



Executive Summary

An Integrated Analysis of Ethical Leadership, Trust, and Project Methods and Tools on Project Management Success Outcomes: A System Theory Approach

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List of Abbreviations

AB&I	Ability, benevolence, and integrity (the elements of an individual's character that are evaluated by others when determining whether to trust them)
CSF	Critical success factor
EL	Ethical leadership (an independent variable used in this research)
PerceivedProjMS	An individual's assessment of a project's level of success and the dependent variable and definition of project success examined in this research.
PMMT	Project management methods, tools, and frameworks (an independent variable used in this research)
ProjMS	Project management success (measured by determining whether a project meets three criteria: completed on-time, completed on-budget, and completed within-scope [quality]).
SLT	Social learning theory

Executive Summary

This study explored the impact of trust, EL, team cooperation, and use of PMMT on PerceivedProjMS (as evaluated by those involved in project-based organizations). The study responded to calls (Sgard, 2008) within the project management literature to advance beyond theoretical examinations of the factors that may influence project outcomes. This study responded with an empirical exploration of those factors and their collective impact on PerceivedProjMS. It extended prior work (Marques et al., 2013) that established a theoretical examination for systematic exploration of project management outcomes and its associated influences. This examination took a system theory viewpoint, considering not just one factor's potential influence, but joining all potential factors together to illuminate their intersectionality.

For project management practitioners, this research makes the case for organizational investment to improve ratios of ProjMS and overall project success: empowering project teams with the necessary accelerators to execute the assigned project. While closely monitoring efforts to achieve ProjMS, project leaders must be sure to maintain the project environment. This research has shown that the environment influences team performance, thus it must remain a priority. Furthermore, when there are budgetary constraints, project leaders must advocate for the procurement and training necessary for successful PMMT adoption and integration efforts. This is especially important as organizations embrace digital transformation.

This research identifies trust as an influential factor in team perceptions of ProjMS. As organizational diversity, virtuality, and complexity increase, OD leaders will need to continue challenging organizational leaders to create and sustain environments, cultures, and systems that promote high levels of confidence in role. This confidence can enable the vocalization of the needs required for effective operation and desired outcomes – this is one critical finding of this study. Furthermore, to increase or sustain high levels of intrateam trust, OD leaders should invest in and prioritize interventions to build trust and role clarity.

Key Conclusions for Executives, Leaders, and Project Practitioners

This study has exposed that PMMT-use, intrateam trust, trust in leader, and demonstrations of ethical leader behavior are the factors most likely to positively affect PerceivedProjMS. It also shows limited team cooperation influence on certain factor's impact on PerceivedProjMS. While team cooperation has no effect on the impact of PMMT-use or intrateam trust on PerceivedProjMS, it does have a limited effect on the impact of trust in leader and ethical leader behavior on PerceivedProjMS. Despite the inconclusive nature of the findings on the mediation hypotheses, it remains plausible that teamwork plays a role in influencing levels of intrateam trust. As trust is based on continuing demonstrations of individual and collective levels of normatively appropriate behavior, the correlations suggest a direct impact of teamwork behavior on productivity and commitment.

When project teams are tasked with delivering more complex solutions and outcomes, levels of teamwork may increase (Yang et al., 2011). Furthermore, an organization's focus on teamwork should not be abandoned in response to this study's conclusions. Teamwork plays an important role in driving task outcomes (Hoegl et al., 2003) – especially task and delivery activities requiring high levels of innovation by team members.

The results of this research have practical implications for organizations and project-delivery practices and teams. Project-delivery organizations and teams are a complex mix of people, processes, and technology. These elements converge to drive a project outcome. The findings of this research can inform where and how project organizations and delivery teams can focus and invest to drive improved project outcomes.

This research suggests that, as projects become part of the organizational fabric for implementing change and transformation, leaders and stakeholders should focus on implementing mechanisms to strengthen levels of cognitive, affective, and behavioral interactions with others. Such increases can promote trust – both within teams and across organizational hierarchies. Accordingly, organizations should also focus on the identification, procurement, and alignment of PMMT to support project governance and delivery.

The Problem

Projects drive organizations and businesses. The role of the individual contributor exists, but more and more, organizations are delivering change, value, and innovation through time-boxed, fixed-scope, efforts. This concretely aligns to the Project Management Institute's (PMI) definition of a project: "a temporary endeavor undertaken to create a unique product, service or result" (PMI, 2008, p. 5).

This research was undertaken because as projects rise and continue, project success continues to be (largely) elusive. Project failure can be costly. Numerous notable and costly project failures have been documented. One Korean transit construction project took five more years than planned to complete and ballooned in cost from \$5.8 to \$18.4 billion (Han et al., 2009). Software development projects have spun out of control, leaving clients without the desired functionality and leading to legal action and heavy court settlements (Davis, 2019; Hill, 2018; MacDonald, 1998; U. S. District Court Southern District of New York, 2019). Enron (considered one of the largest financial and ethical scandals and failures of the modern era) and other financial audit engagements have left hired agents taxed with heavy fines, subject to governmental and regulatory intervention and professional decertification (Jones, 2019; Supreme Court of the United States, 2005; US Securities and Exchange Commission, 2017). The Boeing 737 Max airplane crashes and resulting investigation revealed that project failure can even result in death (The House Committee on Transportation & Infrastructure, 2020). These represent but a few examples of the heavy costs of project failure.

Projects are wasteful, unsuccessful, & dangerous



- Less than half of projects complete on-time or within budget expectations (Barlow et al., 2017; Chaos Report 2015, 2015)
- Only 56 percent of projects finish according to quality expectations (Chaos Report 2015, 2015)
- 9.9% of every wasted dollar is attributed to poor project performance (Success in Disruptive Times: Expanding the Value Delivery Landscape to Address the High Cost of Low Performance, 2018)
- Project failure is often attributed to subpar project management (Rymen et al., 2018)

Research Introduction

Multiple systemic factors are both influenced by and positively influence project outcomes. Previous studies, however, have failed to holistically assess these influences. Furthermore, these previous studies have been conceptual and non-empirical.

The present work addressed this omission concerning systematic impacts on perceived project management success (PerceivedProjMS), investigating how levels of trust (both intrateam and trust in leader), ethical leader behavior, the use of project accelerators (tools, methods, frameworks), and team cooperation can influence PerceivedProjMS. This study combined six survey instruments (five existing and one developed for this work). A survey was disseminated to project and program leaders, team leads, and team members ($N = 139$) to identify the potential influence of team cooperation, intrateam trust, trust in leader, ethical leadership, and the use of project management methods, tools, and frameworks (PMMT) on PerceivedProjMS. Cronbach's alpha was used for statistical validation (PilotStudy $\alpha = .82$; FinalStudy $\alpha = .78$)¹.

¹ α is Cronbach's Alpha. This is a common statistical measure used to evaluate the overall reliability coefficient of a research instrument.

A multiple linear regression analysis was conducted to analyze the survey data. The results show that PMMT-use, trust (intrateam and leader), and demonstrations of ethical leader behavior all positively affect PerceivedProjMS. This suggests that as projects become part of the organizational fabric for implementing change and transformation, leaders and constituents should implement mechanisms to strengthen positive demonstrations of cognitive, affective, and behaviors with others. Such increases can lead to improved intrateam trust, thus strengthening PerceivedProjMS.

The Importance of this Research

Project failure must be minimized to enhance the organizational and societal benefits and outcomes.

The complex nature of modern projects leads to several (potential) points of failure. Previous research, however, has failed to examine the potential and collective impacts on ProjMS. The current research explores the potential relationships between teamwork and five such influences (namely, Project Management Methods, Tools, and Frameworks (PMMT), intrateam trust, team cooperation, trust in leader, and EL).

Theoretical/Conceptual Framework

Conceptual model lacks defined measures and empirical validation

I.C.E. Framework

- Influences (I)
- Characteristics (C)
- Evaluations (E)



Research Gap & Study Relevance



- Conceptual models & theory exist but lacks validation of measures
- Existing measures fail to incorporate and understand other potential influences on project management success
- No empirically, or statistically validated framework for evaluating trust, ethical leadership, team cooperation, and PMMT impact on PerceivedProjMS
- Responds to explicit calls in the project management literature to advance ethical leadership within the domain

Research Questions & Hypotheses

The central research question is as follows: *to what extent do trust, ethical leadership, and the use of project management methods, tools, and frameworks influence perceived project management success?* To respond to this question and contribute to the existing body of literature, this dissertation tested the following hypotheses:

Hypothesis 1: Use of project management methods, tools, and frameworks positively affects perceived project management success.

Hypothesis 2: High levels of intrateam trust positively influence perceived project management success.

Hypothesis 3: High levels of trust in the leader positively influence perceived project management success.

Hypothesis 4: Positive perceptions of ethical leadership behavior positively influence perceived project management success.

Hypothesis 5: Team cooperation mediates perceived project management success.

5a: The impact of project management methods, tools, and frameworks on perceived project management success is mediated by team cooperation.

5b: The impact of intrateam trust on perceived project management success is mediated by team cooperation.

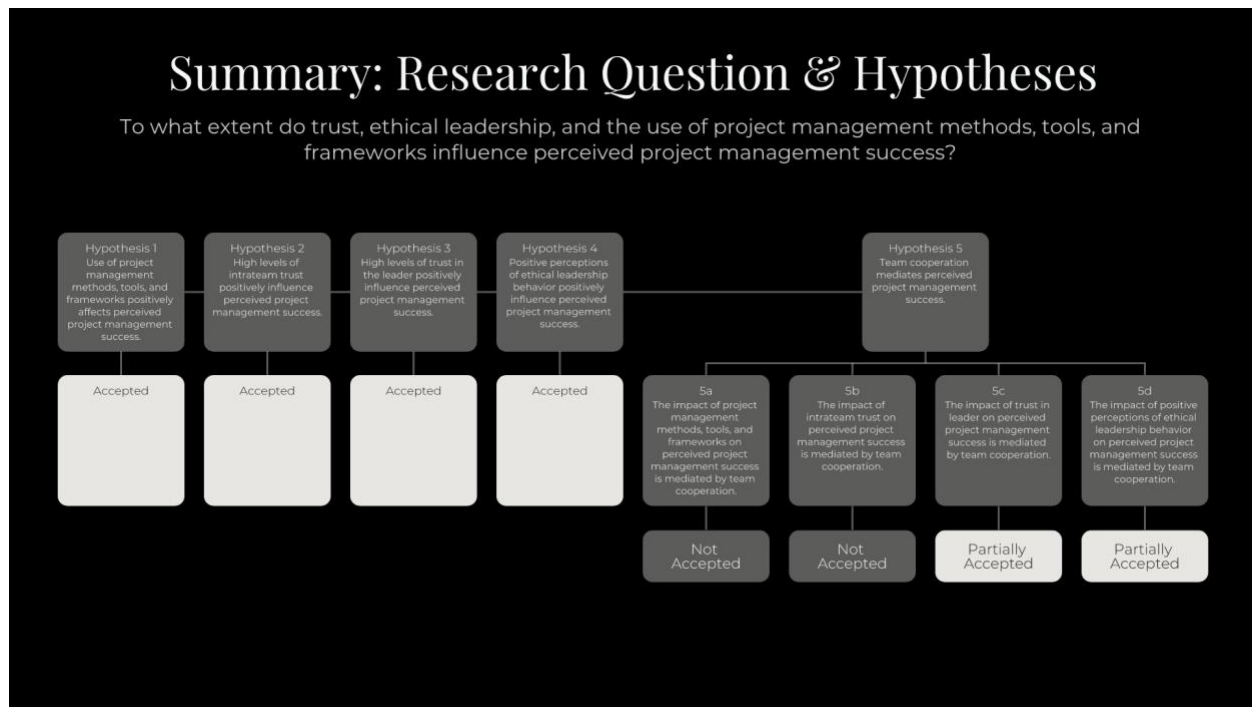
5c: The impact of trust in leader on perceived project management success is mediated by team cooperation.

5d: The impact of positive perceptions of ethical leadership behavior on perceived project management success is mediated by team cooperation.

Conclusion

The study's findings offer limited support for the proposed hypotheses. FIGURE ## provides a summary of the research hypotheses. Hypotheses 1, 2, 3, and 4 are accepted. Hypotheses 5 is partially supported: hypotheses 5a and 5b are rejected; and hypotheses 5c and 5d are partially accepted. A more detailed review of the findings is provided following the tabular summary.

These findings offer insights for project sponsors, organizational leaders, and project management organizations (PMOs).



Hypothesis 1

Hypothesis 1: Use of project management methods, tools, and frameworks positively affects perceived project management success. This hypothesis is accepted. The author argues that PMMT adoption is linked to levels of intrateam trust that are expected and formed as individuals align themselves to team. Effective tool-use demonstrates a high level of ability and cognition, as well as the ability to meaningfully contribute to the team goals (Bani Ali et al., 2008). This, in turn, strengthens individual perceptions of trustworthiness; and as this perception (and the reality) spreads across the team, overall team belief and perceptions of success may increase.

Hypothesis 2

Hypothesis 2: High levels of intrateam trust positively influence perceived project management success. This hypothesis is accepted. Project teams exist to capitalize on the knowledge, skills, and experience of the delivery principals. Exploiting these assets yields project efficiency and productivity (Hu & Liden, 2015). Trust, therefore, becomes

a critical element for ensuring that these team members meet the time, budget, and quality requirements. This trust may be established and perceived differently by each team member – some may place more value on behavioral demonstrations, while others may resonate more with cognitive demonstrations. The key is that leaders and team members recognize that this interpersonal dynamic must exist and that higher levels of trust within the team can lead to increased productivity. Individual efforts alone are not sufficient to ensure project or organized outcomes (Shen & Chen, 2007). Trust is an accelerant to systems in which interdependence exists to achieve outcomes (Costa, 2003). Compared to leaders, teams may require more trust and greater dependency on other team members, due to the need for their specialized skills (Hollenbeck et al., 2012). Intra-team trust must exist in environments in which success is dependent on the collective efforts of more than one collaborator (Costa, 2003).

Hypothesis 3

Hypothesis 3: High levels of trust in the leader positively influence perceived project management success. This hypothesis is accepted. While H2 affirms the importance of trust within team interactions, the acceptance of this hypothesis shows the value and significance of trust at all organizational levels and hierarchies. The acceptance of this hypothesis highlights the universal need for trust. With their focus on delivering ProjMS, project leaders may neglect to focus on “soft skills” – the social and behavioral considerations known to influence cohesiveness and productivity (Adams & Anantamula, 2010). This research reinforces prior findings (Bennis & O’Toole, 2005) highlighting the importance of soft skills for achieving successful outcomes. This research evaluated the impact of trust in leader on PerceivedProjMS. In low-trust environments, team members may perceive the project leader as a “taskmaster,” singularly oriented on meeting financial, temporal, and operational metrics. This finding is especially valuable, as projects shift from traditional to more agile-oriented, team-directed engagements and delivery models. Within these emergent project orientations, leaders are challenged to focus not on plans, but rather on creating the organizational conditions for effective team performance (Найдис, 2020/2021) – trust in the leader is one such condition. In teams where interdependence is high, leaders may struggle to develop meaningful relationships in which trust can be established with project team

members (Wang & Hollenbeck, 2019). Trust behavior is theorized and conceptualized to be partially behavioral, where one's demonstration (or lack thereof) can affect risk response with another member of the team (Dirks, 1999). In cases where leaders are too focused on meeting quality, scope, and budget outcomes, team members may be less likely to trust them. This presents trust in leader as a potential moderator – rather than a direct influence – on team interdependence and productivity (Dirks & Ferrin, 2001). There may be links between levels of trust at the intrateam and leader levels. Trust transferability is the extension of trust across resource groups; in cases where trust in the leader is low, trust is adversely impacted and this can snowball across the entire team (Mach & Lvina, 2017).

Hypothesis 4

Hypothesis 4: Positive perceptions of ethical leadership behavior positively influence perceived project management success. This hypothesis is accepted. As theorized in this research, projects are ecosystems requiring orchestration by multiple parties and processes to meet the desired outcomes. This system requires a collective governance that is a direct function of a team's trustworthiness in the project leader (Müller et al., 2013). The author theorizes that the subjectivity in individual team member definitions of ethical behavior (i.e., normative, and appropriate behavior; Brown et al., 2005) varies greatly. Despite this variance, this research finding aligns with the conclusions of previous studies showing that individuals are more likely to demonstrate trust and positively contribute to organized systems, regardless of personal loss or gain, when they believe there is fair doctrine and practice (Kim & Mauborgne, 2003). Leader demonstrations of fairness when considering and navigating ethical challenges may be perceived as a form of vulnerability – a further demonstration of a soft skill. This disclosure and demonstration may be perceived positively, thereby increasing levels of psychological safety. This reinforces LMX (Ito & Bligh, 2016), previously researched and theorized as a means of facilitating productivity and task attainment (Chemers, 1997; Goh & Wasko, 2012).

Hypothesis 5

Hypothesis 5: Team cooperation mediates perceived project management success. Hypothesis 5 proposes team cooperation as a mediating influence required to allow other factors to positively influence PerceivedProjMS. The research failed to identify team

cooperation as a mediating factor of the four independent variables. This finding poses a challenge to role theory, which proposes that appropriate team member assumption of roles and demonstrations of appropriate role behavior stimulate teamwork. This is important, given subsequent findings showing the importance of intrateam trust (which is also stimulated by demonstrations of competence, leading to higher levels of trustworthiness).

One broad explanation for this finding could be team size. As projects become more complex, teams may expand in size. Furthermore, the Covid-19 pandemic may have increased the size of teams (which are now forced to operate virtually). The demands for collaboration have increased by 50% and now consume 85% of workers planned work time (expanding into earlier mornings and late-night efforts; Cross et al., 2021). Cooperation – coordination and communication – becomes increasingly complex as teams grow (Zia et al., 2018). Larger teams are less effective in their coordination, collaboration, planning, and execution (Hoegl, 2005). In larger, matrixed project teams (i.e., those with membership of larger than 5–10 members, which is recommended as ideal), role clarity diminishes and team members become reluctant to fully own their responsibilities (Zia et al., 2018). Known as “social loafing,” this phenomenon emerges when people work harder in coactive situations (alone, but in the presence of others), rather than in team situations, when there are more collective working needs (Williams & Karau, 1991). This lack of role clarity and both cognitive and psychological buy-in reduces the quality of the working conditions. Accordingly, project leaders and sponsors should either seek to reduce the scope of their initiatives or retain smaller, more focused teams for longer periods to optimize their working efforts and productivity.

The four hypotheses associated with this item are reviewed below:

Hypothesis 5a

Hypothesis 5a: The impact of project management methods, tools, and frameworks on perceived project management success is mediated by team cooperation.

This hypothesis is rejected. The extant literature tends to suggest that teams become productive entities when they capitalize on their collective capabilities and structure (Hu & Liden, 2015). This is largely attributed to effective

synchronization and alignment of the cognitive and behavioral capabilities of the individuals who comprise the team (Bushe & Coetzer, 2007). This assertion has roots in role theory (Biddle, 1979), which proposes that when team roles and appropriate behavior are demonstrated, this fosters and maximizes productivity and output. However, this current research findings contradict the existing literature. The temporary nature of project teams (Kerzner, 1987; Tyssen et al., 2013) and their timeboxed orientation may discourage the individual and collective desire to make the psychological and behavioral connections forecast by the literature. This may be manifest across the project team in the disruption of the team members' ability to strategize on and effectively adopt PMMT. Conversely, the short-term nature of project-based teams may lead to an increased focused on outcomes (ProjMS), rather than interpersonal dynamics. Specific to this hypothesis, the necessary accelerators (PMMT) may be deemed more important than relationships and team dynamics. This is evidenced in the support for hypothesis 1.

Hypothesis 5b

Hypothesis 5b: The impact of intrateam trust on perceived project management success is mediated by team cooperation. This hypothesis is rejected. Intrateam trust was explored as a mechanism influencing team climate and productivity (Whitener et al., 1998). Existing theory suggests that there is an inextricable link between people and processes during project execution (Cooke-Davies, 2002). This research, however, posits a differing view. The temporary nature of project teams may explain this finding. "Swift trust" is a unique form of trust behavior, embraced by temporary working groups that are often high risk, but which lack traditional organizational structure and boundaries and where traditional trust demonstrations and realizations may not be fully realized (Meyerson et al., 1996). Project teams frequently combine varying organizational participants from multiple agencies. This brings competing and contrasting trust dynamics, performance expectations, and interpersonal dynamics. Grouping individuals with such varied interests together, in a short-term environment in which pressure to execute is high, could inhibit the development of trust and interpersonal

dynamics. The structural design and organizational alignment of the team itself could be a limiting factor, and mutuality and supporting behaviors could falter outside of the traditional hierarchy (Erdem et al., 2003). Existing research asserts that 20–35% of successful collaborations are achieved by a maximum of 5% of the team (Cross et al., 2016). This inequitable work distribution creates productivity bottlenecks, where competent team members are overloaded and become blockers to the achievement of outcomes (Cross et al., 2016).


Hypothesis 5c

Hypothesis 5c: The impact of trust in leader on perceived project management success is mediated by team cooperation. This hypothesis is partially accepted. Leaders encourage team cooperation (Kloppenborg & Petrick, 1999) in the hope of promoting cooperation and improving productivity (Whitener et al., 1998). This research suggests, however, that the potential effects of leader trust on ProjMS are not fully mediated by team cooperation. This dissertation posited that, as levels of teamwork and team cooperation are heightened, teams may devote themselves more strongly to tasks associated with team goals and outcomes. The findings dispute this, suggesting that the phenomena may exist independently of one another. Project teams are often comprised of members of other business functions (or external agents), assembled for the purpose of delivering the project. Their teams are often cross-functional in nature and may not clearly subscribe to the existing organizational structure. This nuance and shift in organizational structure can affect levels of trust in the project team (Erdem et al., 2003). Trust is also an emergent state. This means that there is a consistent interplay of inputs and outputs that influence the level of trust within the team, ultimately influencing team output (Kiffin-Petersen, 2004). Accepting the emergent and individual nature of trust, this research finding supports the literature: for certain individuals in certain project teams, with certain leaders, levels of trust fluctuate, and this measure is likely to be inconsistent. This inconsistency may disrupt levels of cooperation, that are dependent upon levels of trustworthiness. It is also important to consider the emerging nature of trust and how leader mistrust in a team may be negatively perceived, projected back from the team to the leader. Leader

willingness to trust others can promote mutual trust and team effectiveness (Reddy et al., 2003). Furthermore, research on surgical team performance has found that teams are more successful when comprised of members of the same level – as opposed to mixed-hierarchy personnel (Avgerinos et al., 2020). This may indicate challenges with mixed-level teams, thus explaining the partial mediation result observed in this research.

Hypothesis 5d

Hypothesis 5d: The impact of positive perceptions of ethical leadership behavior on perceived project management success is mediated by team cooperation. This hypothesis is partially accepted. While project leadership style is essential to team performance (Juli, 2011; Novo et al., 2017), it has little effect on perceptions of ProjMS. While EL is associated with trust (Ethics Member Advisory Group – Project Management Institute, 2013), this may be an expectation of project teams, rather than a precursor of any performance hopes. Furthermore, definitions of ethical behavior vary greatly (Ayaz Arda et al., 2017). Absent a universal definition of what is ethically appropriate, there is ample opportunity for a wide range of subjectivity within a team. In other words, each team member may perceive ethical practice differently. This lack of consistent expectations may disrupt any potential effect of perceived ethical or unethical leader behavior and could nullify EL as a factor when teams consider the influences on perceived outcomes. This assertion has roots in team development research. At team formation, swift trust emerges; this is an early granting of trust to team members who have yet to demonstrate trustworthiness (in cognitive, social, behavioral, or psychological fashion; Yang, 2014). As team members engage, trust behaviors may be demonstrated (or not), and the failure to reinforce initially established trust expectations stimulates emotional or affective responses among the parties and within the team (Hosmer, 1995). This disconfirmation of anticipated ethical leader behavior may be reflected in the demonstration of partial mediation. Leader and team member dissonance and cognitive alignment may affect the application of follower motivation and outcomes (Wang & Hollenbeck, 2019).



Specific to this research, leader demonstrations of ethical behavior may cause dissonance to arise. When there is leader-member dissonance, team members may also disagree on the likelihood of project delivery. Previous research has affirmed that higher levels of cognitive dissonance around the reality of project goal attainment can reduce cooperation within the leader-member dynamic (Hoegl & Parboteeah, 2003). This may affect the influence of leader behavior on team members.

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