

Project Teams For Traditional And Agile Projects: Why Are They Different?

Dr., Thomas M. Rogers*, Dr. Vittal Anantatmula**

**(School of Economics, Management, and Project Management, Western Carolina University, USA*

***(School of Economics, Management, and Project Management, Western Carolina University, USA*

Corresponding Author: Dr., Thomas M. Rogers

ABSTRACT

Traditional projects and Agile projects require different approaches to systematically structure and develop project teams. Agile project teams, as compared to traditional teams, question assumptions routinely, innovate, propose and implement incremental changes, and deliver value frequently. Project managers actively look for improved methodologies, processes, and practices for successful completion of projects.

This research addresses the gap in the literature that suggests an incomplete understanding of the differences between team attributes for traditional and Agile projects. This paper explores relations between team attributes and project success factors for traditional projects and Agile projects and proposes hypotheses for future research.

Keywords - Agile project teams, project success, project teams, Agile projects, project team attributes, project success

Date Of Submission: 02-10-2018

Date Of Acceptance: 13-10-2018

I. INTRODUCTION

Managing a project is challenging in the current global economy due to exponential growth of information technology and ever-increasing market demand, which pushes organizations to offer products and services faster, better, and cheaper. Project teams face the daunting task of completing a project successfully and meeting the expectations of all the key stakeholders. Many times, stakeholders' expectations of the project team go beyond the set project goals in terms of cost, time, and scope; project teams are expected to complete the project deliverables sooner than the original schedule, at a lesser cost than the targeted cost, and deliver more value than specified in scope.

Research indicated team success depends on everyone's effort for the team's purpose and the relationships within the team [1] but, project teams face far more challenges. Projects often cope with and managed dynamic changes to scope, cost, and schedule due to uniqueness and complexity, unfamiliarity, and uncertainties associated with projects. Consequently, project teams play a significant role in developing a strong collaborative team effort to manage these changes for project success, and they demand an able leadership that creates a vision and direction to cope with these changes [2].

Project teams typically outperform individuals because project tasks require

collaborative work to make the best use of multiple

skills, judgment, and experience. Yang, Huang, and Wu [3] found teamwork exerts substantial influence on project performance and project success. The team dynamics and synergy vary depending on the project characteristics such as complexity, uncertainty, unknowns, scope clarity, and external factors. Specifically, striking differences in the project team's role exist in their approaches to managing traditional and Agile projects due to fundamental differences in their project characteristics. Individuals can assume different roles in traditional teams such as a leader, planner, communicator, scheduler, executioner, or coordinator. These roles are assigned based on strengths of the individuals. However, under the Agile approach the team members decide among themselves who will perform each work activity, and it often requires team members to take on more than one role [4].

To complicate matters further and beyond Agile and traditional approaches, virtual teams and geographically dispersed virtual project teams are becoming the norm in many organizations. And, virtual teams are common for both traditional and Agile projects. Understanding the characteristics of virtual teams and their key attributes for improving global project performance are of critical importance to project success. These differences make evident the need to devise different approaches to systematically structure and develop

project teams for traditional projects and Agile projects. A review of the literature suggests that a knowledge gap exists in a comprehensive understanding of team approaches between traditional and Agile projects. Since many IT-related projects are adopting Agile methodology, this study is of value to the project management profession and project managers who actively seek improved methodologies, processes, and practices for successful completion of Agile projects.

This research effort, based on an extensive literature review, aims to develop an understanding of differences between team attributes of traditional and agile projects, differing leadership styles, and explore relations among them and project success factors to propose a few hypotheses for future research. The structure for the remainder of this paper will, first, review the extant literature on teams in general and with respect to behavior issues, personality dimensions, and leadership styles for traditional and agile projects. Next, we will identify the need for properly defining project success. We will, then, pose our research questions and propose our hypotheses. Last, we will present a model to serve as the basis for further, future research.

II. LITERATURE REVIEW

A project is a time-bound, one-time effort constrained by time, budget, resources, and performance specifications that are designed to meet agreed upon needs and requirements of a project sponsor or customer. Projects must use teams that represent different disciplines and diverse skills to execute projects to meet the expectations of all the key stakeholders. On Agile teams, the product owner may assume the most important role because he or she is responsible for making sure the project meets the needs of the various stakeholders [4]. The key stakeholders, however, may perceive project success or failure differently. To this end, project teams require a strong collaborative effort to manage and successfully complete projects.

A team—any team—represents a selected group of individuals with diverse and complementary skills whose work requires they collaborate for a predetermined period, bear collective responsibility to meet a specific purpose or goal [2], and hold each other mutually accountable [4]. Whether on a traditional or an Agile project team, members must depend on each other for collaborative effort and share responsibility for success [5].

Many factors affect the success of a traditional or Agile project team. Independent variables that include role definition, delegation, conflict management, and change orientation

impact the dependent variables of project success such as meeting project scope, completing within budget, collaboration, and synergy. Organizational factors that include top management support and project management practices mediate the degree of affect the independent variables have on project success.

This research sets up the approach for investigating the relevance of these variables and factors for traditional and Agile project teams. Now, we must explore previous research to understand how this study will extend our knowledge of traditional and Agile project teams.

2.1 Differences between traditional and Agile project teams

Project managers must be able to adapt “both traditional and agile tools, techniques, and methods for each project” [6] because the approach used to address a project will impact the relationship between project managers and their team [7]. The need for project managers to tailor their use of traditional and agile practices to meet the needs of their projects emphasizes the importance of understanding the similarities and differences between traditional and Agile project teams.

Traditional project management embraces the transformation-view and applies the theoretical tenets of plan-based management, dispatching model of execution, and thermostat model of control which may not be effective in dealing with complexity, uncertainty, and change [8]. Traditional project teams follow the command and control structure. Under this structure, the planning occurs at the beginning of the project with as little deviation as possible during the execution. The focus of the traditional project team is on performing the given, specified tasks. The project manager expects team members to follow instructions and deliver what they are told and limits the flexibility for each team member. Agile project teams are, however, generally set up as small, co-located teams [4] to manage rapid changes and increments that require a higher commitment from team members. To deal with the issues of uncertainty and change effectively, Koskela and Howell [8] suggest an Agile project management approach that focuses on flow and value generation, action perspective for execution, and the scientific experimentation model for control.

In general, team members for Agile projects bear greater importance and are expected to be independent, inherently motivated, and well versed with multi-tasking [9]. Agile teams are prepared to assume simplicity, embrace change, maximize value, and provide rapid feedback to all stakeholders. Further, Agile projects encourage

team members to question everything, innovate, propose and implement incremental changes, and deliver value frequently[4]. Specifically, the approaches shown in the Table 1

make evident the differences between the individual roles for traditional and Agile project teams.

Table 1: Traditional vs. Agile Project Development

	Traditional Project Development	Agile Project Development
Assumption	Systems are fully specifiable, predictable, and are built through meticulous and extensive planning	High-quality adaptive software by small teams using the principles of continuous design improvement and testing based on rapid feedback and change
Management style	Command and control	Leadership and collaboration
Knowledge	Explicit	Tacit
Communication	Formal	Informal
Model	Life-cycle	Evolutionary-delivery
Structure	Mechanistic	Organic
Quality control	Planning and strict control	Continuous control of requirements, design, and solutions

Source:Dybå and Dingsøy [10].

The differences shown in the Table 1 are mainly due to Agile core values [11] and are presented below [12]:

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

These core values arose out of ambiguity in defining project scope, which remains an issue with Agile projects; failure is considered a way to success, and team members are encouraged to

connect to the project with purpose. The Agile principles are presented in Table 2. As a norm, these Agile principles do not necessarily hold well for traditional projects because these principles require a near constant defining and re-defining of activities. Agile project teams use rolling wave planning to refine the deliverables as they move forward and estimate their costs [4], which is not the case with traditional projects. The efficacy of traditional versus Agile project teams must be considered in the light of several factors, starting with the reality of the location of project team members.

Table 2: Agile Principles

1.	Make customer satisfaction and continuous delivery of value as high priority.
2.	Accept changes in requirements throughout the project for the customer's competitive advantage.
3.	Deliver working software frequently with a preference to the shorter timescale.
4.	Work together with business people and developers throughout the project.
5.	Build projects around motivated individuals by providing the environment and support they need and trust them to get the job done.
6.	Facilitate face-to-face communication for exchange of information
7.	Measure progress in terms of working software.
8.	Promote sustainable development and maintain a constant pace indefinitely.
9.	Pay continuous attention to technical excellence.
10.	Simplify; the art of maximizing the amount of work not done, is essential.
11.	Develop self-organizing teams; the best architecture, requirements, and designs emerge.
12.	Regularly, the team reflects on how to become more effective

Source: Beck et al. [12]

As a norm, these Agile principles do not necessarily hold well for traditional projects because these principles require a near constant defining and re-defining of activities. Agile project teams use rolling wave planning to refine the deliverables as they move forward and estimate their costs [4], which is not the case with traditional projects. The efficacy of traditional versus Agile project teams must be considered in the light of several factors, starting with the reality of the location of project team members.

2.2 Virtual and geographically dispersed project teams

Internal and external virtual teams and geographically dispersed teams are a reality of today's business world because companies span multiple continents, time-zones, and cultures. "Organizations are increasingly compelled to establish a presence in multiple countries [which means that] workers must collaborate across national boundaries [13]. The purpose of virtual and geographically dispersed teams is to engage the knowledge and skills of experts without regard to location [14]. As companies outsource activities, the reality of virtual and geographically dispersed teams presents a continuing challenge for individuals, companies, and governments.

The "function in global virtual teams [is] quite different" [15] from co-located, face-to-face teams and affects how project managers lead [16]. The location of the team members serves as an independent variable in this research. Further, recognition of these differences requires the study of traditional versus Agile project teams through the independent variable of culture.

2.3 Multi-cultural project teams

The growth of the global marketplace and the need to expand into other countries drives companies to use multi-cultural teams [17]. Multi-cultural teams allow businesses to draw on their employees' expertise from a global perspective and to leverage their employees' knowledge of the local language and culture. However, globally distributed, multi-cultural teams have a tendency to fracture into sub-teams or sub-groups that stand in conflict with one another [18].

Past research reveals other factors with multi-cultural teams that affect team performance. Stahl, Maznevski, Voigt, and Jonsen identify "dispersion . . . [and] cultural diversity" [19, p. 705] as moderators that affect team performance. Hinds et al. [20] examined the impact of asymmetry in language ability between team members and found it may contribute to fault lines within a team, which supports Stahl et al.'s

[19] claims and reinforces the effect of language on the success of traditional or Agile project teams. Finding differences in the impact of language asymmetry on project success between traditional and Agile teams will be of use to project managers in charge of multi-cultural teams regardless of industry.

Further, considering multi-cultural teams, it is worth considering how many of the team members are from a similar nationality as the project manager. Troster and Knippenberg [21] found that the greater the dissimilarity in nationality within a multi-cultural team resulted in more direction from a team leader. A project manager with high dissimilarity within his or her team will require more directive communication with their project team. Greater directive communication is more of an aspect of traditional project teams than Agile project teams as the latter are required to be self-managed teams [4].

Interestingly, Stahl, Maznevski, Voigt, and Jonsen [19] found cultural diversity had no significant impact on communication effectiveness but agreed that cultural diversity had a negative impact on social integration. Ratcheva [22] found that integrating and distributing knowledge gained by multi-cultural teams may help in leveraging resources and processes outside of the team. For the purposes of this study, this finding means that we must consider the structure of the team as well as the organizational factors that will support a project team in their pursuit of success.

2.4 Team Structure Attributes

The structure of a team may determine how well a team performs [23]. Specifically, without a project-friendly infrastructure and a supportive work environment, a project team is unlikely to succeed. As noted earlier, co-location is a factor in the success of a team, but to maximize the probability of success, a project manager must have access to talent and resources within the company irrespective of their physical location [24]. In fact, rotation of project managers and project team members to multiple projects across the organization enhances the collective learning and may serve to enhance careers of project managers' and team members [25].

Team structural characteristics include the number of team members; their status hierarchy, roles and responsibilities; and accepted norms for the behavior of individuals within the team based on the project team charter. Status differences among the team members depends on the organizational culture and the national cultures that team members represent [2]. Past research identified some characteristics of a team and the attributes of team

structures. These characteristics, their descriptions,
and recommendations for teams are captured in

Table 3.

Table 3: Team structure

Characteristics	Description	Discrete categories
Task interdependence	The extent to which tasks and outcomes of individual's tasks depend on actions of others	<ul style="list-style-type: none"> • Pooled—no direct interaction • Sequential—assembly-line type task relation • Reciprocal—one-on-one relation • Intensive—collaboration among all
Role structure	The extent to which <ul style="list-style-type: none"> • Roles are fundamentally different • Capable of performing independently 	<ul style="list-style-type: none"> • Functional—distinct role, not interchangeable • Divisional—perform any piece of overall task
Leadership structure	The pattern or distribution of leadership functions	<ul style="list-style-type: none"> • Focused—single leader • Distributed—two or more share leadership role
Communication structure	Flow of communication and information sharing among the team members	<ul style="list-style-type: none"> • Hub and wheel—flow through one person • Star—free flow among team members • Chain—hierarchical flow of information
Physical dispersion	Spatial location of team members with respect to others	<ul style="list-style-type: none"> • Co-located—physical proximity • Distributed—geographically dispersed • Mixed—subset of team co-located
Team duration	Time period of team's existence	<ul style="list-style-type: none"> • Ad hoc—specific task completion • Long term—unlimited number of tasks

Source: Miloslavic, Wildman, & Thayer [26]; Wildman, Thayer, Rosen, Salas, Mathieu, & Rayne [27].

Of the characteristics listed in Table 3, task interdependence encourages project teams to work together collaboratively and is more prevalent for Agile projects. Agile teams work as self-managed teams to meet the product owner's prioritization of deliverables [4]. Distributed leadership assumes importance for mega-projects, whereas focused leadership and a directive role of the project manager are of great importance for global projects, specifically during the initial phase of the project [2]. Considering these two findings, self-governed Agile teams demand distributed leadership because every team member is required assume multiple roles throughout the project due to uncertainties and unknowns associated with the Agile projects.

Different concepts are needed to select, structure, and develop traditional and Agile project teams. Traditional teams and Agile project teams adopt different ways to meet varying opportunities for social and informal interactions. Traditional projects use distributed work teams, specialists, and adopt a process-oriented approach towards project

success. For either approach to managing a project, defining and developing norms and roles of the project team members will lay the foundation to address some of the structural and behavioral issues such as creating clarity, communicating expectations, and employing consistent processes [28].

2.5 Behavioral Issues and Project Team Leadership

Interpersonal relationships influence project team performance and project success. In addition to the unique sets of experiences and knowledge that each person contributes to the team, each person brings their own social and behavioral traits. These traits influence the success of projects through the interactions between team members, cohesiveness, collaboration, synergy, and productivity of the team. The influence of these factors is why leadership is important for both traditional and Agile projects and why it is difficult to overstate the importance of the personality of the project manager for a project. Project managers must

understand the individuality of each member to lead either a traditional or an Agile project team [29]. Leadership must be transformational [30] and improve leader-member exchange (LMX) [31] because behavioral and personality issues serve as predictors of project success. Other soft skills project leaders and team members need for project success are participation, critical thinking, communication, leadership and flexibility [32].

Another behavioral issue to address is a project team made up of people from different generations. This composition is more likely to affect Agile projects. Many generations from Baby Boomers to Generation Y work together in the workplace today. Generational differences influence a project team's cohesiveness. Research has shown that the generation gap is an issue and is more significant between Generation Y and Baby Boomers [33]. Specifically, Generation Y is viewed unfavorably and struggles in the workplace due to differences arising out of the generation gap. The research observed that Generation Y has fewer issues in dealing with Generation X. Project managers need to address the potential issues associated with generational differences in the project charter and the subsequent kickoff meeting. Managing and bridging these differences by clearly defining roles, honing people skills, inclusion, and recognition of younger generations will help in improving team cohesion.

Thal and Bedingfield [34] found connections between personality traits and project manager success. Although we value these specific analyses, an extended scope of behavior dimensions (i.e., project managers' soft skills), through a larger, theoretical model is needed for an entire view of the significant role different behavioral aspects play on project management and project success. Zhang, Zou, and Zillante [35] found that empathy, inspirational leadership, teamwork and collaboration, conflict management, influence, change catalyst, service orientation, and organizational awareness were important for successful management of projects.

Project manager's personality type using Myers-Briggs Type Indicator (MBTI) assessment also assumes importance [36]. The MBTI is a self-assessment tool to understand cognitive styles [37]. Dolfi and Andrews [36] suggest that project manager's role and functions match with MBTI classification. A study that compared career project managers to the general population [38], established that INT or IST types would suit better for project managers. Gehring [29] found that, specifically, ISTJ, INFL, INTJ, ENTP, ESTJ, ENFJ support project leadership and ENTJ with INTJ, ESTJ and ENTJ contain the desired traits of project management leadership competencies. Creasy and

Anantatmula [39] conclude that a project manager's MBTI type is an independent variable for project success.

Leadership of a team is a necessary condition for team success [14]; this necessity extends to leadership for virtual teams [16]. and is, therefore, a factor in the pursuit of success by project teams. Not being able to meet face-to-face, however, increases the difficulties in leading project teams [14]. Technology tools assist with knowledge sharing, team development, effectiveness and efficiency and are mediating factors that can lead to knowledge sharing, team development and innovation [28]. Also, at different stages of project team development, the project manager will assume different leadership styles; during the formation stage, the project manager must establish him- or herself as the leader in a directive role to monitor the development process, and once the norms are established and the team transitions into performing phase, switch to a facilitating role [40].

Dvir, Sadeh, and Malach-Pines [41] highlighted the significance of aligning a project manager's management style and personality with project type. Druskat and Druskat [42] suggested that the nature of projects emphasizes the link between a project manager's behavior and their communication, management of conflicts, teamwork, and attentiveness. Specifically, the alignment of the leadership role is critical in motivating people and creating an effective working environment for the project team to meet challenges associated with all types of projects [28].

2.6 Project team communication

Without a proper flow of communication, all projects, traditional or Agile, will fail. Communication is a necessary skill for anyone in a leadership role. Without the ability to communicate well via multiple modes, a project manager may not be able to guide his or her team to success. Communication is a critical success factor in project performance, and it is important to establish effective communication and cooperation among the project manager, stakeholders, and team members [43]. Traditional and Agile projects use virtual and geographically dispersed teams, and project managers must go beyond the mechanical means and methods of communication to address the cultural and language differences among team members. This challenge is often masked by the lack of face-to-face meetings and difficulties exacerbated by mis-understandings that come from the lack of skills in a common language. Not being able to meet face-to-face reduces the richness of communication among team members and

increases the difficulties in leading virtual and geographically distributed project teams [14].

Project managers must understand and develop the flow of communication to lead and positively affect the status and progress of their project [44]. Reed and Knight [17], however, found no significant differences in the communication risks between co-located and geographically dispersed project teams. While this finding indicates a reduced impact of technology for finding differences between traditional and Agile projects, communication is still an independent variable and important for the success for traditional and Agile projects.

2.7 Project success

Team performance is a broad topic which exposes the difficulty studying one aspect of the complex interactions and relationships within a team, between project managers and their teams, and connecting a change in team performance—good or bad—to a single aspect. Project teams face the daunting task of completing a project successfully by meeting the expectations of all their key stakeholders who may perceive project success or failure differently. In addition to uniqueness and complexity, project teams must often cope with changes to projects due to poor definition or lack of understanding of the scope, unfamiliarity, and uncertainty which are, often, associated with Agile projects.

Success is considered differently by different people [45] and different industries [46]. No common agreement exists as to what constitutes project success, and it has been changing with the time [47]. Jugdev and Muller [48] argue that project success should also be considered in terms of contribution to an organization's strategic goals. A strong project team effort for better project

performance is considered a driving force for promoting project success [49].

Research shows that clearly defined goals, top management support of resources, detailed plan and implementation processes, consultation with clients and stakeholders to determine expectations, monitoring and feedback, adequate communication with all the stakeholders including the project team, and ability to handle unexpected problems are considered project success factors [50],[51]. Larsen and Gobeli[52] considered top management support, and a clearly defined project mission as predictors of project success. Analysis of findings by Park [53], in conjunction with earlier research findings that underline the role of top management, suggests that the project size and project type would influence its priority in garnering top management support. Top management support was positively associated with project success [54]. Overall, these studies suggest that project success is often measured per schedule, planned budget, quality specification, and meeting customer satisfaction [55]. However, project performance cannot be completely assessed until the project is delivered and the customer or client makes use of it [56]. While project success factors include delivering scope specifications and customer requirements, meeting the budget and duration targets, and providing the best return on investment (ROI), meeting the actual needs of stakeholders is considered the most important factor of project success[57].

2.8 Literature Review Summary

Success is the aim of any project. The literature reveals many variables and factors affect the success (or failure) of a project and are summarized in Table 4.

Table 4: Team factors for project success

Independent Variables	Mediating Variables	Dependent variables
<p><u>Behavioral Issues</u></p> <ul style="list-style-type: none"> ● Empowerment ○ Motivation ○ Collaboration ○ Service orientation ○ MBTI Type ● Delegation ○ Participation ○ Adaptability ○ Flexibility ○ Influence ○ Flexibility ○ MBTI type ● Accountability ○ Critical thinking ○ Adaptability ○ MBTI type ● Communication ○ Inclusion ○ Empathy ○ Style ○ Adaptability ○ MBTI type <p><u>Leadership</u></p> <ul style="list-style-type: none"> ● Flexibility ● Influence ● Empathy ● MBTI type ● Communication style ● Service orientation ● Organizational awareness ● Situational leadership style <p><u>Project Team Factors</u></p> <ul style="list-style-type: none"> ● Role definition and clarity ● Empowerment ● Delegation ● Accountability ● Team Charter ● Communication process ● Mutual accountability ● Number of team members ● Team location 	<p><u>Organizational Factors</u></p> <ul style="list-style-type: none"> ● Formalized PM practices ● Project connection to strategy ● Team selection processes ● Team development processes ● Team structure ● Competency building ● Collaborative culture ● Conflict management ● Top management support ● Portfolio management ● PMO ● Communication technology ● Physical dispersion ● Task interdependence 	<p><u>Project Success Factors</u></p> <ul style="list-style-type: none"> ● Meeting project scope ● Complete within budget ● Complete within time ● Meeting quality ● Meeting customer needs ● Key stakeholders' satisfaction ● Financial success ● Commercial success <p><u>Team Success Factors</u></p> <ul style="list-style-type: none"> ● Cooperation ● Collaboration ● Synergy ● Trust within team ● Emotional Intelligence ● Conflict resolution ● Innovation ● Cultural diversity ● Generations ● Team structure ● Self-managed team ● Multi-tasking

The need for a study of how these variables interact and the moderating effects of organizational factors reveals a gap in the literature on project teams. These factors may impact traditional and Agile project teams differently and calls for models that allow the study of in-depth interpretation of the impact these factors.

III. RESEARCH METHOD

This research effort aims to enhance our understanding of how the behavior of a project manager and the actions of a project team impact the success of a project. Understanding how the differences in structuring and developing project teams for traditional and Agile projects will focus our efforts to improve project success. The

literature review presented the independent and dependent variables along with the mediating factors necessary for us to study and better understand how traditional and Agile project teams succeed (Table 4) and these factors present opportunities for multiple research studies and are important benefits of this study.

3.1 Statement of Research Aims and Questions

The aim of this research effort is to understand three aspects of project management: a) What affect do team dynamics have on outcomes within a traditional versus an Agile project format; b) What affect do project manager personality dimensions have on project outcomes within traditional versus an Agile project format; and c) Through structural equation modeling, determine which independent variable cluster (team dynamics or project manager personality dimensions) has the greatest impact on project outcomes within a traditional and an Agile project format. These questions lead to the research questions presented next, the hypotheses that follow, and our proposed models.

Our research questions are:

- Q1 How do project team dynamics affect the total project success criteria such as budget, schedule, scope, quality, customer needs, key stakeholder satisfaction, financial success, and commercial viability of traditional and Agile projects?
- Q2 How does a project manager's personality dimensions affect the total project success criteria such as budget, schedule, scope, quality, customer needs, key stakeholder satisfaction, financial success, and commercial viability of traditional and Agile projects?
- Q3 Do the team dynamics or a project manager's personality dimensions have a greater effect on total project success criteria such as budget, schedule, scope, quality, customer needs, key stakeholder satisfaction, financial success and commercial viability for a traditional project team or an Agile project team?

These questions help to formulate research

hypotheses to continue this study further. Given the importance and increasing use of agile methodology practices, these questions offer multiple research opportunities to expand our understanding and improve success rate of agile projects

3.2 Research Hypotheses

In general, we hypothesize that the approaches for structuring and developing project teams will be different for traditional projects vs. Agile project teams. More specifically, we hypothesize the following:

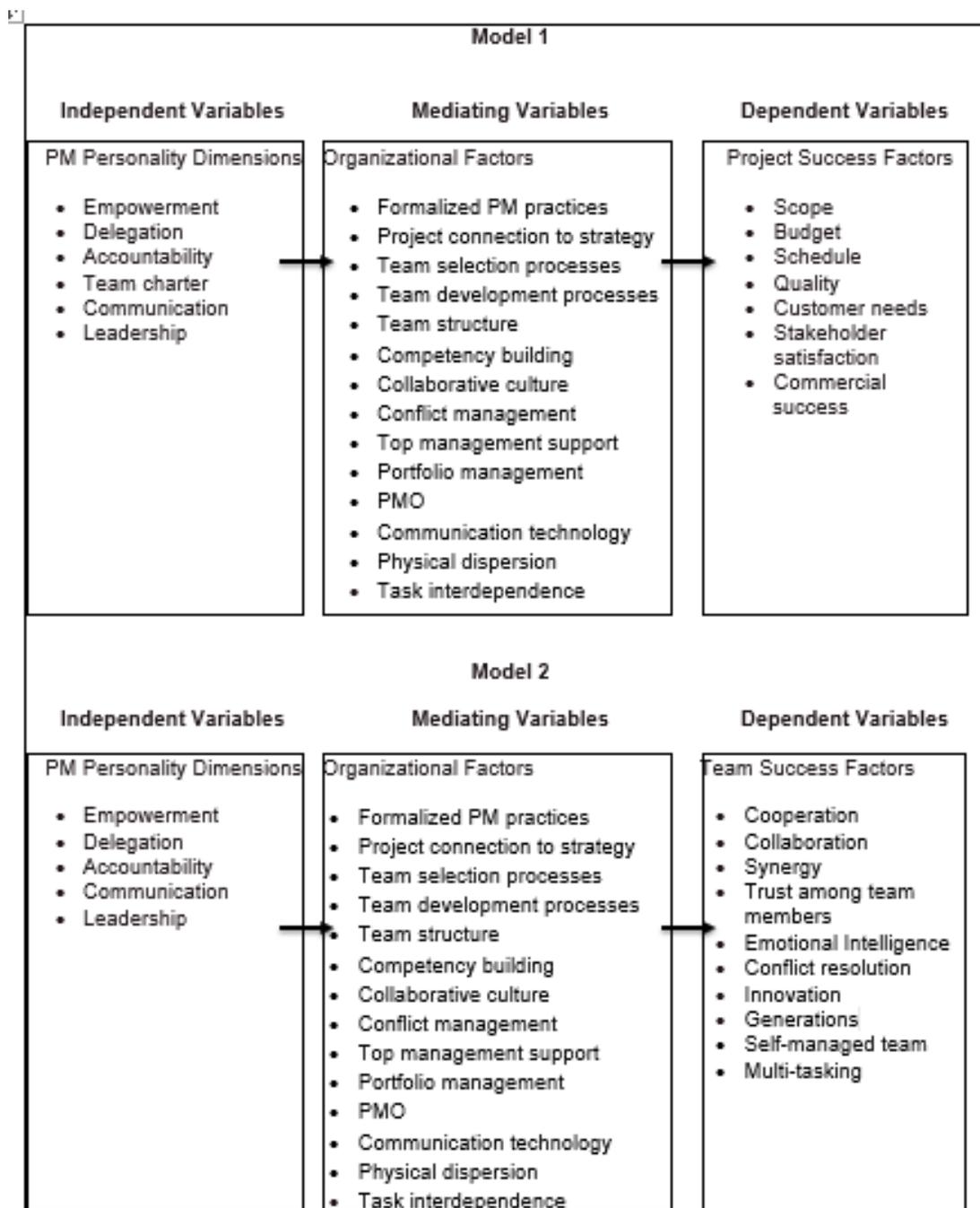
- H1 The effect of team dynamics on project outcomes for Agile projects will be greater than those of traditional projects.
- H2 Project manager personality dimensions will have a greater impact on project outcomes for traditional projects than Agile projects.
- H3 Team dynamics will have a greater effect on project outcomes than project manager personality dimensions teams composed either in a traditional or an Agile format.

3.3 General methodological approach

Team development approaches and team characteristics for traditional and Agile projects vary significantly. To uncover their moderating effects, this study aims to incorporate traditional and Agile team structures as mediators while simultaneously expanding the list of project success outcomes between the aspects of various team dynamics and project success outcomes as proposed in the models in Figure 1.

Second, this research also aims to extend the unit of analysis to include personality or behavioral dimensions of the project manager and to initially extend the work of Creasy and Anantatmula [39] in their study of project manager personality dimensions and project outcomes as illustrated in the models.

Lastly, performing chi-square goodness-of-fit comparisons will allow us to report on the significance of these same leader behavioral dimensions versus team dynamics as moderated by team structure toward various aspects of project success outcomes.



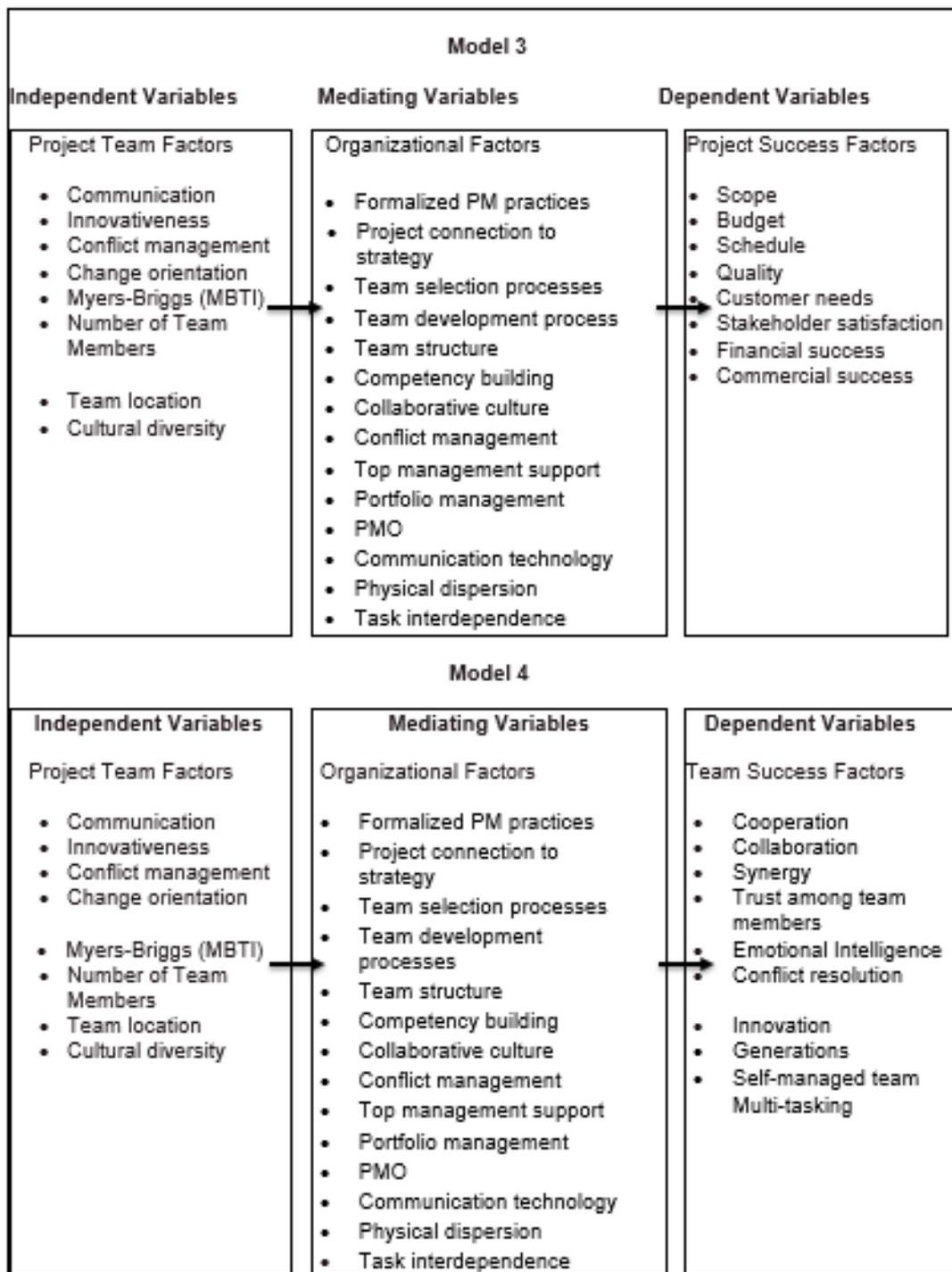


Figure 1 Proposed Models

IV. CONCLUSION AND FUTURE DIRECTION

While it has long been accepted that traditional project teams differ from Agile project teams, this study focuses on the impact of these differences on the success of a project. The view of project success depends on the perspective of customer, project sponsor, project team, and the end-user. Often, project managers focus on meeting the triple constraints; senior management wants a project to earn a profit and bring more business; and the client expects a product or service that can be operational and productive. These various perspectives require consideration of whether the client or senior management care if a project uses traditional or Agile teams. A follow up to this thought is whether the type of approach matters to the project team. These thoughts lead to the focus of this research effort: Do traditional and Agile project teams make a difference on the success of a project? This research study is a step toward answering this question, moving this stream of research forward, and laying the groundwork for multiple future research efforts.

As this study presents multiple avenues for future research, we propose the first step is to implement the survey instrument that is developed based on Table 4 to verify the validity and reliability of all the four proposed models. Another step forward is to move beyond the focus on traditional and Agile project teams in general to drill down to study the effects of project manager personality dimensions and team success factors within the models. As these research possibilities come to fruition, we can test the generalizability of the proposed models to determine if they are applicable across multiple projects in different companies in different industries.

REFERENCES

- [1]. Courtright, S., Thurgood, G., Stewart, G., & Pierotti, A. (2015). Structural Interdependence in Teams: An Integrative Framework and Meta-Analysis. *Journal of Applied Psychology*, 100(6), 1825–1846.
- [2]. Anantatmula V. (2016). *Project Teams: A Structured Development Approach*. ISBN-13: 978-1-63157-162-6 (paperback). ISBN-13: 978-1-63157-163-3 (e-book). New York, NY: Business Expert Press.
- [3]. Yang, L., Huang, C., & Wu, K. (2011). The association among managers' leadership style, teamwork and success. *International Journal of Project Management*, 29, 258–267.
- [4]. Kloppenborg, T., Anantatmula, V., and Wells, K. (2018). *Contemporary Project Management*, 4th ed., Cengage Learning. Boston, MA.
- [5]. Rogers, T. (2014). Is it a Team? a Working Group? or just a Co-located Collection of People? PMI Global Congress North America, October 2014.
- [6]. A guide to the project management of body of knowledge (PMBOK guide). (2017). ISBN: 978-1-62825-184-5. Newtown Square, PA. Project Management Institute.
- [7]. Creasy, T. & Carnes, D. (2017). The effects of workplace bullying on team learning, innovation and project success as mediated through virtual and traditional team dynamics. *International Journal of Project Management*, 35, 964–977.
- [8]. Koskela, L., & Howell, G. (2002, August). The theory of project management: Explanation to novel methods. In *Proceedings IGLC* (Vol. 10, pp. 1–11).
- [9]. Nicholls, G. M., Lewis, N. A., & Eschenbach, T. (2015). Determining When Simplified Agile Project Management Is Right for Small Teams. *Engineering Management Journal*, 27(1), 3–10.
- [10]. Dybå, T., & Dingsøyr, T. (2008). Empirical studies of agile software development: A systematic review. *Information and Software Technology*, 50(9), 833–859.
- [11]. Serrador, P., & Pinto, J. K. (2015). Does agile work? — A quantitative analysis of agile project success. *International Journal of Project Management*, 33(5), 1040–1051.
- [12]. Beck, K., Beedle, M., Van Bennekum, A., Cockburn, A., Cunningham, W., Fowler, M., and Jeffries, R. (2001). *Manifesto for Agile software development*.
- [13]. Hinds, P., Liu, L., & Lyon, J. (2011). Putting the global in global work: An intercultural lens on the practice of cross-national collaboration. *Academy of Management Annals*, 5(1), 135–188.
- [14]. Hoch, J. & Kozlowski, S. (2014). Leading Virtual Teams: Hierarchical Leadership, Structural Supports, and Shared Team Leadership. *Journal of Applied Psychology*, 99(3), 390–403.
- [15]. Chudoba, K. & Maznevski, M. (2000). Bridging Space over Time: Global Virtual Team Dynamics and Effectiveness. *Organization Science*, 11(5), 473–492.
- [16]. Iorio, J. & Taylor, J. (2015). Precursors to engaged leaders in virtual project teams. *International Journal of Project Management*, 33, 395–405.
- [17]. Reed, A. & Knight, L. (2010). Effect of a virtual project team environment on communication-related project risk.

- International Journal of Project Management, 28, 422–427.
- [18]. Cramton, C. & Hinds, P. (2005). Subgroup dynamics in international distributed teams: Ethnocentrism or cross-national learning? *Research in Organizational Behavior*, 26, 231–263.
- [19]. Stahl, G., Maznevski, M., Voigt, A., & Jonsen, K. (2010). Unraveling the effects of cultural diversity in teams: A meta-analysis of research on multicultural work groups. *Journal of International Business Studies*, 41, 690–709.
- [20]. Hinds, P. Neeley, T, & Cramton, C. (2014). Language as a lightning rod: Power contests, emotion regulation, and subgroup dynamics in global teams. *Journal of International Business Studies*, 45, 536–561.
- [21]. Troster, C. & Knippenberg, D. (2012). Leader openness, nationality dissimilarity, and voice in multinational management teams. *Journal of International Business Studies*, 43, 591–613.
- [22]. Ratcheva, V. (2009). Integrating diverse knowledge through boundary spanning processes – The case of multidisciplinary project teams. *International Journal of Project Management*, 27, 206–215.
- [23]. Kim, B. & Kim, J. (2009). Structural factors of NPF (new product development) team for manufacturability. *International Journal of Project Management*, 27, 690–702.
- [24]. Reagans, R., Zuckerman, E., & McEvily, B. (2004). How to make the team: Social networks vs. demography as criteria for designing effective teams. *Administrative Science Quarterly*, 49(1), 101–133.
- [25]. Bourgeon, L., (2007). Staffing approach and conditions for collective learning in project teams: The case of new product development projects, *International Journal of Project Management*, 25, 413–422.
- [26]. Miloslavic, S. A., Wildman, J. L., & Thayer, A. L. (2015). Structuring Successful Global Virtual Teams. In *Leading Global Teams* (pp. 67–87). Springer New York.
- [27]. Wildman, J. L., Thayer, A. L., Rosen, M. A., Salas, E., Mathieu, J. E. & Rayne, S. R. (2012). Task Types and Team-Level Attributes: Synthesis of Team Classification Literature. *Human Resource Development Review*, 97–129.
- [28]. Anantamula V. (2010). Project Manager Leadership Role in Improving Project Performance. *Engineering Management Journal*, 22(1), 13–22.
- [29]. Gehring, D. R. (2007). Applying traits of leadership to project management. *Project Management Journal*, 38(1), 44–54.
- [30]. Judge, T. & Piccolo, R. (2004). Transformational and transactional leadership: A meta-analytic test of their relative validity. *Journal of Applied Psychology*, 89, 755–768.
- [31]. Gerstner, C. & Day, D. (1997). Meta-analytic review of leader-member exchange theory: Correlates and construct issues. *Journal of Applied Psychology*, 82, 827–844.
- [32]. Gallagher, E. C., Mazur, A. K., & Ashkanasy, N. M. (2015). Rallying the Troops or Beating the Horses? Project-Related Demands Can Lead to Either High-Performance or Abusive Supervision. *Project Management Journal*, 46(3), 10–24.
- [33]. Anantamula, V. & Shrivastav, B. (2012). Evolution of project teams for Generation Y workforce. *International Journal of Managing Projects in Business*, 5(1), 9–26.
- [34]. Thal, J., & Bedingfield, A. (2010). Successful project managers: An exploratory study into the impact of personality. *Technology Analysis and Strategic Management*, 22(2), 243–259.
- [35]. Zhang, F., Zou, J., & Zillante, G. (2013). Identification and evaluation of key social competencies for Chinese construction project managers. *International Journal of Project Management*, 31, 748–759.
- [36]. Dolfi, J. and Andrews, E. (2007). The subliminal characteristics of project managers: An exploratory study of optimism covering challenge in the project management work environment. *International Journal of Project Management*, 25, 674–682.
- [37]. Sense, A. (2007). Learning with project practice: cognitive styles exposed. *International Journal of Project Management*, 25, 33–40.
- [38]. Mullaly, M. and Thomas, J. (2009). Exploring the dynamics of value and fit: insights from project management. *Project Management Journal*, 40(1), 124–135.
- [39]. Creasy, T & Anantamula, V. (2013). From every direction-how personality traits and dimensions of project managers can conceptually affect project success. *Project Management Journal*, 44(6), 36–51.
- [40]. Adams S. and Anantamula V. (2010). Social and Behavioral Influences on Project Team Process. *Project Management Journal*, 41(4), 89–98.
- [41]. Dvir, D., Sadeh, A., & Malach-Pines, A. (2006). Projects and project managers: The

- relationship between project manager's personality, project types, and project success. *Project Management Journal*, 37(5), 36–48.
- [42]. Druskat, V. & Druskat, P. (2006). Applying emotional intelligence in project working. In S. Pryke & H. Smyth, *The Management of Complex Project: A relationship approach*. Oxford UK: Blackwell.
- [43]. Anantatmula, V. and Thomas, M. (2010). Managing global projects: A structured approach for better performance. *Project Management Journal*, 41(2), 60–72.
- [44]. Badir, Y., Founou, R., Stricker, C., & Bourquin, V. (2003). Management of global large-scale projects through a federation of multiple web-based workflow management systems. *Project Management Journal*, 34(3), 40–47.
- [45]. Freeman M and Beale P. (1992). Measuring Project Success. *Project Management Journal*, 23 (1), 8–17.
- [46]. Hartman F., and Ashrafi, R. (2002) Project management in the information systems and information technologies industries. *Project Management Journal*, 33(3), 5–15.
- [47]. Anantatmula, V. (2015). Strategies for Enhancing Project Performance. *Journal of Management in Engineering*, 31(6), 10.1061/(ASCE) ME.1943-5479.0000369, 04015013 – 1 to 8.
- [48]. Jugdev, K., & Muller, R. (2005). A retrospective look at our evolving understanding of project success. *Project Management Journal*, 36(4), 19–31.
- [49]. Lechler, T. (1997). *Erfolgsfaktoren des Projektmanagements*. Frankfurt Am Main.
- [50]. Schultz, R. L., Slevin, D. P. & Pinto, J. K. (1987). *Strategy and Tactics in a Process Model of Project Implementation*. Interfaces: Institute of Management Sciences, 17(3), 34–46.
- [51]. Pinto, J. and Slevin, D P. (1987). Critical factors in successful project implementation. *IEEE Transactions on Engineering Management*, 34, 22–27.
- [52]. Significance of Project Management Structure on Development Success. *IEEE Transactions on Engineering Management*, 36 (2), 119–125.
- [53]. Park, S. H. (2009). Whole Life Performance Assessment: Critical Success Factors. *Journal of Construction and Engineering Management*, 135(11), 1146–1161.
- [54]. Fedor, D. B., Ghosh, S., Caldwell, S. D., Maurer T. J., and Singhal, V. R. (2003). The Effects of Knowledge Management on Team Members' Ratings of Project Success and Impact. *Decision Sciences*, 34(3), 513–539
- [55]. Berrsaneti, F. T. and Carvalho, M. M. (2015). Identification of variables that impact project success in Brazilian companies. *International Journal of Project Management*, 33(3), 638-649.
- [56]. Razmdoost, K. and Mills, G. (2016). Towards a service-led relationship in project-based firms. *Construction Management and Economics*, 34(4-5), 317–334.
- [57]. Gabriel, E. (2015). *The human factor imperative effect on project Success*. (Doctoral Dissertation, University of Calgary): Alberta, Canada.

Dr., Thomas M. Rogers "Project Teams For Traditional And Agile Projects: Why Are They Different? " *International Journal of Engineering Research and Applications (IJERA)*, vol. 8, no.10, 2018, pp 01-14