bass, 2009)*.

Transformational leaders are consistently being rated as more effective by their subordinates and are always linked with superior organizational performance as well as success *(Lowe, Kroeck, Sivasubramaniam, 1996)*. In their study, Barling, Slater, and Kelloway *(2000)* examined the emotional intelligence and leadership styles of 49 managers. He found that emotional intelligence highly correlated with transformational leadership, with the highest correlation being among inspirational motivation (component of transformational leadership) and emotional intelligence *(Barling et al., 2000)*. In 2002, a study by Gardner and Stough investigated whether emotional intelligence predicted the leadership styles of 110 senior level managers. They found a strong correlation between transformational leadership and overall emotional intelligence, with the components, understanding of emotions (external), and emotional management as the top predictors of transformational leadership style *(Gardner, Stough, 2002)*.

Leban and Zulauf *(2004)* studied 24 project managers and their related projects in six different organizations from varying industries in order to examine the relationship between leadership in projects and emotional intelligence. They found that emotional intelligence scores and the ability to understand emotions were found in significant relation to inspirational motivation (a dimension of transformational leadership). They concluded that a project manager's transformational leadership behavior has a positive impact on project performance, in other words, emotional intelligence abilities contribute to a project manager's transformational leadership behavior and subsequent actual project performance *(Leban, Zulauf, 2004)*. In another study, Butler and Chinowsky *(2006)* studied 130 construction executives to examine the relationship between emotional intelligence and transformational leadership behaviors. They concluded that a relationship existed between total emotional intelligence score (EQ) and transformational leadership behavior and that the total EQ explained 34% of the variance of transformational leadership.

Aga, Noorderhaven, and Vallejo *(2016)* reported that teambuilding as a critical project success factor plays a mediating role in the relationship between transformational leadership and project success. Thus, in sum, leads us to the following hypothesis:

H3*: Project managers' transformational leadership has a significant positive effect on project success.*

3. Research Model

After reviewing the relevant literature and to fulfill the objectives of the current study, the following research model (Appendix A) and hypotheses have been developed and tested in this study.

$$Project\ success = \beta_0 + \beta_1 EI + \beta_2 PMC + \beta_3 TL + \epsilon \quad (1)$$

4. Research Methodology

A survey measure was employed to measure emotional intelligence, project managers' competencies, transformational leadership, and project success in the construction industry in Pakistan.

Questionnaire Development

There were 62 questions in the questionnaire; however, 11 questions were removed after pilot testing, leaving 51 questions for the final survey. All questions were asked on a seven-point Likert Scale, ranging from strongly disagree to strongly agree. The net score of these items reflected the score for the respective dimensions/construct.

Variables and Their Measures

All the variables have several dimensions, each of them has a seven-point Likert Scale, which ranged from strongly disagree to strongly agree. The net score of the items reflected the scores for the dimensions.

Population, Sample, and Sampling Technique

There were 325 construction companies registered with the Constructors Association of Pakistan (CAP) in 2016. Through systematic random sampling, 107 companies (33%) were selected for data collection. Four questionnaires were submitted to each company for manager feedback. Of the 428 questionnaires distributed, 359 responses (83.8% response rate) were received; of these, 14 responses (3.8% rejection rate) were rejected for incompleteness, whereas 345 responses (81.17% feedback rate) were completed in all respects, and were finally selected for this study.

5. Results and Discussions

5.1. Data Analysis Techniques

The process of data analysis involved compilation of the data; its screening; descriptive statistics; assessing reliability measures, and running the correlation. Hypotheses were tested using regression and correlation analysis.

Prior to subjecting it to analysis, the data file was vigilantly screened for any missing values, outliers, multi-collinearity, and normality. Missing values were very low (1 or 2) in most of the items. Moreover, none of the cases fell outside the limits (Q1 -1.5 IQR; Q3 + 1.5 IQR), so there were no outliers within the data. Kurtosis and skewness were also performed to explain non-normality. Tabachnick and Fidell *(2001)* suggested their values to be within the range of -2 to 2, whereas the data are normally distributed.

Using principle components, exploratory factor analysis was conducted to test the construct validity of the variables. Factor analysis with Varimax rotation established the grouping of the emotional intelligence and project managers' competency constructs. Items with correlations, between 4 and 8 within a group, and communalities, greater than 0.5, were retained, whereas Cronbach's alpha (α) was used to measure the reliability of the constructs. Reliability of the measurement scales was checked and Cronbach's alpha was found at a minimum of 0.7 for each separate construct. To assess the scale reliability, the most popular method is the internal consistency. For assessing the quality of scale, Churchill *(1979)* advocates the application of Cronbach's alpha (α). Cronbach's alpha (α) shows how well different items on the scale (that measure the similar constructs) yield the same results. Cronbach's alpha (α) with a low score highlights the non-similarity of some of the items, which therefore must be deleted prior to proceeding further. No absolute guideline exists regarding an acceptable level of Cronbach's alpha; however, for basic research, Nunnally and Bernstein *(1994)* suggested the reliability range of 0.5 - 0.6, whereas, Anderson and Gerbing *(1988)* suggested the value should be at 0.7 or above. The

reliability analysis performed for this research remained at 0.7 and above. For this research, all the data were within acceptable ranges.

5.2. Descriptive Statistics

The descriptive statistics are provided in Table 1.

Table 1.

Descriptive Statistics

Variable	Mean	SD	Skewness	Kurtosis	Cronbach's α	Items
Transformational leadership	4.1741	1.09891	−0.291	−0.176	0.890	4
Project success	4.1572	0.67138	0.216	1.459	0.945	9
Emotional intelligence						
Self-management	4.1338	1.30296	−0.438	−0.511	0.817	3
Self-awareness	4.1128	1.21617	−0.148	−0.658	0.841	6
Social awareness	3.9757	1.40253	−0.040	−0.655	0.931	3
Relationship management	4.1546	1.02946	−0.279	0.581	0.892	6
Project managers' competencies						
Communication	4.4778	1.04910	−0.669	0.490	0.791	3
Team work	4.0924	1.07946	−0.761	0.800	0.894	5
Attentiveness	4.2477	1.12875	−0.350	−0.370	0.848	5
Managing conflict	4.2906	1.18521	−0.503	−0.372	0.915	8

The indexes in the table showed the consistency among the items and high awareness of managers about the empathy; managing conflicts; productive communication etc. Hence, the resultant scales for all variables showed acceptable reliability, and items of respective scales can be averaged to calculate their composites. Moreover, kurtosis and skewness were also within range; therefore, the data are fairly normal.

5.3. Construct Validity

To test the construct validity of the variables in this study, exploratory factor analysis was carried out using principal components. Factor analysis with Varimax rotation determined the grouping of the emotional intelligence construct. As a result, 18 items of the emotional intelligence construct were classified into four factors: selfawareness, self-management, social awareness, and relationship management. Similarly, factor analysis was employed to group 20 items of project managers' competency constructs. The four factors categorized are communication, teamwork, attentiveness, and managing conflict. Factor analysis was used to group 10 items of the transformational leadership construct. The four factors categorized are: idealized influence, inspirational motivation, intellectual stimulation, and individual consideration. Additionally, three factors that determine project success - the iron triangle, stakeholder satisfaction, and project scope - could not be loaded and nine items loaded directly on the construct itself.

5.4. Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) was employed to confirm the measurement model. By performing several trials, which excluded some items, all scales met the recommended levels. Furthermore, the composite reliability of all constructs was above the 0.7 level, as suggested by Hair et al. *(2006)*, showing sufficient reliability for each construct. Construct validity is used to measure the validity of dimensions *(Cavana, Delahaye, Sekaran, 2001)*, and factor analysis was utilized to measure the validity of the constructs. Results from the principle components analysis and the Varimax procedure showed that the Eigenvalues for all the constructs are greater than 1. Factor loadings for all constructs were above 0.50. All the related items that measure the particular construct are loaded together with the value of factor loading above 0.5. Thus, it can be concluded

that the measurement scales have a higher degree of convergent validity. The result of discriminant validity indicates that items were not cross loading, and supported respective constructs as whole items were allocated according to the different constructs.

5.5. Correlation

Table 2 shows the bivariate correlations among the observed variables. The project success, emotional intelligence, transformational leadership, and project managers' competencies demonstrated positive weak to positive moderate relationships among them.

Table 2.

Bivariate correlation

	1	2	3	4	5	6	7	8	9	10
1. Transformational leadership	1									
2. Project success	0.411**	1								
3. Self-management	0.071	0.031	1							
4. Self-awareness	0.193**	0.192**	0.514**	1						
5. Social awareness	0.138*	0.061	0.554**	0.304**	1					
6. Relationship management	0.192**	0.244**	0.501**	0.634**	0.403**	1				
7. Communication	0.180**	0.314**	0.062	0.254**	0.014	0.221**	1			
8. Team work	0.245**	0.261**	0.212**	0.354**	0.150**	0.349**	0.594**	1		
9. Attentiveness	0.019	0.199**	0.208**	0.187**	0.084	0.253**	0.517**	0.510**	1	
10. Managers' conflict	0.164**	0.214**	0.323**	0.195**	0.170**	0.199**	0.537**	0.518**	0.502**	1

**. Correlation is significant at the 0.01 level.
*. Correlation is significant at the 0.05 level.
N = 345

5.6. Regression

The adjusted R square (0.519) shows the fitness of the model (Table 3).

The F value shows (56.081) that hypotheses are accepted, because the T value is greater than 2 (H1 = 5.141) (H2 = 3.528) (H3 = 5.755).

$$Project\ success = \beta_0 + 0.285EI + 0.192PMC + 0.27TL + € \qquad (2)$$

Emotional intelligence, Project managers' competencies, Transformational leadership were found to be significantly positively correlated with project success. As compared with emotional intelligence, Project managers' competencies have less impact on project success; however, it is in line with the study by Clarke *(2010)*. This study found that project managers who possess a positive attitude and optimism about success, remain attentive toward all stakeholders, and respond to the expectations and concerns raised by them, are more successful than their counterparts. As for the Transformational leadership, the results are in line with all previous studies by Gardner and Stough *(2002)* and Avolio and Yammarino *(2013)*. Transformational project managers provide vision and are a source of inspiration for coworkers, and articulate shared goals and mutual understanding of what is right and important for success of the project. They build trust among their colleagues and coworkers and thus promote an enthusiastic team ready to meet the project's challenges.

Table 3.

Model summary

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Standard Error of the Estimate**
1	0.675[a]	0.524	0.519	0.55181

[a]. Predictors: (Constant), transformational leadership, project management competency, and emotional intelligence

ANOVA[a]						
Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Significance Level**
1	Regression	51.228	3	17.076	56.081	0.000[b]
	Residual	103.831	341	0.304		
	Total	155.058	344			

[a]. Dependent variable: Project success
[b]. Predictors: (Constant), transformational leadership, project management competency, and emotional intelligence

Model	**Beta**	**T**	**Sig.**
Emotional intelligence	0.285	5.141	0.000
Project management competencies	0.192	3.528	0.000
Transformational leadership	0.270	5.755	0.000

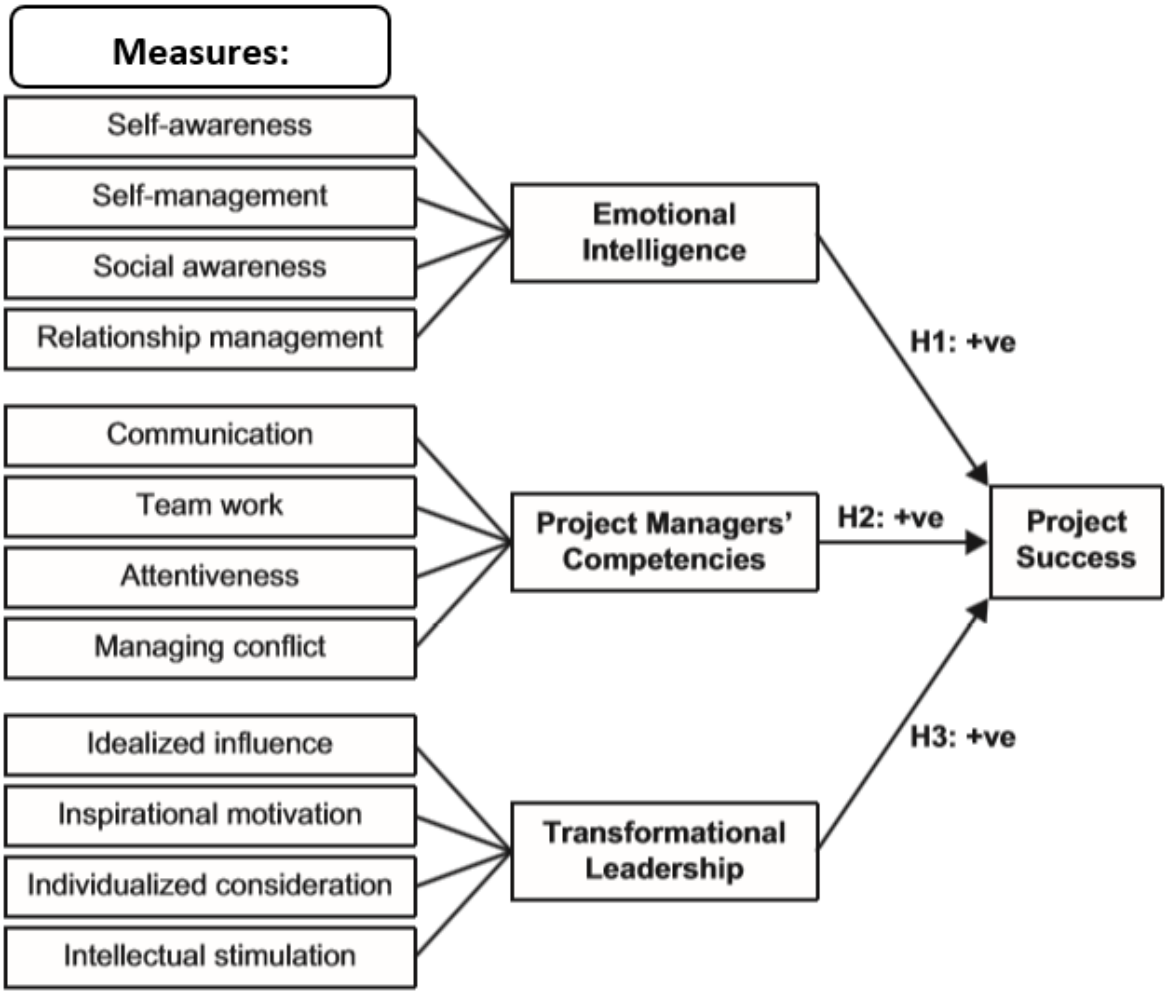
[a]. Dependent variable: Project success

6. Conclusion of the Study

The findings lead to reporting a strong understanding about the association of emotional intelligence, project managers' competencies, and transformational leadership style with the success of the project. Construction project managers with a high emotional quotient, bestowed with transformational leadership behavior, and blessed with competencies such as communication skills, team work, attentiveness toward others, and conflict management skills, are expected to contribute more to the success of projects than their counterparts. However, this does not undermine the importance of hardcore managerial skills and cognitive intelligence (IQ). Thus, independent variables in this study can be termed as indicators of enhanced performance by construction project managers in addition to hardcore managerial skills and cognitive abilities. Success, not only in projects but the organization itself can be multiplied manifold through emotionally intelligent project managers who possess the required competencies and exhibit transformational leadership behavior.

Appendix A.

Impact of Emotional Intelligence, Project Managers' Competencies, and Transformational Leadership on Project Success (Research model)



Вопросы для размышления

1. Сформулируйте научную проблему и цель исследования. На Ваш взгляд, обоснованно ли выдвинуты гипотезы исследования? Прокомментируйте свое отношение к ним.

2. Опишите выбранную автором методологию исследования. Какие переменные были выбраны в качестве независимых переменных? Что явилось зависимой переменной в модели исследования? Подтвердились ли поставленные авторами гипотезы? Обоснуйте доказательство гипотез: почему они были подтверждены или опровергнуты.

3. С помощью каких инструментов математической статистики было проведено исследование? Прокомментируйте роль и суть отдельных показателей – R-квадрат, альфа Кронбаха, F-квадрат, уровень значимости и другие показатели, описанные в таблицах задания.

4. Используя результаты исследования, прокомментируйте как независимые переменные влияют на зависимую (если влияют). Через какие конструкты измеряются независимые переменные?

5. Прокомментируйте роль «мягких» (soft) факторов в достижении успешности проекта, опираясь на результаты проведенного исследования.

6. По Вашему мнению, как можно использовать полученные результаты исследования в практике управления проектами? Приведите пример.