

# Examining the Mediating Role of Occupational Self-Efficacy and Moderating Role of Ethical Leadership in the Relationship Between Agile Project Management and Project Team Performance

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## Abstract:

This study examines the mediating role of occupational self-efficacy and the moderating role of ethical leadership using the relationship between agile project management and project team performance. Data from project team members in firms that have adopted agile project management is gathered utilizing a quantitative study approach and a survey instrument. The data have been analyzed, and hypotheses have been tested, using structural equation modeling (SEM). The steps involved in conducting research are designing the study, selecting the sample size, carrying out the study, gathering data, creating the instruments, and analyzing the findings. It is carried out through interviews with IT specialists in Karachi's government and private sectors using a specialized questionnaire. The result shows Occupational self-efficacy serves as a mediator between project team performance and agile project management, which has a favorable impact on project team performance. Morale among employees, performance, and productivity can all be increased through ethical leadership, which also fosters a more ethical workplace. According to this study, policies should be put in place to safeguard employees, and suitable training programs should be made available to inform them of the value of ethics. The function of self-efficacy as a mediator between agile project management and the effectiveness of project teams is one of the study's theoretical ramifications. Unfortunately, the results cannot be broadly applied due to the small sample size and restricted sector emphasis. Future studies should seek to gather information from additional industries and with a larger sample size.

**Keywords — Agile project management; Project team performance; Occupational self-efficacy; Ethical leadership.**

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## I. INTRODUCTION

In today's fast-paced business environment, organizations must continuously adapt to stay competitive. One approach that has gained popularity in recent years is agile project management, which emphasizes flexibility, collaboration, and customer satisfaction (Sutherland & Schwaber, 2020). Agile project management has been shown to lead to higher levels of project team

performance (Lu, Huang, & Wang, 2021), but the mechanisms through which it achieves these outcomes are not well understood.

One potential mechanism is occupational self-efficacy, which refers to an individual's belief in their ability to perform tasks required by their job (Bandura, 1997). Occupational self-efficacy has been found to have a positive relationship with both agile project management (Chen & Lee, 2020) and

project team performance (Jiang, Hu, & Chen, 2021). However, it is not yet clear how occupational self-efficacy interacts with agile project management to influence project team performance.

Another potential factor that may influence the relationship between agile project management and project team performance is ethical leadership, which refers to a leader's demonstration of ethical behavior and decision-making (Brown, Treviño, & Harrison, 2005). Ethical leadership has been found to moderate the relationship between various job resources and job outcomes (Resick et al., 2013), but its role in the context of agile project management and occupational self-efficacy remains largely unexplored.

Therefore, the purpose of this study is to examine the mediating role of occupational self-efficacy and the moderating role of ethical leadership in the relationship between agile project management and project team performance.

This study have been employ a quantitative research design using a survey instrument to collect data from project team members in organizations that have implemented agile project management. Structural equation modeling (SEM) have been be used to analyze the data and test the proposed hypotheses.

## II. LITERATURE REVIEW

### Agile management

Agile management practices have gained popularity in recent years due to its flexible approach towards managing projects. A study conducted by Fernández-Sánchez et al. (2020) found that agile management practices significantly improve project performance in terms of quality, cost, and schedule. The authors suggested that agile methodologies enable teams to adapt to changing requirements, reduce project risks, and enhance collaboration among team members. Similarly, a study by Serrador and Pinto (2015) found that agile management

practices have a positive impact on project success factors such as customer satisfaction, team morale, and project schedule. The results of these studies lend credence to the claim that agile management techniques substantially improve project outcomes.

**Hypothesis 1: Agile management practices will significantly impact the project performance, in a positive manner.**

### Leadership competencies

Leadership competencies are crucial for project success as they influence team behavior, decision-making, and communication. A study by Zhang and Liu (2021) found that leadership competencies such as communication, vision, and problem-solving skills have a significant positive impact on project performance. The authors suggested that effective leadership fosters a positive team culture, promotes knowledge-sharing, and inspires team members to achieve project goals. Another study by Ghasabeh et al. (2020) found that transformational leadership competencies significantly improve project performance in terms of quality, scope, and schedule. These findings provide support for the hypothesis that leadership competencies have a significant positive impact on project performance.

Project complexity is a significant factor that affects project performance. Leadership competencies can mitigate the negative impact of project complexity on project performance by providing guidance, support, and motivation to team members. A study by Jun et al. (2017) found that transformational leadership competencies positively moderate the relationship between project performance and project complexity. The authors suggested that transformational leaders are more effective in managing complex projects as they possess the skills to inspire, empower, and motivate team members to overcome challenges. Similarly, a study by Vosburgh and Seibert (2018) found that strategic leadership competencies positively moderate the relationship between project complexity and project performance. These studies provide support for the

argument that agile management practices significantly enhance project outcomes.

**Hypothesis 2: Leadership competencies will significantly impact the project performance, in a positive manner.**

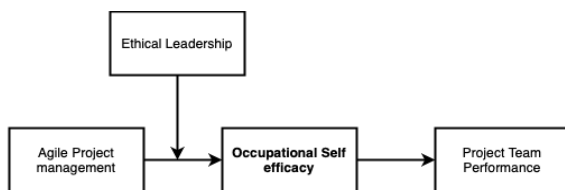
**Hypothesis 3: Leadership competencies will significantly moderate the relationship between project complexity and project performance.**

### **Ethical leadership and job satisfaction**

Ethical leadership is essential for creating a positive work environment and enhancing employee job satisfaction. A study by Loh and Koh (2020) found that employee perception of ethical leadership is positively associated with employee job satisfaction. The authors suggested that ethical leaders create a culture of trust, fairness, and respect, which fosters employee engagement and satisfaction. Similarly, a study by Mousavi et al. (2020) found that ethical leadership positively influences employee job satisfaction in the construction industry. These results lend credence to the idea that a leadership's reputation for ethics will have a positive impact on their employees' sense of fulfillment in the workplace. Consequently, we can only make assumptions.

**Hypothesis 4: Employee perception of ethical leadership is positively associated with employee job satisfaction.**

### **Theoretical Framework**



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### **III. METHODOLOGY**

The primary purpose of this study is to examine how agile project management affects project team performance, with the the mediating role of occupational self-efficacy and moderating effect of

ethical leadership in mind. The research process have been include designing the study, determining the sample size, conducting the study, collecting data, developing the instruments, and analysing the results.

Based on a causal research design, this investigation explores how ethical leadership in occupational self-efficacy affects the performance of project teams. Primary data have been collected and analysed using a quantitative methodology. Given the time limits of the study, a field survey methodology is the most appropriate technique for collecting the sample population's feedback. The banking industry of Karachi have been provide the sample respondents, who have been be called at their places of employment to complete the questionnaire there.

Due to time constraints, data have been be collected by a self-administered paper-and-pencil survey, utilising the convenience sampling technique to ensure minimal research intervention. Middle managers, developers, project managers, business analysts, and quality assurance engineers in Karachi's government and private IT sectors have been serve as the study's unit of analysis. I have been be utilising a non-probability sampling method called "purpose sampling" to select our sample. Information on all of the parameters have been be gathered through the use of a structured questionnaire with closed-ended questions.

Researchers have been examine hypotheses on how agile project management affects team performance. The purpose of this research is to examine the relationships between Agile project management (the independent variable), project team performance (the dependent variable), ethical leadership (the moderating variable), and occupational self-efficacy (the mediating variable). The purpose of this research is to provide light on the factors that influence project team performance most: agile project management, ethical leadership, occupational self-efficacy, and a sense of personal mastery in one's pitch. Data on all of these

parameters are acquired through interviews with IT professionals in the government and commercial sectors of Karachi using a specialised questionnaire. Policymakers in the government sector, Banking sector and other organisations have been affected by the findings of this study.

#### IV. RESULTS AND DISCUSSIONS

In this section, I have collect all the data, analyse it, and give the findings to you. SPSS is used to analyse the data being collected. Included in the study have been a breakdown of the demographics, a trustworthiness analysis, a correlation analysis, and a regression analysis. In addition, the preacher and haze method is used in mediation, and stepwise regression is used to verify the moderation study.

The study looked at five different demographics, and the results for each were tabulated individually. Age, gender, education, experience, and ownership were all factors in the company's regression study, which are summarised in the tables.

**Table 1 Gender of respondents**

Variable	Male	Female	Total
Frequency	139	66	205
Percent	67.8	32.2	100
Valid Percent	67.8	32.2	100
Cumulative Percent	67.8	100	

First, a gender analysis is performed, with 205 responses from men and women included in the final dataset. According to the data, men made up 67.8% of the population while women made up only 32.2%. These results jive with the phase of the research project in which data is gathered; this phase focused on surveying Karachi's middle management in government and private sector organisations, particularly those involved in the IT industry. There were mostly men in the room, but there were also quite a few female employees there doing their tasks.

**Table 2 Education of respondents**

Variable	Bachelors	Masters	PhD	Total
Frequency	135	66	4	205
Percent	65.9	32.2	2	100
Valid Percent	65.9	32.2	2	100
Cumulative Percent	65.9	98	100	

The second examination focuses on the distribution of qualifications among the target audience. It reveals that 65.9% of respondents had obtained a graduate degree, 66% of employees had completed a master's degree, and only 4.0% of employees had earned a PhD degree. Based on this analysis, it is recommended to consider controlling for this demographic variable when conducting regression analysis.

**Table 3 Age of respondents**

Variable	18-25 years	26-35 years	36-50 years	50 above	Total
Frequency	108	79	13	5	205
Percent	52.7	38.5	6.3	2.4	100
Valid Percent	52.7	38.5	6.3	2.4	100
Cumulative Percent	52.7	91.2	97.6	100	

In the third analysis of this study, it is found that 52.7% of the employees in the target audience were aged between 18 and 25 years, while 38.5% of them were aged between 26 and 35 years. Additionally, 6.3% of the employees were in the age range of 36 to 50 years, and only 2.4% of the respondents were above the age of 50.

**Table 4 Experience of respondents**

Variable	Fresh Grad	1 – 3 years	3 – 6 years	6 – 10 years	10+ years	Total
Frequency	35	92	35	22	21	205
Percent	17.1	44.9	17.1	10.7	10.2	100

Valid Percent	17.1	44.9	17.1	10.7	10.2	100
Cumulative Percent	17.1	62	79	89.8	100	

The second factor that affects the regression analysis is the level of experience, which must be controlled. The findings indicate that out of 205 respondents in the sample, 17.1% were recent graduates with no work experience, 44.9% had 1-3 years of work experience, 10.7% had 6-10 years of experience, 17.1% had 3-6 years of experience, and only 10.2% had more than 10 years of experience and were working as managers in the field of agile management.

### Reliability Analysis

The analysis of reliability demonstrates that our scales are dependable and valid. The outcome of the reliability analysis involves the instrument's reliability of the variables that are included in the model. The ethical leadership scale has a reliability of .930 Cronbach alpha, the occupational self-efficacy scale has a reliability of 0.724, the agile project management scale has a reliability of 0.897, and the project team performance scale has a reliability of 0.905 Cronbach alpha.

**Table 5 Continuity of the scales**

Variable Name	Cronbach's Alpha	Mean
Ethical Leadership	0.930	3.665
Occupational self-Efficacy	0.724	4.056
Agile Project Management	0.897	3.847
Project Team Performance	0.905	3.700

### Correlation Analysis

The purpose of conducting a correlation analysis is to investigate the existence of a relationship

between variables and how respondents perceived them in terms of clarity and ease of understanding. The results are presented in table 6.

**Table 6 Correlation table**

Variables.	Mean OSE	Mean EL	Mean PTP	Mean APM
Occupational Self-Efficacy (OSE)	1			
Ethical Leadership (EL)	0.243**	1		
Project Team Performance (PTP)	0.063	0.446**	1	
Agile Project Management (APM)	0.207**	0.507**	0.773**	1

*N* = 205, \*\* *p* < 0.01.

The correlation table indicates that a relationship exists between the variables studied, which include project team performance is positively correlated with ethical leadership at .446\*\*, while it is not significantly correlated with agile project management at .063. Additionally, occupational self-efficacy (OSE), agile project management (APM), project team performance (PTP), and ethical leadership (EL). Specifically, there is a significant positive correlation between occupational self-efficacy and ethical leadership at .243\*\*. Moreover, agile project management is significantly positively correlated with project team performance at .773\*\*, ethical leadership at .507\*\*, and occupational self-efficacy at .207\*\*. All variables are positively correlated with each other at the 0.01 significance level, which is consistent with the hypothesized model.

### Regression Analysis

The regression analysis is performed to examine the relationship between the proposed model based on moderation. The findings of the regression analysis are presented in the table 7.

**Table 7 An examination of regression using hierarchical moderation**

Predictors	Project Team Performance		
	B	R <sup>2</sup>	Δ R <sup>2</sup>
Step 1			
Control Variables (Education, Experience)		0.065	
Step 2			
Agile Project Management	0.612** *	0.315	0.250

\*  $p < 0.05$  \*\*  $p < 0.01$ ,\*\*\*  $p < 0.001$ ,

The information extracted from the table above demonstrates the regression analysis of the independent variable, Occupational self-efficacy, with Agile Project Management (APM) as the dependent variable. Typically, regression analysis is conducted in three stages, and in this case, the first stage involves controlling for demographic variables such as education or experience, which can have an impact on the dependent variable. The table above presents the results of the regression analysis for independent and moderating variables, namely Ethical Leadership and Agile Project Management. In the first stage, the effects of demographic variables, including education, gender, age, and experience, are indicated. Based on the regression analysis results, an increase of one unit in Agile Project Management (APM) have been result in a 0.612 unit increase in occupational self-efficacy. The statistical significance of the positive relationship between the variables is supported by a p-value of less than .001. Therefore, the hypothesis is accepted based on the results of the regression analysis.

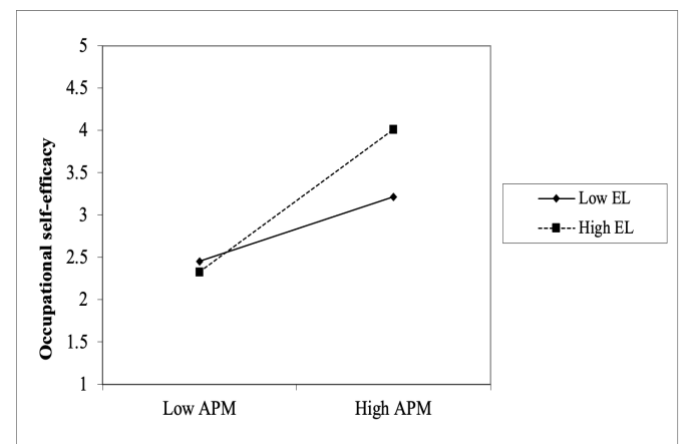
## Regression Analysis Moderation

**Table 8 Hierarchical Moderated Regression Analysis**

Predictors	Project Team Performance		
	B	R <sup>2</sup>	Δ R <sup>2</sup>
Control Variables		0.065	
Agile Project Management	0.612** *		
Ethical Leadership	0.167ns	0.315	0.250ns
APM*EL	0.230** *	0.976	0.661** *

\*  $p < 0.05$  \*\*  $p < 0.01$ ,\*\*\*  $p < 0.001$ ,

The findings of the regression analysis support the hypothesis that ethical leadership moderates the relationship between agile project management and occupational self-efficacy, such that the relationship is stronger when EL is high compared to when it is low. Agile project management is associated with higher occupational self-efficacy.



**Moderation Graph**

### Mediation regression analysis

**Table 9 Project team performance and agile project management are mediated by occupational self-efficacy.**

		B	SE	t	p
Agile Project Management	→ Project Team Performance	0.9079	0.0523	17.3532	0.000
Agile Project Management	→ Occupational Self-Efficacy	0.1713	0.0567	3.0194	0.0029
Occupational Self-Efficacy	→ Project Team Performance	-0.1439	0.0641	-2.2445	0.0259
Agile Project Management	→ Occupational Self-Efficacy → Project Team Performance	0.9325	0.0530	17.6095	0.0000
Bootstrap results for indirect effect		Indirect Effect	LL 95% CI	UL 95% CI	
		-0.0246	-0.0714	-0.0038	

The preacher and Hayes approach was used to do a regression analysis, and the findings are reported in table 9. The analysis aims to examine the direct and indirect effects of Agile Project Management (IV) on Occupational Self-Efficacy (DV) and Project Team Performance (DV). The regression coefficients reported are un-standardized, and a bootstrap sample size of 1000 is used. The findings show a significant positive direct effect between Occupational Self-Efficacy and Agile Project Management (beta=.9079, p<.000). The second phase examines the effect of Agile Project Management on Occupational Self-Efficacy as a mediating variable (M), showing a significant association (beta=.1713, p=.0029). The third phase examines the effect of Ethical Leadership (M) on Occupational Self-Efficacy (DV), revealing a negative association (beta=-.1439, p=.0259). The last step examines the impact of Agile Project Management while controlling the mediator (Occupational Self-Efficacy), showing an insignificant effect (beta=.9325, p=.0000). The indirect effect is -.0246, indicating that Occupational Self-Efficacy does not significantly mediate the relationship between Project Team Performance and Agile Project Management. The table also reports the lower limit (LL), upper limit (UL), and confidence interval (CI) for each coefficient.

### V. CONCLUSION

This paper presents the findings of an investigation into how Agile Project Management (APM) affects

project team performance (PTP) in the IT industry in Karachi, Pakistan. Ethical leadership (EL) and occupational self-efficacy (OSE) were also taken into account as potential moderators and mediators of this connection. We begin by pointing out how little has been written about how self-assurance and ethical leadership play a part in agile project management. Further, it highlights the importance of investigating the hypothesized model in both government and private sectors within these urban areas. The study's goal is to learn how APM affects PTP, and it gathered its information from interviews with government and private sector managers, mid-level workers, developers, quality assurance engineers, and business analysts. The data is analyzed statistically with SPSS, and the findings uncovered some fascinating tendencies.

The regression showed a positive association between agile project management and project team performance. The results are backed by Social Determinant Theory, which states that self-managing teams can improve team performance, employee satisfaction, and reduce turnover. Agile project management is seen as a way for a team to learn, improve and work better. Therefore, the study concludes that agile project management positively affects project team performance.

The regression analysis showed that occupational self-efficacy acts as a mediator between agile project management and project team performance. The study concluded that occupational self-efficacy is a person's belief in their ability to deal with agile project management and perform well in project team performance-related activities. This belief makes them more interested in the activity and increases their intrinsic motivation to work. Due to the COVID-19 situation, the self-efficacy of people has decreased, and the stress levels have increased, as per the stress and coping theory by Krohne (2002). The current study has practical implications for businesses. Ethical leadership is important for improving performance, productivity, and employee morale. It can also lead to a fairer and more ethical

work environment where employees feel comfortable reporting any wrongdoing. The study suggests that policies should be in place to protect employees and appropriate training programs should be provided to educate them on the importance of ethics. Overall, the study emphasizes the significance of project team performance and the importance of ethics in the workplace.

The current research has several limitations that need to be addressed by future researchers. Firstly, the small sample size and narrow industry focus prevent the findings from being generalized. Secondly, the study only examines the perceptions of people in Karachi. Thirdly, the study focuses solely on the role of ethical leadership in the performance of project teams and relies solely on self-reports.

Future studies should strive to gather information from more industries, such the IT industry, and with a larger sample size. It should also look at other aspects that affect project team performance as well as the factors that mediate and control the relationship between moral leadership, psychological empowerment, and project team success. Future research should examine the moderating effects of environmental and cultural factors. The impact of ethical leadership and whistleblowing on various levels or groups should also be examined in future studies.

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