Addis Ababa University

College of Business and Economics

School of Commerce

The Role of Team Management on the Success of Project Management: The Case of Plan International Ethiopia

By

Solomon Tebeje Gizaw (GSR/2959/13)

A Project Work Submitted to School of Commerce, College of Business and Economics, Graduate Studies Program of Addis Ababa University in Partial Fulfillment of the Requirement for the Degree of Master of Arts (MA) in Project Management

June 2022

Addis Ababa, Ethiopia

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Advisor: **Bahran Asrat (PhD)**

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This is to certify that this project work is prepared by Solomon Tebeje Gizaw entitled: "**The Role of Team Management on the Success of Project Management: The Case of Plan International Ethiopia**" and submitted in partial fulfillment of the requirements for the degree of Masters of Arts in Project Management complies with the regulations of the University and meets the accepted standards concerning originality and quality.

Approved by the Examining Committee:

Bahran Asrat (PhD)	_____	_____
Research Advisor	Signature	Date
Solomon Markos (PhD)	_____	_____
Internal Examiner	Signature	Date
Abdu Muhammed (PhD)	_____	_____
External Examiner	Signature	Date

STATEMENT OF DECLARATION

I hereby declare that the Project Work entitled 'The Role of Team Management on the Success of Project Management: The Case of Plan International Ethiopia' is submitted to the School of Commerce, Graduate Studies Program, of Addis Ababa University, for the partial fulfilment of MA in Project Management, is the original work of mine. It has never been submitted earlier to AAU or any other institutions. I also declare that no chapter of this paper, in whole or part, is lifted to incorporate in any report.

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STATEMENT OF CERTIFICATION

I certify Project Work entitled “The Role of Team Management on the Success of Project Management: The Case of Plan International Ethiopia” is Solomon Tebeje Gizaw’s original work and meets the requirements of Project Work for the Partial Fulfilment to award MA in Project Management.

Also, I recommend this paper be placed before the examiner for valuation.

Bahran Asrat (PhD)

Advisor

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Date: June 2022

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Abbreviations

CSF: Critical Success Factors

LLG: Lessons Learned Group

MAG: Managerial Ability Group

MCG: Monitor and Control Group

NGO: Non-Governmental Organizations

PIE: Plan International Ethiopia

PMBOK: Project Management Body of Knowledge

PM: Project Manager

PMO: Project Management Office

PMS: Projet Management Success

PT: Project Team

PS: Project Success

SPM: Success of project management

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Abstract

The role of team management has a greater impact on the success of project management to achieve project goals beyond the stakeholders' expectations. Even though it has been given attention in the project organizations, it still requires deepening studies in the field. Therefore, we designed explanatory research to work on the role of team management on the success of project management taking the case of Plan International Ethiopia. After informed consent was obtained from the respondents, Microsoft Form-based questionnaire was shared to collect mixed data. While data analysis and graphical representation were made by SPSS version 20, descriptive (mean and frequency) and inferential (correlation and regression) statistical analyses were performed with the student's t-test at P< 0.05 as statistical significance to determine the frequency of the variables, the relationship between the predictors and dependent variables, and the overall impact of the role of team management on the critical success factors for the success of project management. Having answered the key research questions, the researcher concluded that the sociodemographic characteristics (marital status, previous project management experience, and active project team role), team composition (diversified, action, and teams with knowledge integration), and PM leadership competency (PM leadership style, all types of PM communication channels, PM motivation (building trust, reward, professional development, and realizing specific goals, multiple intelligence, and being an active conflict manager) are the key roles of team management that were significantly impacted the critical success factors for the success of project management (as defined in PMBOK 7) and, consequently, the success of projects. The objectives of the current research were achieved and recommendations were forwarded to PIE, similar Non-Governmental Organizations, and researchers in the project management discipline.

Keywords: Team, Project team, Role of Team Management, Project Management, Project Success

CHAPTER 1: INTRODUCTION

1. 1. Chapter introduction

In the current chapter, the researcher endeavoured to cover the background information regarding the role of team management on the success of project management, introducing Plan International Ethiopia where this research has taken as a case, statement of the problem, research questions, objectives of the study, significance of the study, the scope of the study, limitation of the study and how the study is organized to the reader.

1. 2. Background of the study

The roles of team management are the key success determinants of project management and the overall success of projects in an organization. Institutional success is the prior goal of individuals and groups within an organization who strive to meet the expectation of the stakeholders. According to the Project Management Context, organizations engage in change management that pushes continuously because of the competitive environment(PMI, 2021). One of the approaches to execute specific projects and achieve the goals of the organization is by establishing a focused group(s), *project teams*, to accomplish beyond stakeholders' expectations. As a result, understanding the role of the team management – the project manager and project team paraphernalia involved in a project - are the key success determinants of the project management of the organization. Project team performance is determined by how project teams are organized and structured(Adair, 2004) and high team success necessitates effective team management and leadership.

Project team management is the various activities that bind a team together by bringing together the team members to achieve the set targets. It helps: provide cohesive leadership through team building and emotional leadership; relay effective communication; set vision for common by business strategy; defined team roles and responsibilities through project management; and resolve challenges/problems through critical thinking and negotiating.

These are the key project team management aspects that should be critically assessed to formulate the roles of project team management towards the success of projects.

Theoretical and empirical studies proved that cheetah and action teams, team diversity, project managers' effective leadership, and multiple approaches to project change management practices are the key indicators and enhancers of project team performance/productivity. Even though it has been given attention in the project organizations, it still requires deepening studies in the field. Most studies focused on construction project teams and their assessment was based only on the cash flows, ignoring the individual behaviours of the team, social impacts, and the nature of the project teams. Therefore, comprehensive searching of both theoretical and empirical works of literature shouldn't be a lay away task.

Therefore, the current study will be engaging in identifying and analyzing the role of project team management in the success of projects currently active at Plan International Ethiopia.

1. 3. Background of the organization

Plan International Ethiopia (PIE) is a humanitarian organization that has been working on children, young people and communities for over 80 years and is committed to making a lasting impact on the lives of the most vulnerable and excluded children while supporting the children's rights and gender equality.

Child sponsorship is the basic foundation of the organization. The sponsorship focuses on donating to provide a child with food and shelter, adopting, fundraising, campaigning, and working with children and their community to make lasting changes. Plan International is now a global children's charity stretching to over 50 low-income countries to build a better future for children.

Currently, PIE has four programs, such as **Programme 1**: Enabling environment for ending Child Early and Forced Marriage; **Programme 2**: Protection from violence including abuse,

exploitation, sexual and gender-based violence and CEFM; **Programme 3**: Girls are equally cared for and can access gender-responsive and safe schools and learning spaces; **Programme 4**: Young women have increased capacities and opportunities for employment and entrepreneurship. In Ethiopia, PIE focuses on the early survival and development of children; a better childhood development and education for all; protection of children from violence; and emergency response and recovery program, that we implement in Amhara, Somali, Benshangul-Gumuz, Oromia, Gambella, SNNPR, Tigray, Hareri Regional States and as well as Dire Dawa and Addis Ababa City Administration. Common to these, issues of gender and disability are also integrated and mainstreamed in all programs.

In a world full of uncertainty with pandemics and wars, which becomes the new normal, Plan International Ethiopia focuses on priority responses including people in need of food and shelter, ensuring food security, WASH, Livestock Lifesaving Support, livelihoods and transition into a mixed recovery and resilience-building phases in its operational areas of Amhara, Oromia, and SNNP regional areas.

PIE's Purpose is to seek Gender Justice for Girls, Adolescent Girls and Young Women, and aim to help create an enabling environment where girls, adolescent girls and young women are safe, valued, equally cared for and have equal opportunities.

PIE's ambition is to become an active Girls' Rights and Gender Equality organization which works in mutual, long-term partnerships with government, civil society and communities, across development and humanitarian, resilience and nexus settings, to support and promote better lives for all Girls, Adolescent Girls and Young Women

PIE's Goal is to directly reach 2.1 million Girls, Adolescent Girls and Young Women throughout the strategy 2020-2024 and to reach an additional 6.3 million beneficiaries through our interventions.

To carry out such activities, PIE has designed and implemented several projects. From the PIE organogram, the researcher excerpt focuses on Programme Operations, which comprises of Program Manager/Coordinator of Consortium team leaders (CTL) at CO, Sponsorship Manager, and Thematic Sector Heads. The latter has 4 Programmes with several projects. The study targeted 18 projects with disclosed information, which are on Programme 1; 5 projects from Programme 2; 4 from Programme 3; and 3 from Programme 4 (**Figure 1**). Fortunately, 35 project managers equivalent to 35 projects participated in the current study.

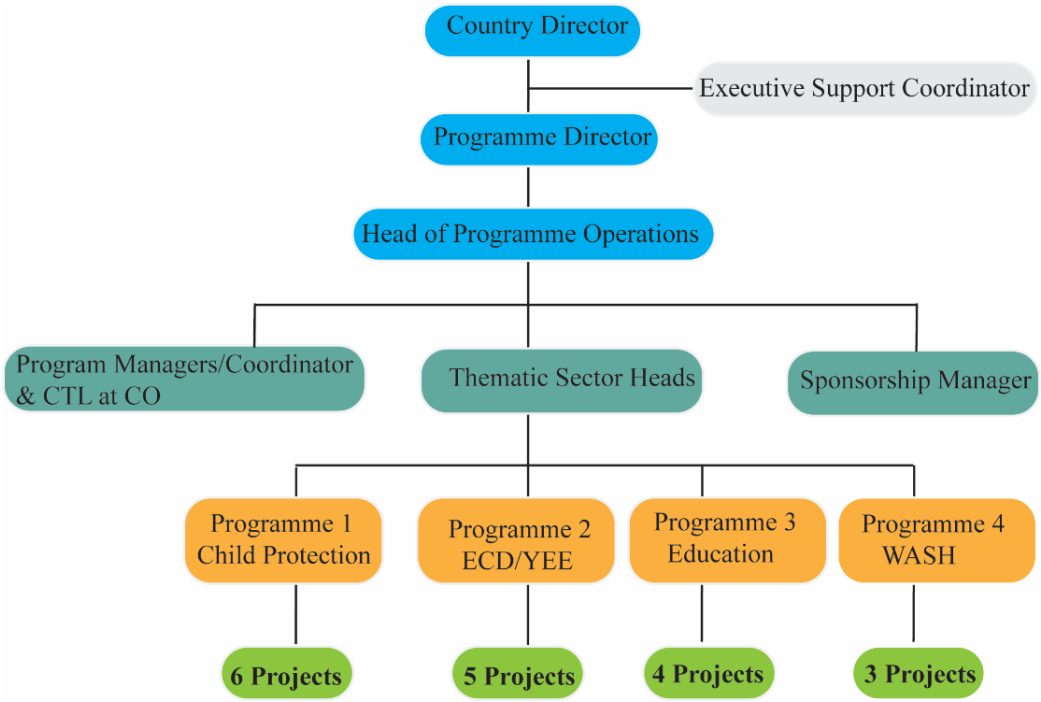

Figure 1: PIE organogram on the current study (Prepared by the researcher). The total number of projects is 35 with only 18 disclosed document information.

1. 4. Statement of the problem

Teams are the vehicle by which significant work happens in an organization. Whether operationally focused or responsible for delivering a project, teams are what make the world

go around (Mullaly, 2021). When it works, the project team is an extremely complex 'ecosystem' that is constantly evolving and adapting to its environment. Working on project team management is vital at all times; and most importantly, living through the pandemic has offered some insights and observations about how we work in teams – and how we can improve team interactions going forward. Those insights aren't just about improving work in a pandemic, but how we can think about enhancing team functioning (Mullaly, 2021) even as we move to whatever the next "normal" becomes. Team identity plays a role in team effectiveness (Reis and Puente-Palacios, 2019). Strong team identity and dynamics facilitate performance through increased team learning and team efficacy (van Veelen and Ufkes, 2017) and heterogeneous teams were more productive (Hamilton et al., 2003). Project team diversity provides a creative advantage for innovative teams (Falk-Krzesinski et al., 2011; Soomro and Salleh, 2014). Moreover, the project manager role (Fung, 2015) and styles (Goleman, 2017), motivation (Peterson, 2007), communication (Besteiro et al., 2015), and conflict management (Harpham, 2021) are highly linked with the success of the project.

Project management is a discipline of organizing and managing resources in such a way that these resources deliver all the work required to complete a project within defined scope, time, and cost constraints. Project management is the planning, organizing, monitoring and control of all aspects of a project, with the motivation of all including safely achieving project goals, within the agreed schedule, budget and performance criteria (PMI, 2021). According to the PMBOK 7, project management principles are stewardship, team, stakeholders, value, system thinking, leadership, training, quality, complexity, risk, adaptability and resilience, and change.

However, project success cannot be achieved without the success of project management (Han et al., 2012); however, there were limited studies that addressed comprehensive variables focusing on this issue. Non-governmental organizations (NGOs), particularly in Ethiopia, have been engaged in traditional project management seemingly ignoring the demands of the current projectized organizations required especially in a dynamic world full of uncertainty and complexity. To fill the gap, we designed an explanatory research design taking a specific case organization, Plan International Ethiopia, to identify and analyze the role of a team

(sociodemography characteristics, team composition, project managers' role, styles, communication, motivation, and conflict management) on the success of project management. To our best knowledge, this is the first-ever research conducted in Ethiopia targeting specific projectized NGOs.

1. 5. Research questions

The current project work is designed to address the following key research questions:

(a) What are the specific sociodemographic characteristics that impact the success of project management?
(b) What kind of team compositions have a direct relationship with the critical success factors for the success of project management?
(c) What are the key project manager (PM) leadership competencies that have a significant impact on the success of project management?
(d) What are the key roles of team management for the success factors of project management, in particular, and for the success of projects, in general?

1. 6. Objectives of the study

General Objectives

The overarching aim of this project work is to identify and analyze the role of team management on the success of project management taking the case of Plan International Ethiopia (PIE) 4 Programme and 56 Projects in the years 2012-2022 GC in Ethiopia.

Specific objectives

a) To identify the sociodemographic characteristics of teams on PIE projects that have a relationship with the success of project management.
b) To identify project team characteristics (composition) and analyze the relationship and their strength with the success of project management in PIE projects.

c) To analyze key roles of project managers role, styles, communication, motivation, and conflict management that have impacted the success of project management.
d) To determine the critical roles of team management that ensure the success of project management principles in PIE projects.

1. 7. Significance of the study

The current project work will contribute to knowledge creation endeavours on a team, team management, and specific roles of team management towards the success of project management taking the case of Plan International Ethiopia (PIE). For the teams within each project of the 4 programs and 35 projects, it provides an insight into their day-to-day team management to achieve the goals of their projects beyond the expectation of their stakeholders; team knowledge and learning; readiness to change; stewardship, value, system thinking, leadership roles and styles, motivation (professional development through continuous training), quality, project complexity, risk management, and adaptability and resilience.

For PIE, the current study will help to understand how effective and efficient the team and its management are to create a standardized document. By answering the key questions in this particular topic, PIE will be benefited to pin team management aspects that support directly the success of project management in every program and projects under them. And for similar other humanitarian and development organizations, there will be an experience to share and lessons learned from the Plan International Ethiopia projects.

For those who are going to engage in projects, locally and internationally, it provides baseline information regarding the key components that amplify the role of team management that directly impacts the success of project management and indeed project success.

1. 8. Scope of the study

The researcher extended to work on Plan International Ethiopia 35 projects under 4 Programme. Plan International's country office (CO) is based in Addis Ababa, Ethiopia, and its office in Ethiopia extends further to other regional states where projects have been implemented in Amhara, Somali, Benshangul-Gumuz, Oromia, Gambella, SNNPR, Tigray, Hareri Regional States and as well as Dire Dawa and Addis Ababa City Administration. The researcher targeted team members of projects, project managers, project sponsors, programme heads, and programme directors with the organogram of PIE. The current study has considered all projects that have been implemented since 2012 until the days of data collection in May 2022 G.C. We did not consider the functional employees (Fiance, Human Resource Information System, Interns, and Office Administrators) due to their limited project involvement. Besides, the principal data collector who is an employee of PIE and the principal investigator ensured the questionnaire form reached the targeted study participants (project teams, project manager, project sponsor, programme head, and programme director).

1. 9. Potential limitations of the study

PIE has 4 Programs with 56 projects. Even though we targeted to work on 18 projects, fortunately, succeeded to cover 35 projects that account for 62.5% of the total projects. However, our project work did not cover the remaining 21 projects and could not able to get a response from Programme Director. Besides, due to confidentiality issues of PIE, some refused to share information that limited us to only 96 sample sizes.

1. 10. Organization of the study

Having believed that the current study covers some critical aspects of the role of team management literature, it will be able to help the reader or researchers engaged in this field. Structurally, the researcher formulated the as follows:

1) **Chapter I - Introduction**: The researcher provided the background of the study, the organization where we conducted the study; the problem statement why we need to work on this specific theme of project work and its significance; research questions to address through this study; objectives to meet; the scope of our study; and limitations.
2) **Chapter II - Literature Review**: Both theoretical and empirical studies were reviewed to build this section.
3) **Chapter III - Methodology**: It comprises the research design, study variables, study population, sampling technique/method, sample size, data collection, data analysis (model, technique, and software), reliability and validity tests, and ethical considerations.
4) **Chapter IV – Analysis and interpretations**: The analysis and interpretation section provided a comprehensive presentation of the data, such as demographic information, descriptive statistics, and correlation analysis to pin the relationship between independent (role of teams) and dependent variables (success of project management), and look into the strength of these relationship through regression analysis. The findings were discussed focusing on the sociodemographic characteristics, team composition, project manager role and style, communication, motivation, and conflict management on the success of project management and project success.
5) **Chapter V – Summary, conclusion and recommendation:** The current project work provided an answer to all the research questions to reach a significant conclusion. The study recommends after we witnessed – based on the data collected from project participants to achieve specific objectives – what and how specific team management practices of PIE should be maintained and/or improved for the success of PIE project management. The latter significantly contributes to establishing a Project Management Office (PMO) or else that targets the standards of project management principles.

All the research paraphernalia were included in constructing the current project work.

1. 11. Operational definition

Project: A project may be a temporary (rather than permanent) social system (work system), possibly constituted by teams (within or across organizations) to accomplish particular tasks under time constraints.

Team: A team is a small number of people with complementary skills committed to a common purpose, performance goals, and approach for which they hold themselves mutually accountable.

Project Team: A set of individuals performing the work of the project to achieve its objectives(PMI, 2021). A project team unites people with varied knowledge, expertise and experience who, within the life span of the project but over long work cycles, must acquire and pool large amounts of information in order to define or clarify their purpose, adapt or create the means to progressively elaborate an incrementally or radically new concept, service, product, activity, or more generally, to generate change.

Team Management: Team management refers to the various activities which bind a team together by bringing the team members closer to achieving the set targets.

Managerial Abilities Group: The critical success factor of the success of project management comprises the ability to communicate, define the schedule, accept the proposal of the project, indicate roles and responsibilities, define realistic goals and objectives, and team qualifications.

Critical Success Factors Group: The critical success factor of the success of project management comprises defining the scope of the project, the deadline of the project, the commitment, planning, ability to communicate, and meeting the budget.

Monitoring and Control Group: The critical success factor of the success of project management comprises monitoring meetings, deadline variation, benefit variation, control point, budget variation and identification of goal deviations.

Lessons Learned Group: The critical success factor of the success of project management comprises deadline, budget, communication, project proposal, goals and project documentation.

The success of Project Management: Meeting the value of 4 and beyond (on the Likert Scale) on the four factors such as managerial ability group (MAG), critical success factor group (CSF), monitor and control group (MCG), and lessons learned group (LLG) that were used to measure the success of project management in the current study.

Project success: a project is said to be successful when it succeeds in achieving the expected business case which needs to be identified and defined during the project inception and selection before starting the development phase.

Chapter 2: LITERATURE REVIEW

2. 1. Chapter introduction

This section thoroughly discussed the role of team management on the success of project management, viz., team composition (team size, type, identity, climate, system, knowledge and learning); project managers' leadership role and styles, communication, motivation, and conflict management; the success of project management in terms of the 4 identified groups (24 factors) (managerial ability, critical success factors, monitor and control, and lessons learned).

2. 2. The role of team management

The roles of team management are the key success determinants of project management and the overall success of projects in an organization. Institutional success is the prior goal of individuals and groups within an organization who strive to meet the expectation of the stakeholders. According to the Project Management Context, organizations engage in change management that pushes continuously because of the competitive environment(PMI, 2021). One of the approaches to execute specific projects and achieve the goals of the organization is by establishing a focused group(s), *project teams*, to accomplish beyond stakeholders' expectations. As a result, understanding the role of the team management – the project manager and project team paraphernalia involved in a project - are the key success determinants of the project management of the organization. Project team performance is determined by how project teams are organized and structured(Adair, 2004) and high team success necessitates effective team management and leadership.

Hereafter, the key aspects that comprise the roles of team management, such as team and its characteristics, and factors of the success of project management are discussed in detail.

A team is a group of people who work together to accomplish something beyond their self-interests; however, not all groups are teams. A simple but effective description of what is meant by "a team" comes from Katzenbach and Smith (2015): "A team is a small number of people with complementary skills committed to a common purpose, performance goals, and approach for which they hold themselves mutually accountable (Maheshwari, 2020; Cobb, 2011; Katzenbach and Smith, 2015). For the vast majority of us, teams are the vehicle by which significant work happens in our organization. Whether operationally focused or responsible for delivering a project, teams are what make the world go around (Mullaly, 2021).

Teams operate in an organizational context that, in turn, influences their functioning; they have some levels of interdependencies, and they are complex dynamic systems with shared common goals with the team members interacting socially and often virtually. They could be project teams, work teams, executive teams, cross-functional teams, dispersed or virtual teams, or multi-functional teams (Drouin and Sankaran, 2017; Maheshwari, 2020; Jordan, 2016; Tseng et al., 2004).

2. 2. 1. Team composition

Team characteristics set the stage for the dynamics of creative behaviour. Many elements of teams such as **size**, **composition** and demographics may hinder or foster the team's ability to work. Differences in ability, creativity, or personal characteristics among team members are likely to influence the team development process. Ideally, the more variety of knowledge and experience the team has the more synergy will take place and the more creative solution evolve. At the same time, however, the greater the variety of resources that are present in the team, the more difficult it is to arrive at a shared understanding, let alone a shared solution to problems. The more points of view – the more difficult it is to reach a common perception of both the problem and solution – and the more time will be spent in the team deliberation processes and forums (Shani et al., 2000).

The study showed that truly teamwork has an impact on organizational performance, and it was not just a mere impact of collaboration but rather a positive impact of cooperation on

organizational performance (Maheshwari, 2020). To meet globally-consistent needs, global teams have been assembled to develop products; however, the dispersed composition of individuals, the need for face-to-face meetings, and cultural and language diversity are the challenges of team management. Such teams are different from traditional project teams. As a result, a variety of information technologies, such as videoconferencing, audioconferencing, and emails, were used in an effort to manage the global teams effectively (McDonough and Cedrone, 2000). Currently, due to the global pandemic, Covid-19, different product developers, especially from the USA and China, brought virtual platforms like Zoom, Google Meet, Microsoft Meet, etc., to meet the needs of remote working.

Team membership changes (i.e., team members joining and/or leaving) shape the functioning and performance of organizational teams. However, empirical studies of team membership change appear to be progressing in three largely independent directions as researchers consider: (a) how newcomers impact and are impacted by the teams they join; (b) how teams adapt to member departures; or (c) how teams function under conditions of high membership fluidity, with little theoretical integration or consensus across these three areas (Trainer et al., 2020).

Team size and identity

Team size, response time, task complexity, team climate and team cohesion have an impact on software development team productivity (Sudhakar et al., 2012). Team effectiveness predicts the role of **team identity**, which can be considered an element that unites individuals around team goals. To identify the contribution of the affective, cognitive and evaluative aspects of work team identity, as a collective phenomenon, to team effectiveness, data were collected from 131 work teams of a Brazilian public organization with units in all state capitals of the country. Work team identity scale, the work team satisfaction scale, the team performance scale and objective performance indicators collected based on the achievement of the goals set for the units that make up the organization were used. Regression analysis results showed that the evaluative dimension explains about 6% of the performance assessment given by managers, whereas the affective dimension explains 63% of the

satisfaction with work teams. No significant results were found for the objective performance indicators. The observed findings demonstrate the pertinence of understanding the work team identity as a collective and multidimensional phenomenon, as well as the contribution of its different components in explaining variables that represent effectiveness (Reis and Puente-Palacios, 2019).

Team diversity

Cultural diversity has a significant impact on innovation team performance (Jones et al., 2020); however, team dynamics play an important role in maximizing these advantages, and cross-cultural competence of team members is required. Team diversity facilitated performance for teams with a strong, but not a weak, collective team identity. Moreover, team diversity facilitated performance through increased team learning and team efficacy only for teams with strong team identities. The objective diversity index seemed a more powerful predictor of performance compared with the subjective index, particularly for strongly identifying teams. These findings provide valuable insight for increasingly diversifying organizations, on the circumstances under which team diversity's potential flourishes (van Veelen and Ufkes, 2017).

Diversion among project teams, which are engaged in knowledge-intensive work, has an adverse effect on project performance, but information technology (IT) mitigates the negative effect of team dispersion on project performance, especially in high information volume projects (Bardhan et al., 2013). A study conducted on developing a comprehensive team effectiveness survey across 6 multinational organizations in 4 geographical regions concluded that there are implications for future cross-cultural research on team effectiveness and beyond in other areas of international management (Gibson et al., 2003).

In response to the debate that the performance implications of demographic diversity can be usefully reframed in terms of network variables that reflect distinct social capital, two hypotheses, decreased network density – the average strength of the relationship among team members – lowers a team's capacity for coordination – and **high network heterogeneity** were tested. The analysis of data on the social networks, organizational tenure, and productivity of

224 corporate R&D teams indicates that both network variables help account for team productivity(Reagans and Zuckerman, 2001). These findings support a recasting of the **diversity-performance debate** in terms of the network processes that are more proximate to outcomes of interest.

A study conducted on the effect of team composition on productivity using novel data from a garment plant indicated that more heterogeneous teams were more productive, holding average ability constant, which is consistent with explanations emphasizing mutual team learning and intra-team bargaining (Hamilton et al., 2003).

Project teams comprising members from **culturally diverse** backgrounds bring fresh ideas and new approaches to problem-solving. The challenge, however, is that they also introduce different understandings and expectations regarding team dynamics and integration. For a project manager to effectively work and influence a multicultural construction project team, at the same time being attentive to the diversity and creating the structure required for success, the framework for managing a multicultural project team was synthesized from 8 key multi-dimensional factors (Godfrey Ochieng and Price, 2009). The identified key dimensions include leadership style, team selection and composition process, cross-cultural management of team development process, cross-cultural communication, cross-cultural collectivism, cross-cultural trust, cross-cultural management and cross-cultural uncertainty.

Diversity provides a creative advantage for innovation teams. However, team dynamics play an important role in maximizing these advantages, and cross-cultural competence of team members is required. To derive maximum benefit, optimal team operating principles are required. The key learnings include the importance of establishing communication standards, the science of team science (SciTS) (Falk-Krzesinski et al., 2011), team assessment of thinking styles and the utility of cultural awareness instruments (Jones et al., 2020). A degree of cross-cultural awareness and competence could be considered a natural advantage to a team member. In addition to working within the team, cross-cultural competence could also be valuable for interactions external to the organization e.g., customers, suppliers, regulators and patients in the myriad markets the team is engaged in (Ramalu et al., 2010).

Team types

The project team resembled a **cheetah team**, which is a small, elite unit, separate from the product development team, that can be mobilized quickly to solve an unexpected problem threatening to hold up a project (Engwall and Svensson, 2001) or an action team (Mohammed et al., 2010); that is, a team performing goal-directed, time-sensitive tasks necessitating members to coordinate actions in real-time and under pressure. These teams occur particularly in complex settings (Salas et al., 2008), where swift responses depend on team members' ability to effectively incorporate their cognitive abilities. On a large, dynamically complex project in which team members had a record of "good problem-solving abilities," the study revealed how the team members demonstrated a collective ability to swiftly handle emergent issues, which again decreased the intensity of time and performance pressure (Hansen et al., 2020).

When it works, the project team is an extremely complex 'ecosystem' that is constantly evolving and adapting to its environment. It might simply be a group of individuals, but the collective team organization is a cohesive unit that can achieve the seemingly impossible whilst growing ever stronger. Yet it is also extremely **fragile** – make one change and the whole entity suffers, requiring an extended period in which to recover (Jordan, 2016).

A project team unites people with varied knowledge, expertise and experience who, within the life span of the project but overlong work cycles, must acquire and pool large amounts of information to define or clarify their purpose, adapt or create the means to progressively elaborate an incrementally or radically new concept, service, product, activity, or more generally, to generate change (Drouin and Sankaran, 2017). The project team carries out the day-to-day technical work of the project, produces the project's deliverables they are responsible for carrying out the tasks that are assigned to them and report to the project manager (Bernie Roseke, 2019). One of the highly sensitive tasks is structuring a project team, which the most effective method is structuring teams by the team members' affinities and talents presented as team roles (Šandrk Nukić et al., 2015).

Team climate

The team climate is the exchange of ideas and perceptions among team members in favour to promote innovation in work processes. Team climate factors such as *collaboration*, *cooperation*, *coordination*, *collective thinking, role allocation, participative safety,* and *cohesion* are synonyms for each other and therefore they have a significant impact on team performance (Soomro and Salleh, 2014).

Team learning and knowledge integration

Distributed teams are common in global companies. By understanding the elements that affect Knowledge Work Productivity (KWP), companies can stimulate or decrease specific elements to improve the productivity of their distributed knowledge workers (Bosch-Sijtsema et al., 2009). The crucial elements of KWP in distributed teams include time spent by knowledge workers in different work modes and on different tasks; team structure and composition; team process; physical, virtual and social workspaces; and organizational context.

Under what conditions do team learning behaviours best predict team performance? From meta-analytic efforts synthesize results from 113 effect sizes and 7758 teams to investigate how different conceptualizations (fundamental, intrateam, and interteam), team characteristics (team size and team familiarity), task characteristics (interdependence, complexity, and type), and methodological characteristics (students vs. nonstudents and measurement choice) affect the relationship between team learning behaviours and team performance. While different conceptualizations of team learning behaviours independently predict performance, only **intrateam** learning behaviours uniquely predict performance. A more in-depth investigation into the moderating conditions contradicts the familiar adage of "it depends." The strength of the relationship between intrateam learning behaviours and team performance did not depend on team familiarity, task complexity, or sample type. However, results suggested this relationship was stronger in larger teams, task teams with moderate interdependence, teams performing project/action tasks, and studies that use measures that capture a wider breadth of the team learning behaviour construct space. These efforts suggest that common boundary conditions do not moderate this relationship. Scholars can leverage these results to develop

more comprehensive theories addressing the different conceptualizations of team learning behaviours as well as providing clarity on the scenarios where team learning behaviours are most needed. Further, practitioners can use the results to develop more guided team-based policies that can overcome some of the challenges of forming and developing learning teams (Wiese et al., 2021).

Knowledge integration is critical to achieving both objective and subjective team effectiveness goals. Integrating knowledge resources, however, is a challenging activity for teams. Results indicated that both learning and performance-proven goal orientations positively influenced team knowledge integration, and knowledge integration impacted both objective and subjective dimensions of team effectiveness (Mehta and Mehta, 2018). A study that examined 48 teams performing a virtual consulting project indicated a mediating effect of team learning on the relationship between beliefs about the interpersonal context and team effectiveness (Ortega et al., 2010). These findings suggest the importance of team learning for developing effective virtual teams.

On a large, dynamically complex project in which team members had a record of "**good problem-solving abilities**," the study revealed how the team members demonstrated a collective ability to swiftly handle emergent issues, which again decreased the intensity of time and performance pressure (Hansen et al., 2020).

2. 2. 2. Project manager leadership role

The role of project managers seems to be very misunderstood throughout the world because many project managers arrive at their positions as a natural progression from their jobs as engineers, programmers, scientists, and other kinds of jobs. However, it is beyond handling the technical issues. The primary responsibility of the project manager is to ensure that all work is completed on time, within budget and scope, and at the correct performance level(Heagney, 2016).

Effective leadership excites people to exceptional performance. Dynamically complex projects require quite talented **leadership**. Alberts (2007) stated that an organization's ability to create and manage knowledge maybe its only lasting competitive advantage. Managers, whose responsibilities include fostering purposeful knowledge creation and transfer, need a framework for understanding how these goals can be factored into team performance and what factors contribute to the achievement of these goals. Leadership is among the most important factors (clarity of mission, involvement of key experts, multidiscipline understanding, the effectiveness of team processes, group well-being, the team's relationship to product users, leadership, and organization support) that contribute to successful team performance (Alberts, 2007).

More broadly, the challenge for the next generation of project leaders will be to develop the capacities of their team members for learning, knowledge-creation, and systems thinking about the project and the complex systems they operate within – all within a relatively short time. Therefore, establishing a critical role for leaders in guiding to higher levels of effectiveness is required. This role centers on using the thinking capacities associated with systems thinking, knowledge processing, action learning, and pragmatism. It is also to design systems to imbue these capacities into the operation of project teams (Cavaleri and Reed, 2008).

It is indispensable to select an experienced project manager who is leading an effective team and at the same time negotiating for ample time to execute the project. A study in Malaysia by Fung (2015) developed research models related to **8 leadership roles** (mentor, facilitator, innovator, broker, monitor, coordinator, producer, and director). Based on a sample of 201 project managers, this empirical study confirmed that a project manager's leadership roles are positively influencing project team effectiveness. At the same time, only project management experience and project duration are positively moderating the relationship between leadership roles and project team effectiveness (Fung, 2015).

2. 2. 3. Project manager leadership style

Project leadership is an evolution of successful project management and with an understanding of the different styles of leadership, coupled with the appropriate application of the different styles, project leadership can be developed by all project managers thereby ensuring continued project success(Doyle, 2016). (Goleman, 2017) proposed six leadership styles and their attributes (**Figure 1**) and summarized that leaders who used styles that positively affected the six working environments or climate (flexibility, responsibility, standards, rewards, clarity, and commitment) have decidedly better results than those who did not.

Style	Coercive	Athoritative	Affiliative	Democratic	Pacesetting	Coaching
The Leader's modus operandi	Demands immediate compliance	Mobilize people toward a vsion	Creates harmony and builds emotional bonds	Forges consensus through participation	Sets high standards for performance	Develops people for the future
The style in phrase	**"Do what I tell you."**	**"Come with me."**	**"People come first."**	**"What do you think?"**	**"Do as I do, now."**	**"Try this."**
Underlying EQ competencies	Drive to achieve, intiative, self-control	Self confiddence, emphathy, change, catalyst	Emphathy, building relationships, communication	Collaboration, team-leadership, communication	Conscientiousness, drive to achieve, initiative	Developing others, empathy, self-awareness
When the style best works	In a crisis, to kick start a turnaround or with problem employees	When changes require a new vision, or when a clear direction is needed	To heal rifts in a team or to motivate people during stressful circumstances	To build buy-in or consensus or get input from valuable employees	To get quick results from a highly motivated and competent team	To help an employee improve perfoamnce or develop long-term strengths
Overall impact on climate	**Negative**	**Most strongly positive**	**Positive**	**Positives**	**Negative**	**Positive**

Figure 2: The six leadership styles and their attributes.

According to the data, the authoritative leadership style has the most positive effect on climate, but three others—affiliative, democratic, and coaching—follow close behind. That said, the research indicates that no style should be relied on exclusively, and all have at least short-term uses.

2. 2. 4. Project managers' communication

Communication is one of the project management bodies of knowledge indispensable for the success of projects(PMI, 2021). Effective communication is the most significant ability for a project manager and successful project. However, during the management of project communication, it is very often forgotten, often overlooked or taken for granted. In the management of projects, it is principally necessary to deal with communication during all project lifecycle. The primary responsibility of the project manager is to ensure that all work is completed on time, within budget and scope, and at the correct performance level(Heagney, 2016).

Project communications channels include communication methods, communication tools, communication frequency and support communication for the effective management of project communication(Samáková et al., 2017). In detail, communication methods are **straight** (meeting, personal interview, phone call, workshop, conference, and social activities); **synchronous – virtual** (e-conference such as teleconferencing, videoconferencing, and tele-videoconferencing as well as internet forum); and **asynchronous** (newsletter, project documents, letter, board, and website). The communication tools are e-mail, telephone, presentation, video call, fax, paper, unified communication, chat, internal chat, social network, and video recording)and support of project communication (Microsoft outlook, Microsoft net meeting, calendar from company Google, Microsoft Office communicator).

Team members, including the project manager, need to interact with one another to get project work done. The most potent form of interaction, however, remains face-to-face interaction for at least two reasons: it allows for far richer forms of communication and it facilitates the exercise of group pressure far more than digital interaction (Cobb, 2011). Team members get a deeper feeling for what the team as a whole considers important when dealing with one another face-to-face. As face-to-face interaction is replaced with virtual means of interaction like voice-only communications (phone conferences) and emails (Cascio, 2000), the team begins to lose this richness of interaction and the power of physical presence.

Non-verbal communication (**NVC**) is an important component of human communication. A movement of the body, or some eye contact, can convey significant amounts of information. Hatem, Kwan, and Miles (2014) studied the impact of NVC on team productivity in the construction industry and particularly in the design process. The report indicated that there is a very big difference in the number of NVC movements (and individual productivity) when the participants making up a team have different levels of experience, directly resulting in the more experienced participant dominating the execution of the task. Team productivity was found to be greatly more affected by experience level than by cultural differences in the team (Hatem et al., 2014).

2. 2. 5. Project managers' motivation

Stimulating team member performance requires a project manager to harness many different interpersonal skills. Knowing what motivates each team member will provide the project manager with the ability to connect team members to environments, assignments, responsibilities, and objectives that foster personal motivation. In other words, the project manager should avoid applying a broad application of **motivation** to all team members based solely on the manager's perception. Because motivation can inspire, encourage, and stimulate individuals to achieve common goals through teamwork, it is in the project manager's best interest to drive toward project success (project team performance) through the creation and maintenance of a motivating environment for all members of the team (Peterson, 2007).

Organizations depend on the people that work for them. However, to get the critical work done, businesses need to rely on skilled project managers to stimulate the unmotivated and uncommitted team members out there. To boost the role of a team towards the success of project management, the project manager follows motivation tips (Savage, 2019) of project management: establish an environment of openness; set realistic goals; let them know you trust their abilities; don't ever punish failure; encourage team play; respect their time; provide opportunities for professional development; and be motivated yourself!

For senior project managers to consistently deliver successful projects in a complex environment, they must have superior technical skills and project management expertise. It is also believed that they must also be experts in the "**soft stuff**" – masters of interpersonal management skills which get results – and help both people and projects flourish (Davis and Cable, 2006; Peterson, 2007). The key business drivers and key team behaviours central to effective project management can be improved by incorporating behaviours supportive of engagement; strengths-based management; optimism, resilience, hope, and positive emotions. When all of these characteristics are combined to create a **Positive Workplace environment**, you have created high-performance project teams that improve productivity, profitability, and both employee and customer satisfaction (Davis and Cable, 2006).

2. 2. 6. Project Manager knowledge and learning

Leadership profiles of successful project managers primarily focused on sets of intellectual competencies (IQ), emotional competencies (EQ), and managerial competencies (MQ) and these leadership traits are a contributing factor toward success in projects, of course leading to successful project managers(Novo et al., 2017). From the famous book "Executive EQ" by Robert K. Cooper, CEO of Advanced Intelligence Technologies (Executive and organizational consulting and training firm), and Ayman Sawarf (the founding chairperson of the Foundation for Education in Emotional Literacy (F.E.E.L)), we can be an efficient professional with a high IQ, but a great leader with a high EQ(Cooper and Sawaf, 1998).

Multiple intelligence is a key to project success. The use of multiple intelligences (linguistic intelligence, logical-mathematical; spatial intelligence; bodily-kinesthetic intelligence; musical intelligence; interpersonal intelligence; intrapersonal intelligence; and natural intelligence) significantly enhances team productivity. In addition, various contemporary dimensions of intelligence, such as cultural intelligence, emotional intelligence (EQ), and practical intelligence, may also enhance team performance (Green et al., 2005).

2. 2. 7. Team conflict management

Stress, surprises and communication failures—especially in a virtual environment—are ever-present threats to our project's success. Since project teams bring together people from different disciplines and organizations, a certain level of natural friction is natural (Musonye, 2014; Harpham, 2021). Eliminating project **team conflict** is probably impossible and unhealthy. Some amount of conflict and differences in perspective help us to avoid the curse of groupthink. It is more important to create an atmosphere that encourages everybody to contribute through Harpham's 6 ways to prevent team dysfunction (Harpham, 2021): accelerate team trust through an early quick win; identify points of friction in the team right away; proactively include more junior team members; take the time for team introductions; and most importantly if you're a team member, adapt your communication preferences; and volunteer thoughtfully as a team member.

Resistant teams ended up resisting the authority of the project manager (PM) and derailing the project due to the symptoms of another underlying issue. The **PM** should quickly separate the symptoms from the real problem to prevent the project team from "losing" and prevent it from derailing, quite possibly terminally so. Dealing with this situation requires a three-phase response: acknowledge that the team is feeling as though it is being asked to do too much; respond to the stated position with an objective analysis of what is happening on the project; focus on agreeing on a way forward. Therefore, the long-term success of the team and individuals are achieved without ignoring the project's success at any cost (Jordan, 2021).

A company faces conflicts related to project leadership, organizational structure and stakeholder involvement but to varying extents thus, there is a paramount need to address and manage conflicts to improve project team productivity as a way to increase the overall performance of the organization. From the study findings, Musonye (2014) recommends that in order to maintain their existence in the market, companies should practice conflict management of project teams to boost productivity.

Conflict states (which include task and relationship conflict types), which are the shared perceptions among members about a disagreement over task and relationship conflict, and conflict processes (cooperative and competitive management approaches), which are members' interactions aimed at working through tasks and interpersonal disagreements. The study provided task conflict at the end of a team's life cycle, like relationship conflict, can have a significant negative effect on performance, but only when **teams' conflict management** approaches are competitive (rather than cooperative) (Maltarich et al., 2018).

Researchers proposed 5 approaches for managing project team conflict (Five Approaches to Managing Conflict (conflictmediate.com)): avoidance (low assertive, low cooperation), accommodation (low assertive, high cooperation), competition (high assertive, low cooperation), compromise (moderately assertive and cooperative), collaboration (high assertive, high cooperation).

2. 3. The Success of project management

Project management is the approach used by the project manager on the application of knowledge, skills, tools and techniques to manage project activities with the ultimate aim to meet the project goals and stakeholders' expectations (PMI, 2021). Moreover, project management typically refers to the tasks that include defining a project's demands, specifying the type of work, allocating required resources, planning and implementation phases, and controlling the project progress stages (Meredith and Mantel Jr, 2011).

Team leadership is essential for team effectiveness. The contribution of leadership to effective team performance rests on the extent to which team leaders help members achieve a synergistic threshold, where collective effort accomplishes more than the sum of individual abilities or efforts(Zaccaro et al., 2008). A project manager is a person most responsible not only for the success of "iron triangle" (cost, time, and quality) management(De Wit, 1988) but also for integration, scope, human resource, communication, risk and procurement

management. Therefore, she/he needs to be qualified to motivate and lead members of the project management team to success (PMI, 2021; Henkel et al., 2019). Project managers must learn how to develop their skills and ability on time, with much collaboration, these technologies include leadership, communication, organization, team building, coping and risks including management, conflict, planning and resource management and skills technologies. Successful project management requires the technical expertise of an effective project manager, and the ability to motivate, and lead a project management team (Gasemagha and Kowang, 2021).

In nutshell, the nature of the team (size, diversity, identity, type, climate, system, knowledge and learning, building and development, etc), the project manager's leadership role and style, motivation, creativity, conflict management, as well as team readiness are the key roles of team management that ensure the success of project management. In this sub-section, the researcher provided an empirical literature review on the key groups of the success of project management.

(Gido and Clements, 2014) in their famous manual reported that the critical factors for successful global project management are planning and communication, clear objectives, active stakeholders involvement, effective project control, and learning and understanding of the culture and customs of other similar projects (Gido and Clements, 2014). These demonstrate respect, help build trust, and aid in developing an effective project team. Therefore, the role of team management is indispensable for the success of project management.

The **success of project management** can be evaluated through already mentioned criteria of time, cost, quality, scope, resource and activity (Kerzner, 2017), but also through models of measuring success like PMPA – Project Management Performance Assessment (Bryde, 2005) or maturity models of management within an organization like Project Excellence Model® (Westerveld, 2003). It is hard to answer the question of project management success evaluation precisely because project management creates both tangible and intangible benefits(Mir and Pinnington, 2014). Project management success is one of the elements of

project success because the latter is hardly achievable without it (Han et al., 2012). Moreover, the project management success factors are categorized into **C1** (PM competencies; PMs' EQ, *soft* PM elements; stuff in the project team; and application of project management knowledge and skills from PM and project team, as well as their coordination), **C2** (Organizational structure and culture), and **C3** (Project management tools and techniques and project management standards) (Radujković and Sjekavica, 2017).

2. 3. 1. Project team effectiveness

Organizations are seeking to achieve project effectiveness with a lot of effort because: (1) project team effectiveness can increase job productivity and morale of the team members, (2) an effective project team helps the project manager to focus more on the important work by avoiding the need to micro-manage the team's day to day work details, (3) project team effectiveness promotes team work within and across the teams to help the entire organization to perform more effectively, and (4) effective project team can increase service quality and customer satisfaction (Fung, 2015).

Research on team effectiveness has used several criteria for team success. Three of the most important are success in producing client deliverables, promoting team development, and developing team commitment (Cobb, 2011). Productivity and achievement of project aims are critical things considered in the evaluation of project success and effectiveness. Project team management (communications, motivation, effective human resources etc.) has a direct impact on productivity since this is the core unit of activity execution (Kara and Kester, 2015). The **5 criteria** of project team effectiveness (team mission, goal achievement, empowerment, open and honest communication, and positive roles and norms) (Fung, 2015).

2. 3. 2. Project team performance

A "high-performance work team" refers to a group of goal-focused individuals with specialized expertise and complementary skills that collaborate, innovate, and produce

consistently superior results. The group relentlessly pursues performance excellence through shared goals, shared leadership, collaboration, open communication, clear role expectations and group operating rules, early conflict resolution, and a strong sense of accountability and trust among its members (Maheshwari, 2020). The most important eight factors that contribute to successful team performance: (1) Clarity of mission, (2) Involvement of key experts, (3) Multidiscipline understanding, (4) Effectiveness of team processes, (5) Group well-being, (6) The team's relationship to product users. (7) Leadership, (8) Organization support (Alberts, 2007).

2. 3. 3. Other Factors for the Success of Project Management

Organizations (enterprises) must increase operational efficiency to gain a competitive advantage in this stiff global competition, and operational efficiency has resulted from fast problem resolution and opportunity creation. The challenge facing a project manager in this era is how to complete a project quickly, and one of the most commonly used methods is **crashing**, which implies shortening the project duration by increasing the number of workers and equipment, and by working overtime. Although the project productivity can increase along with the increase of workers when the number of workers reaches a certain level, even if the worker is further increased, the project cannot be positively benefited; therefore, the increased workers are not only wasted but also decrease the entire project productivity (Lai et al., 2017).

Attributes of effective team conditions such as contribution, communication, responsibility and accountability, experimentation and creativity, conflict and competition, and interpersonal relationships measure the condition of construction teams are positively related to their performance. In addition, the transformational leadership behaviour of team leaders correlates in a positive direction with team performance across the criteria used in the analysis. Overall, transformational leaders in the construction industry led their teams to achieve higher levels of performance (Tabassi et al., 2017).

Dasí, Pedersen, Barakat, and Alves (2021) analyzed the relationships between project performance and the team's ability, motivation, and opportunity (**AMO**) by exploring which combinations of AMO factors are best for the project performance at different levels of complexity. The hypotheses tested on a sample of 285 projects, the study showed that, whereas ability is the key factor both as a main effect and as a constraining factor that acts as a bottleneck for project performance in simple projects, in the case of complex projects, the **multiplicative model** is superior given the significant interaction effects of motivation (Dasí et al., 2021).

Productivity and work efficiency are common words in the consulting business. Productivity means each project member can utilize their effort to complete an assignment within a specific resource, budget and timeline. Productivity is not considered on an individual but also consider as a team or group of workers. Great teamwork also increases the productivity of the implementation project. In other words, efficiency means how we can utilize the current resource to complete the project on the plan or faster than schedule. Change management – **PDCA** (Plan/Do/Check/Act) technique and/or some other specific change control and communication technique to mitigate delay and risk that may happen along the way of project implementation – is a key factor to improve project productivity and efficiency (Wichayasiri, 2018).

Job crafting involves the process through which employees can define and structure their tasks and environment at work in ways they find meaningful (Wrzesniewski and Dutton, 2001). By taking more control over the design and nature of their job, people can derive more meaning from their work. It has been suggested that employee **job crafting** is positively related to job performance through employee work engagement. Expanding this individual-level perspective to the team level by hypothesizing that team job crafting relates positively to team performance through teamwork engagement, data collected among 525 individuals working in 54 teams that provided occupational health services largely supported that job crafting can be simultaneously used at the team and individual level to improve job performance (Tims et al., 2013).

Having extended the research (Hyväri, 2006; Andersen et al., 2006; Christenson and Walker, 2008) to the identification of the variables responsible for the success of projects, (Besteiro et al., 2015) selected six variables using the "Joint Analysis Method" indicated as relevant for each drivers group. The Critical Success Factors (variables) for the successful Project Management identified by the four drivers groups (Managerial Ability Group, Critical Success Factors Group, Monitoring and Control Group, and Lessons Learned Group), by order of importance, were:

1) **Managerial Abilities Group** – ability to communicate, define the schedule, accept the proposal of the project, indicate roles and responsibilities, define realistic goals and objectives and team qualifications;

2) **Critical Success Factors Group** – defining the scope of the project, the deadline of the project, the commitment, planning, ability to communicate, and meeting the budget;

3) **Monitoring and Control Group** – monitoring meetings, deadline variation, benefit variation, control point, budget variation and identification of goal deviations;

4) **Lessons Learned Group** – deadline, budget, communication, project proposal, goals and project documentation.

2. 4. Conceptual framework of the study

The current study was performed having proposed the below conceptual framework to analyze the three RTM categories, viz., sociodemographic characteristics (gender, age, marital status, education status, monthly salary, form of employment, previous and current project work experiences, and role on the team), team composition (team size, type, identity, climate, system, and knowledge and learning), and PM leadership competency (role, style, communication, motivation, and conflict management) whether they impact the 4 drivers group(Besteiro et al., 2015), such as Managerial Ability Group (ability to communicate, define the schedule, accept proposals from the project, indicate roles and responsibilities, define realistic goals and objectives, and team qualification), Critical Success Factors Group (defining the scope of the project, meeting the deadline, commitment from the team, planning

the project, ability to communicate, and meeting the budget), Monitoring and Control Group (project monitoring meeting, deadline variation, benefit variation, determining the control points, budget variation, and identification of goal deviation (feedback meetings), and Lessons Learned Group (conclusion with the planned deadline, concluding with the planned budget, information as to the evolution of the project (communication), conclusion with the established scope (project proposal), changes to objectives and goals, and compilation of project documentation).

Based on the findings, the researcher provided an answer to the key research questions after a justifiable relationship was witnessed between the predictors (key factors of the role of team management) and the dependents (the 24 critical success factors for the success of the project management).

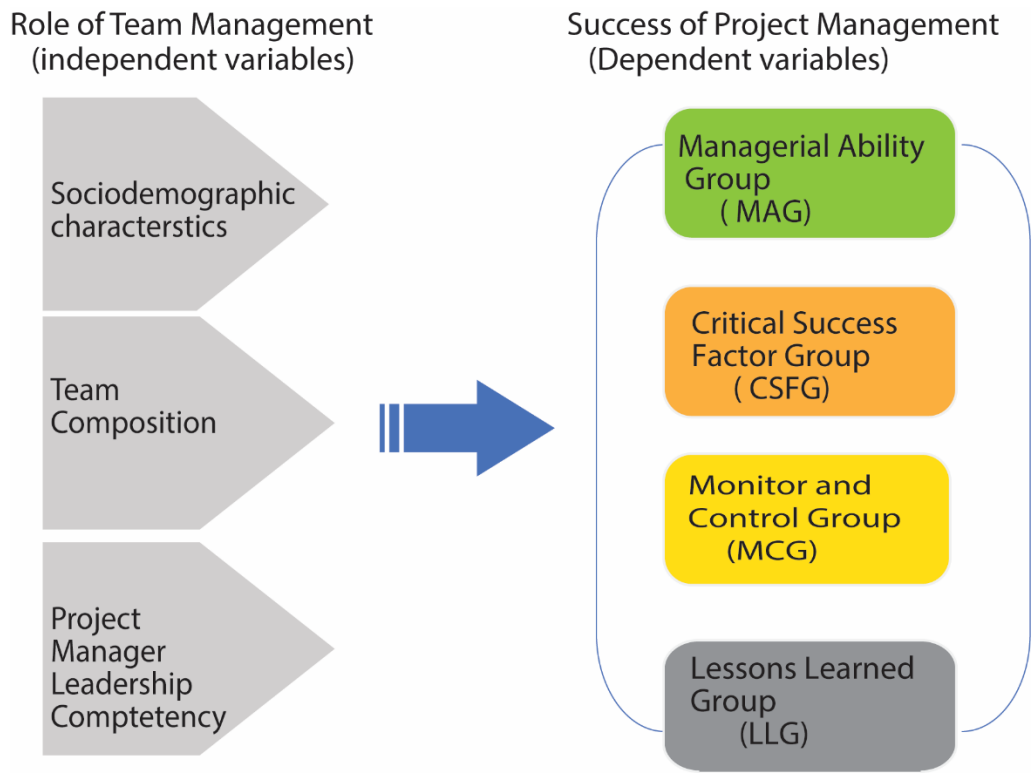

Figure 2: Conceptual framework of the current project work (prepared by the researcher with the description stated above).

CHAPTER 3: RESEARCH METHODOLOGY

3. 1. Chapter introduction

This chapter covers the study design, study variables, study area and population, sampling procedure, sample size, data collection instrument, methods of data collection, and ethical considerations while conducting the research.

3. 2. Research design

The study is going to identify and analyze the role of team management on the success of project management by taking Plan International Ethiopia (PIE) as a case study. Therefore, it is explanatory – to identify any causal links between the factors or variables that pertain to the research problem –that the current study followed.

PIE as a case study would be indispensable in investigating the effect of project team management on the success of project management. Case studies not only provide details of the organization, but also in-depth knowledge regarding the team, its management, and how that positively impacts the project management success. We will use a questionnaire-based qualitative and quantitative data collection approach to obtain quality information from all team members including the project manager. Quantitative data collection is cost-effective, quicker, objective, and quite accurate. In the current study, we will be collected and analyzed numerical data on the roles of team management that are critical for the success of project management.

In the current research, we collected and compared quite sizable variables (as we already pointed out in chapter 2) at one point in time. Then, it was a cross-sectional study that helped to analyze data of variables collected at one given point in time across a sample population and on a pre-defined subset. It's quicker, to collect these variables at one time, and multiple results can be researched at once.

3. 3. Study variables

Independent variables are the ones you might think of as the manipulated“input” variables, while the dependent variables are the ones where the impact or “output” of that input variation would be observed. In our case, the independent variables are the **sociodemographic characteristics**, **team composition** (team size, type, identity, climate, system, and knowledge and learning), **PM leadership role, PM leadership style, PM communication, PM motivation,** and **PM conflict management** (The 5 Main Roles of the Project Manager (projectengineer.net) and (6 Project Management Leadership Styles (brightwork.com).

The dependent variable is the success of project management. The researcher selected 6 variables from 4 drivers group, such as **Managerial Ability Group** (ability to communicate, define the schedule, accept proposals from the project, indicate roles and responsibilities, define realistic goals and objectives, and team qualification), **Critical Success Factors Group** (defining the scope of the project, meeting the deadline, commitment from the team, planning the project, ability to communicate, and meeting the budget), **Monitoring and Control Group** (project monitoring meeting, deadline variation, benefit variation, determining the control points, budget variation, and identification of goal deviation (feedback meetings), and **Lessons Learned Group** (conclusion with the planned deadline, concluding with the planned budget, information as to the evolution of the project (communication), conclusion with the established scope (project proposal), changes to objectives and goals, and compilation of project documentation).

3. 4. Study area and population

Plan International Ethiopia (PIE) is a humanitarian organization that has been working on children, young people and communities for over 80 years and is committed to making a lasting impact on the lives of the most vulnerable and excluded children while supporting the children's rights and gender equality. Structurally, Plan International, Inc. includes the Global Hub which is located in the United Kingdom, over 50 Country Offices and their Programme

Units, 4 Regional Hubs (for the Americas (located in Panama), for Asia Pacific (located in Bangkok), for the Middle East, Eastern and Southern Africa (located in Nairobi) and one in West and Central Africa (located in Senegal) and 4 Liaison Offices (Geneva, New York, Addis Ababa, and Brussels). These Liaison Offices provide a platform to strengthen our partnerships with international bodies, negotiations with key decision-makers and promote the rights of children globally.

When it comes to PIE, there are four programmes, viz., **Programme 1**: Enabling environment for ending Child Early and Forced Marriage; **Programme 2**: Protection from violence incl. abuse, exploitation, sexual and gender-based violence and CEFM; **Programme** 3: Girls are equally cared for and can access gender-responsive and safe schools and learning spaces; and **Programme 4**: Young women have increased capacities and opportunities for employment and entrepreneurship. The current study focuses on Programme 1 with 4 Projects (She Leads, Yena Raey, Break Free, and Transform Assertiveness for Local Communities in HTP) and Programme 2 with 3 Projects (Ethiopian Joint Responses, Protection on Unaccompanied and Separated Children for South Sudan Refugees, and Protection of Conflict Displaced Children in Amhara, Tigray and Afar Regions). But, fortunately, we extended to 35 projects. Under each of these programs, there are a total of 56 projects with at least a minimum of 4 employees that account for 224 staff.

3. 5. Sampling technique/method

Taking a subset from chosen sampling frame or entire population is called sampling. Sampling can be used to make inferences about a population or to make generalizations to existing theory. Generally, they are two types of sampling techniques such as probability or random sampling (simple random, stratified, cluster sampling, systematic sampling, and multi-stage sampling) and non-probability sampling (quota sampling, snowball sampling, purposive or judgment sampling, and convenience sampling)(Taherdoost, 2016).

As mentioned above, the target populations are team members of Plan International Ethiopia (PIE) who completed and still have been working on from single to multiple 35 projects under the umbrella of 4 Programme. The current study excluded the lines of Operational Director, Humanitarian Director, Head of Business Development, and Head of influencing and Communication of PIE as the focus of the study is on Program Director's wing that leads projects under 4 programmes and focus on 56 projects.

The researcher employed a simple random sampling technique giving equal chances to all the members of the 56 projects. Typically, probability sampling is a favoured sampling technique among students as it is an inexpensive, convenient, and simple option compared to other sampling techniques. Since our collaborator, a project manager at PIE, got access to most of the project members and the respondents were readily and easily available, though sampling error is inevitable, we trusted those participants of 35 projects (62.5%) represent the entire project team at PIE.

3. 6. Sample size

The sample size is a set of participants selected from the population (complete set of people or universe), which is less in number (size) but adequately represents the population from which it is drawn so that true inferences about the population can be made from the results obtained (Kadam and Bhalerao, 2010). This set of individuals is known as the "sample." The size of respondents is very important for getting accurate, statistically significant results and running the study successfully.

For the current study, the population is the total number of staff who participated in all the 56 projects under the 4 Programme of PIE. We considered the minimum number of team members including the PM in a single project to be 4. Multiplying with the total number of projects, the population become 224 staff members (N = 224). For this research, representative projects from the 4 Programme were conveniently selected (details of the first 18 projects originally targeted are not disclosed in this paper due to data confidentiality, but will be

available to the examiners upon request). Then the critical value of the normal distribution was determined at the 95% confidence level, which is 1.96 (**z**-score at 95% CI). Next, the researcher determined the sample proportion (**p**) which can be used from previous survey results or be collected by running a small pilot survey. Since the researcher could not be sure, 0.5 (50%) was used as a conservative approach, and it will give the largest possible sample size. Then, the margin of error (**e**) was determined, which is the range in which the true population is expected to lie. The researcher was taken the smaller (5%) level of precision or margin of error(e = 0.05) for the more precision and hence the exact answer.

The standard formula (based on "Corrected" Cochran's sample size formula) for sample size is:

$$n = N \times \frac{\frac{Z^2 \times p \times (1-p)}{e^2}}{\left[N - 1 + \frac{Z^2 \times p \times (1-p)}{e^2}\right]}$$

Or, the rounded form of the above samples size calculation is,

$$n= [z2 * p (1-p)] / e2 / 1 + [z2 * p (1-p)] / e2 * N]$$

In the current paper, using N = population size of the 56 project staff (224); z-score = 1.96; sample population (p) = 0.05; and margin of error (level of precision), e = 0.05. The sample size calculated was 141.728 ~ 142 respondents, PIE team members (unit of analysis) engaging in 35 projects including PIE project teams, PM, Programme Head, Programme Director, and Project Sponsor.

3. 7. Data collection

Source

All the necessary data was gathered from the primary source who are employees among the team members of the 56 Projects, the Programme head, and the programme sponsor through

questionnaires from the current employees who finished and/or finalized projects and former employees who completed projects at PIE.

Types

Data was collected virtually through Microsoft Forms distributed through email, Telegram, and LinkedIn where both the PI and collaborator at PIE engaged. They were used to obtain the desired information from the team members, PM, Programme Head, Programme Director, and Projects sponsor – which is the population of interest – and each item designed addressed the specific objective of the study. The questions were checked whether all the terms were well understood by the target respondents at PIE and simplified by providing a brief explanation.

Instruments

A questionnaire was used as a data collecting instrument containing questions to gather information from the respondents of the target population at PIE. Using a questionnaire, especially using Microsoft Forms, is a cheap, user-friendly, and suitable type of data compilation. The researcher developed the questionnaire focusing on the specific objectives of the project work, the **role of the team management** including the sociodemographic characteristics (gender, age, marital status, education status, monthly income, the form of employment, current and previous project experience, and role on the team); team composition (such as team size, types, identity, climate, system, and knowledge and learning); project manager competency (leadership role, style, communication, motivation, knowledge and learning, and conflict management) towards the success of project management (categorized into 4: Managerial ability group, critical success factor (CSF) group, monitoring and control group, and lessons learned group) (**Annexe III**. The latter were close-ended with the 5 Likert Scale: Very Poor (1) Poor (2), Fair (3), Good (4), and Excellent (5). It was open for about 12 days to be filled out by the respondents.

3. 8. Data analysis – model, technique, and software

The data analysis **process,** or alternately, **data analysis steps**, involves gathering all the information, processing it, exploring the data, and using it to find patterns and other insights. The process consists of data requirement gathering, data collection, data cleansing, data analysis, data interpretation, and data visualization(Kelley, 2022).

Statistical analysis answers the question, "What happened?" This analysis covers data collection, analysis, **modeling**, interpretation, and presentation using dashboards. The statistical analysis breaks down into two sub-categories: 1) Descriptive analysis works with either complete or selections of summarized numerical data. It illustrates means and deviations in continuous data and percentages and frequencies in categorical data and 2) Inferential analysis works with samples derived from complete data. An analyst can arrive at different conclusions from the same comprehensive data set just by choosing different samplings. A descriptive statistics model was employed for the current study. To investigate the relationship and their strength between the independent and dependent variables, correlation and regression tests were performed.

Data analysis techniques (interchangeably data analysis methods or data analysis types) are the kind of data analysis used, which all fall into qualitative analysis and quantitative analysis. The qualitative data analysis **method** derives data via words, symbols, pictures, and observations This method doesn't use statistics and the common qualitative methods include content analysis (for analyzing behavioural and verbal data), narrative analysis (for working with data culled from an interview, diaries, and surveys), and grounded theory (for developing causal explanations for a given event by studying and extrapolating from one or more past cases). On the other hand, quantitative data analysis is a statistical data analysis method that collects raw data and processes it into numerical data, which includes hypothesis testing (for assessing the truth of a given hypothesis or theory for a data set or demographic), mean (or average determines a subject's overall trend by dividing the sum of a list of numbers by the number of items on the list), and sample size determination. With this, the current study

employed quantitative analysis methods to present the role the team management in PIE projects on the success of project management.

The responses from the online Microsoft Forms were exported to Microsoft Excel, coded, and imported to Statical Program for Social Science (SPSS) **software**. There, descriptive (mean, mode, standard deviation, etc), correlation, and regression tests were performed. And it endeavoured to establish the relationship between the role of team management and the success of project management through correlation and regression. This single point in time responses will be analyzed and interpreted through Pearson Correlation and regression analysis to determine the relationship and the effect of the two variables (to determine which independent variable hold the most influence over dependent variables – that can be leveraged to make essential research and business decision). Analyzed data were again exported to Excel to re-arrange in tabular form.

3. 9. Reliability and validity analysis

Reliability and validity are ways of demonstrating and communicating the rigour of research processes and the trustworthiness of research findings. Reliability describes how far a particular test, procedure or tool, such as a questionnaire, will produce similar results in different circumstances (**consistency**), assuming nothing else has changed. Whereas validity is about the closeness (**accuracy**) of what we believe we are measuring to what we intended to measure(Roberts and Priest, 2006). We have performed reliability and validity of the quantitative research, which the current study is about. Internal consistency of items such as individual questions in a questionnaire can be measured using statistical procedures such as Cronbach's alpha coefficient(Cronbach, 1951), randomly splitting all the responses to a question into two sets, totalling the scores on the two sets, and working out the correlation between the two sets. This is known as a 'split-half test. Reliability is the proportion of variability in a measured score that is due to variability in the true score (rather than some kind of error). A reliability of 0.9 means 90 per cent of the variability in the observed score is

true and 10 per cent is due to error. Reliability of 80 to 90 per cent is recommended for most research purposes.

Validity is a subtler concept. It is about the closeness of what we believe we are measuring to what we intended to measure. Validity in quantitative research is two broad measures of validity - external and internal(Roberts and Priest, 2006). External validity addresses the ability to apply with confidence the findings of the study to other people and other situations, and ensures that the 'conditions under which the study is carried out are representative of the situations and time to which the results are to apply'. The sample of participants drawn from the population of interest must be representative of that population at the time of the study. Finally, representative samples should be drawn concerning relevant variables in the study, such as gender and age(Black, 1999). Internal validity addresses the reasons for the outcomes of the study and helps to reduce other, often unanticipated, reasons for these outcomes. Three approaches to assessing internal validity are content validity, criterion-related validity, and construct validity. Criterion-related validity is a stronger form of validity, established when a tool such as a questionnaire can be compared to other similar validated measures of the same concept or phenomenon(Eby, 1994; Punch, 1998).

The researcher ensured external and internal validity by sharing the questionnaire with the 35 project team participants (that is 35 (out of 56 projects at PIE) and criterion-related validity by consulting with representative project managers to verify the criteria are comprehensive, understandable, and incongruous with the terminologies commonly used by project teams at PIE.

With this, the researcher performed a reliability test of the 24 dependent variables using SPSS and the Cronbach's Alpha was found to be 0.954, which is in the recommended range for most research purposes (Table 1).

Table 1: Reliability test of the 24 dependent variable items.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.954	.955	24

Item-Total Statistics

Dependent Variables	Cronbach's Alpha if Item Deleted
Ability to communicate	.951
Defining the schedule	.951
Accepting the proposal of the project	.953
Indicating roles and responsibilities	.953
Defining realistic goals and objectives	.953
Team qualification	.954
Defining the scope of the project	.952
Meeting the deadline	.952
Commitment from the team	.954
Planning the project	.951
Ability to communicate	.952
Meeting the budget	.953
Project monitoring meetings	.953
Deadline variation	.954
Benefit variation	.953
Determining the Control points	.952
Budget variation	.952
Identification of goal deviations (Feedback meetings)	.952
Conclusion with the planned deadline	.951
Conclusion with the planned budget	.952
Information as to the evolution of the project (Communication)	.951
Conclusion with the established scope (Project proposal)	.951
Changes to objectives and goals	.953
Compilation of project documentation	.951

3. 10. Ethical Consideration

The principal investigator and the collaborator at PIE shared the research title, objectives, and the aim of the collaborative research with the respondents in-person, via phone, email, telegram, and LinkedIn. After informed consent (to fill out the questionnaire and dissemination of the outcome through publication) was obtained, the questionnaire was shared with either of the above-mentioned platforms. All the ethical considerations such as anonymity and confidentiality were maintained.

The questionnaire was equipped with contact information of both the data collector and principal investigator and responses were automatically registered on Microsoft Platform and grouped in an email without any disclosed information to anyone out of the investigators.

CHAPTER 4: DATA ANALYSIS AND INTERPRETATION

4. 1. Chapter introduction

In this chapter, the researcher presents data analysis and interpretation of the findings. Descriptive statistics - illustrating means and deviations in continuous data and percentages and frequencies in categorical data – was used as a technique. Data were analyzed and interpreted to see the relationship between the role of team management such as the socio-demographic characteristics, team composition, and PM leadership competency (the PM's role, style, communication, motivation, knowledge and learning, and conflict management) on the critical success factors for the success of project management in terms of 4 important groups: managerial ability, critical success factor, monitoring and control, and lessons learning on projects completed and/or finalized 35 projects at Plan International Ethiopia. Below is provided the socio-demographic information of the respondents, descriptive statistics (means and deviations, frequency and percentage), correlation and regression analysis along with their discussions.

4. 2. Demographic information of the respondents

Tables 3-6 below are provided with the demographic information, team composition, and project managers' leadership competency, respectively. Since the total number of respondents used for the current analysis is 96, which is convenient to estimate the percent and easy to present to the reader, the researchers preferred to present the sociodemographic characteristics, team composition, and the project manager leadership competency in terms of percent only.

Based on the data analysis, while 80.2% were males, 56.3% were between the ages of 31-40 years, 67.7% of them are married, and graduated with a first degree (31.3%) and master's degree (68.8%). Their previous experience working in another organization was more pronounced than their current employment year at PIE. When we analyzed their term of

employment, while 43.8% are based on fixed conditions, 54.2% of them were project-based. As stated above, while 35 project managers participated in the current study, the majority of them (59.4%) were team members. With this, being married with a high academic degree, working on fixed and project-based employment, with a majority of team members engagement, the researcher is encouraged to deduce that respondents' maturity, responsibility, and respecting the team management roles and responsibilities to meet the requirements of the project are found very high (**Table 2**).

Table 2: Frequency of the sociodemographic characteristics of the team

Socio-demographic data		Frequency	Percent
Gender	Female	19	19.8
	Male	77	80.2
Age (years)	21-30	19	19.8
	31-40	54	56.3
	41-50	22	22.9
	Above 50	1	1.0
Marital Status	Single	30	31.3
	Engeged	1	1.0
	Married	65	67.7
Education Status	First Degree (BSc/BA/MD)	30	31.3
	Masters (MSc/MA/MPH)	66	68.8
Salary (ETB)	Below 8000	1	1.0
	8001-15000	3	3.1
	15001-21000	11	11.5
	21001-35000	22	22.9
	Above 35000	59	61.5
Form of employment	Fixed	42	43.8
	Project-based	52	54.2
	Part-time	2	2.1
Experience (Present)	Less than 2	45	46.9
	2-5	26	27.1
	6-10	22	22.9
	Above 11	3	3.1
Experience (Previous)	Less than 2	10	10.4
	2-5	34	35.4
	6-10	29	30.2
	Above 11	23	24.0
Role on the team	Team Member	57	59.4
	Project Manager	35	36.5
	Programme Head	3	3.1
	Project Sponsor	1	1.0
	Total	96	100.0

Regarding the team composition, the team size was found with 5-10 members (49.0%) and above 15 members with 20.8%. While 76.0% of the team types were found action teams (goal-

directed, time-sensitive tasks necessitating members to coordinate actions in real-time and under pressure) and 20.8% were found complex teams (working in an extremely complex 'ecosystem' that is constantly evolving and adapting to its environment and achieve the seemingly impossible even for the most experienced project manager.). This finding aligns with the mission and purpose of PIE and made them "good problem-solving abilities," in which the team members demonstrated a collective ability to swiftly handle emergent issues with decreasing time intensity and performance pressure(Hansen et al., 2020). Interestingly, the majority (58.3%) of the team identity was diversified and co-located and the remaining 18.8% and 16.7% of them were homogenous and co-located and diversified but not co-located, respectively. Cultural diversity has a significant impact on innovation team performance (Jones et al., 2020); more heterogeneous teams were more productive, which is consistent with explanations emphasizing mutual team learning and intra-team bargaining (Hamilton et al., 2003).

From the current findings, 43.8%, 30.2%, and 26.0% of PIE project teams were engaged in the single-project team system, single-programme multiple-project systems, and multiple-programme multiple-projects systems, respectively. Working in a single-project system might help teams to focus on their role to achieve their specific project objectives. But multiple-project engagement has also boosted knowledge integration and problem-solving activities, as our analysis showed in teams' knowledge and learning (**Table 2**) as one of the significant team compositions.

This might help the project team to focus In the current study, the project teams' knowledge and learning were found to account for knowledge integration (43.6%), problem-solving (28.6%), interteam (16.5%), and intrateam (11.3%). The knowledge integration that accounts for 43.6% of the teams' knowledge and learning showed a positive impact on meeting the deadline and budget of the critical success factor group and on the identification of goal deviation (feedback meeting) of the lessons learned group. However, the interteam knowledge and learning integration of the team was found negatively related to defining realistic goals and objectives, planning the project, determining the control points, budget variation, and identification of deviations (feedback meetings). This result proves that it is not the inter-team

knowledge and learning that impact the success of project management, but rather the knowledge integration of the diversified and co-located teams (**Table 3**).

Table 3: Frequency of the team compositions of the project teams at PIE

Team Characterstic (Composition)		Frequency	Percent
Team Size	Below 4	11	11.5
	5-10	47	49.0
	11-15	18	18.8
	Above 15	20	20.8
Team type	Action	73	76.0
	Cheetah	5	5.2
	Complex	14	14.6
	Fragile	4	4.2
Team identity	Homogenous and co-located	18	18.8
	Homogenous and not co-located	6	6.3
	Diversified and co-located	56	58.3
	Diversified and not co-located	16	16.7
Team Climate	Collaboration	29	30.2
	Cooperation	15	15.6
	Coordination	31	32.3
	Collective Thinking	12	12.5
	Role Allocation	8	8.3
	Cohesion	1	1.0
Team System	Single-Project system	42	43.8
	Single Programme, Multiple-Project System	25	26.0
	Multiple Programme, Multiple Project	29	30.2
Team knowledge and learning	Intrateam	15	11.3
	Interteam	22	16.5
	Knowledge integration	58	43.6
	Problem-solving	38	28.6
	Total	96	100

The current finding proved that the project managers' leadership roles in PIE's project were coordinator (45.8%), facilitator (20.8%), and mentor (18.8%). From the current data analysis, most of the PIE project managers' leadership style was democratic (57.3%), coaching (15.6%), and affiliative (12.5%). Therefore, these PM leadership styles have the most positive

effect on team climate (flexibility, responsibility, standards, rewards, clarity, and commitment). Regarding PMs' communication channels, while all types of communication methods (straight, synchronous-virtual, and asynchronous) were effectively used, email (33.3%), telephone (23.1%), and virtual meetings (18.7%) were found the most commonly used communication tools and communication frequency was ranged from every day with 48.5%, once a week (27.6%), once a month (9.0%) and equal weights of once in two weeks and quarterly (7.5%). This proved the project managers at PIE followed the triple "C" that proved the ability to communicate with teams in defining the schedule (MAG-2), defining the scope of the project (CSF-1), meeting the deadline (CSF-2), and planning the project (CSF-4). Interestingly, since the project managers communicate frequently, there was a negative impact on the deadline variation (the second variable of the monitor and control group). As long as there are frequent communication channels a PM is employed, teams would be effective, and there shouldn't be a project submission deadline variation.

According to the study's findings, in PIE, project managers motivated their team members by building trust (26.8%), an open environment (23.4%), professional development (21.5%), setting realistic goals (17.7%), and rewards (9.6%) with the least of punish (1.0%). Project managers' knowledge and learning were 52.2% of multiple intelligence or competencies (MI), 27.1% of intelligence quotient or competencies (IQ), and 20.8% of emotional intelligence or competencies (EQ). This result assured the project managers at PIE have a great leadership knowledge and learning capacity to lead project teams.

When we checked PM's conflict management approach, 61.5% of PM have managed by collaboration (high assertive, high cooperation), 20.8% of PMs used compromise (moderately assertive and cooperative), and 12.5% of them by accommodation (low assertive, high cooperation).

Table 4: Frequency of the project manager leadership role and style, communication, motivation, and conflict management of the project teams at PIE

Project Manager Leadership		Frequency	Percent
PM Leadership Role	Mentor (Coach)	18	18.8
	Facilitator	20	20.8
	Innovator	4	4.2
	Director	6	6.3
	Monitor	4	4.2
	Coordinator	44	45.8
PM Leadership Style	Coercive (“Do what I tell you”)	2	2.1
	Authoritative (“Come with me”)	5	5.2
	Affiliative (“People come first”)	12	12.5
	Democratic (“What do you think”)	55	57.3
	Pacesetting (“Do as I do, now")	7	7.3
	Coaching (“Try this”)	15	15.6
PM Communication Frequency	Everyday	65	48.5
	Once a week	37	27.6
	Once in two weeks	10	7.5
	Once a month	12	9.0
	Quarterly	10	7.5
Frequently used PM Communication Tool	Meeting	47	20.9
	Telephone	52	23.1
	Email	75	33.3
	Virtual Meeting	42	18.7
	Social media	9	4.0
PM Motivation	Open environment	49	23.4
	Set realistic goals	37	17.7
	Build trust	56	26.8
	Reward	20	9.6
	Professional development	45	21.5
	Punish	2	1.0
PM Knowledge and Learning	IQ (Intelligence quotient)	26	27.1
	EQ (Emotional intelligence)	20	20.8
	MI (Multiple Intelligence)	50	52.1
PM Conflict management	Avoidance (low assertive, low cooperation)	4	4.2
	Accommodation (low assertive, high cooperation)	12	12.5
	Competition (high assertive, low cooperation)	1	1.0
	Compromise (moderately assertive and cooperative)	20	20.8
	Collaboration (high assertive, high cooperation)	59	61.5
	Total	96	100.0

4. 3. Descriptive statistics

To understand the level of agreement regarding the critical success factors for the success of project management, project team members were asked to respond to 24 critical success factors. As a result, the researcher analyzed the descriptive statistics of the dependent variables. There were four groups with 6 variables each. The Critical Success Factors (variables) for the successful Project Management identified by the four drivers groups (Managerial Ability Group, Critical Success Factors Group, Monitoring and Control Group, and Lessons Learned Group), by order of importance, were: the managerial ability group (MAG), the critical success factor group (CSFG), the monitor and control group (MCG), and the lessons learned (LLG) group. With each group, there are 6 variables, viz., **MAG** (ability to communicate, defining the schedule, accepting the proposal of the project, indicating roles and responsibilities, defining realistic goals and objectives); **CSFG** (defining the scope of the project, meeting the deadline, commitment from the team, planning the project, ability to communicate, and meeting the budget); **MCG** (project monitoring meetings, deadline variation, benefit variation, determining control points, budget variation, and identification of goal deviations (feedback meetings): and **LLG** (conclusion with the planned deadline, conclusion with the planned budget, information as to the evolution of the project (communication), conclusion with the established scope (project proposal), and compilation of project documentation). Therefore, the total number of dependent variables used for the current study was 24. A Likert Scale was used to evaluate these variables with Very Poor (1), Poor (2), Fair (3), Good (4), and Excellent (5).

Based on our findings, except for budget and benefit variations of the MCG, the remaining (22) critical success factors were found with a mean value of above 4.0, i.e., they were rated good and above on a Likert Scale (84.6% of the respondents rated 4.0 and above), which indicated that there was successful project management at Plan International Ethiopia. Pronouncedly, successful project management, in turn, indicated that more than 91.6% of Plan International projects were rated successful. With this, it's possible to deduce that the role of team management in the 35 PIE projects was indispensable for the success of project management, in particular, and to the success of the project, in general (**Table 5**).

Table 5: The Likert Scale measurement of the critical success factors for the success of project management (Likert Scale: >= 5, Excellent; >= 4, Good; >=3, Fair, >= 2, Poor; and >= 1, Very Poor).

Success of Project mnagement		N	Min	Max	Mean ± SD
Managerial Ability Group (MAG)	Ability to communicate	96	2	5	4.42 ± 0.735
	Defining the schedule	96	2	5	4.27 ± 0.774
	Accepting the proposal of the project	96	1	5	4.27 ± 0.703
	Indicating roles and responsibilities	96	2	5	4.45 ± 0.694
	Defining realistic goals and objectives	96	3	5	4.445 ± 0.630
	Team qualification	96	1	5	4.33 ± 0.735
Critical Success Factor Group (CSFG)	Defining the scope of the project	96	2	5	4.35 ± 0.694
	Meeting the deadline	96	2	5	4.24 ± 0.818
	Commitment from the team	96	3	5	4.44 ± 0.595
	Planning the project	96	2	5	4.33 ± 0.721
	Ability to communicate	96	2	5	4.44 ± 0.678
	Meeting the budget	96	1	5	4.10 ± 0.788
Monitor and Control Group (MCG)	Project monitoring meetings	96	2	5	4.23 ± 0.640
	Deadline variation	96	1	5	4.04 ± 0.845
	Benefit variation	96	1	5	3.86 ± 0.854
	Determining the Control points	96	2	5	4.05 ± 0.745
	Budget variation	96	2	5	3.91 ± 0.769
	Identification of goal deviations (Feedback meetings)	96	2	5	4.09 ± 0.809
Lessons Learned Group (LLG)	Conclusion with the planned deadline	96	2	5	4.05 ± 0.731
	Conclusion with the planned budget	96	3	5	4.08 ± 0.706
	Information as to the evolution of the project (Communication)	96	2	5	4.15 ± 0.781
	Conclusion with the established scope (Project proposal)	96	2	5	4.10 ± 0.732
	Changes to objectives and goals	96	2	5	4.01 ± 0.801
	Compilation of project documentation	96	2	5	4.05 ± 0.838

4. 4. Correlation analysis

Looking at the sociodemographic characteristics, team composition, and PM leadership competency, the current study evaluated the key correlations (the relationship) between the

independent (the role of team management) and dependent variables (the critical success factors for the success of project management). Accordingly, the analysis showed, in general, that there were weak positive correlations between these variables (**Table 6-9**).

Sociodemographic characteristics

Marital status (which accounts for 67.7% married and 31.3% single) was correlated with MAG (defining the schedule, indicating roles and responsibilities, and team qualification), CSF (meeting the deadline and commitment from the team), MCG (benefit variation), LLG (conclusion with the planned deadline, planned budget, information as to the evolution of the project (communication), and compilation of project documentation. The monthly salary was correlated with CSF (defining the scope of the project). Previous project experience was correlated with MAG (defining the schedule), MCG (benefit variation and determining the control points), and all LLG except conclusion with the established scope (project proposal). Role on the team (with 59.4% team members and 36.5% of PM) was established weak positive correlation with MAG (ability to communicate, defining the schedule, indicating roles and responsibilities, defining realistic goals and objectives), CSF (defining the scope of the project, planning the project, and ability to communicate), MCG (project monitoring deadline variation, and identification of goal deviations (feedback meetings)), and LLG (communication and conclusion with the established scope). However, age was negatively correlated with CSF (meeting the budget), and MCG (budget variation and feedback meeting). Besides, the form of employment was negatively correlated with MCG (deadline variation).

Team composition

Knowledge integration was positively correlated with CSF (meeting the deadline and meeting the budget) and MCG (identification of goal deviations (feedback meetings)).

PM leadership competency

The project manager's leadership style was correlated with MAG (accepting the proposal of the project), CSF (defining the scope of the project and ability to communicate), MCG (deadline variation and budget variation), and LLG (conclusion with the planned budget and

changes to objectives and goals). PMC frequency (1 week, monthly, quarterly) was correlated with MAG (defining the schedule), CSF (defining the scope of the project and meeting the deadline), LLG (conclusion with the established scope and changes to objectives and goals). PMC tool (telephone, virtual meeting, social media) was correlated with MAG (accepting the proposal of the project), CSF (defining the scope of the project, planning the project, and ability to communicate), MCG (project monitoring meetings, determining the control point, and feedback meetings).

Having checked on PM motivation, building trust, reward, and/or professional development, there were found positively correlated with MAG (ability to communicate, accepting the proposal of the project, and indicate the roles and responsibilities), CSF (defining the scope of the project, planning the project, and ability to communicate), and LLG (conclusion with the planned deadline, information as to the evolution of the project, conclusion with the established scope, and changes to objectives and goals). However, no surprise, that PM punishment was negatively correlated with MAG (defining realistic goals and objectives), MCG (determining the control points), and LLG (compilation of project documentation).

PM conflict management of the project manager was positively correlated with CSF (ability to communicate), MCG (deadline and benefit variation), and LLG (information as to the evolution of the project (communication).

Table 6: The correlation between the role of team management and the managerial ability group (MAG) for the success of project management

		Correlation					
		Managerial Ability Group					
		MAG-1	MAG-2	MAG-3	MAG-4	MAG-5	MAG-6
The role of team mangement		**Ability to communicate**	**Defining the schedule**	**Accepting the proposal of the project**	**Indicating roles and responsibilities**	**Defining realistic goals and objectives**	**Team qualification**
Marital Status	Pearson		.241*		.201*		.344**
	Sig. (2-tailed)		.018		.050		.001
	N		96		96		96
Experience (Previous)	Pearson		.219*				
	Sig. (2-tailed)		.032				
	N		96				
Role on the team	Pearson	.264**	.283**		.293**	.273**	
	Sig. (2-tailed)	.009	.005		.004	.007	
	N	96	96		96	96	
PM Leadership Style	Pearson			.251*			
	Sig. (2-tailed)			.014			
	N			96			
PMC Frequency_quarterly	Pearson		.239*				
	Sig. (2-tailed)		.020				
	N		95				
PMCTool_telephone	Pearson			.207*			
	Sig. (2-tailed)			.043			
	N			96			
PM Motivation_build trust	Pearson				.224*		
	Sig. (2-tailed)				.029		
	N				95		
PM Motivation_reward	Pearson			.257*			
	Sig. (2-tailed)			.013			
	N			94			
PM Motivation_professional developmentt	Pearson	.207*					
	Sig. (2-tailed)	.043					
	N	96					

**. Correlation is significant at the 0.01 level (2-tailed).

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

Table 7: The correlation between the role of team management and the critical success factor group (CSFG) for the success of project management

The role of team mangement		Correlation					
		Critical Success Factor Group					
		CSF-1	CSF-2	CSF-3	CSF-4	CSF-5	CSF-6
		Defining the scope of the	Meeting the deadline	Commitment from the team	Planning the project	Ability to communicate	Meeting the budget
Marital Status	Pearson		.202*	.203*			
	Sig. (2-		.048	.047			
	N		96	96			
Monthly salary (ETB)	Pearson	.207*				.226*	
	Sig. (2-	.043				.027	
	N	96				96	
Role on the team	Pearson	.298**			.374**	.335**	
	Sig. (2-	.003			.000	.001	
	N	96			96	96	
Team Knowledge and Learning (**Knowledge integration**)	Pearson		.212*				.325**
	Sig. (2-		.038				.001
	N		96				96
PM Leadership Style	Pearson	.230*				.268**	
	Sig. (2-	.024				.008	
	N	96				96	
PMC Frequency_1week	Pearson				.229*		
	Sig. (2-				.025		
	N				96		
PMC Frequency_month	Pearson		.276**				
	Sig. (2-		.006				
	N		96				
PMC Frequency_quarterly	Pearson	.224*	.240*				
	Sig. (2-	.029	.019				
	N	95	95				
PMC Tool_virtual meeting	Pearson	.247*			.205*	.206*	
	Sig. (2-	.015			.045	.044	
	N	96			96	96	
PM Motivation_build trust	Pearson	.264**			.290**		
	Sig. (2-	.010			.004		
	N	95			95		
PM Motivation_reward	Pearson	.270**				.241*	
	Sig. (2-	.009				.019	
	N	94				94	
PM Conflict management	Pearson					.210*	
	Sig. (2-					.040	
	N					96	

**. Correlation is significant at the 0.01 level (2-tailed).

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

Table 8: The correlation between the role of team management and the monitor and control group (MCG) for the success of project management

		Correlation					
		Monitor and Control Group					
		MCG-1	MCG-2	MCG-3	MCG-4	MCG-5	MCG-6
The role of team mangement		Project monitoring meetings	Deadline variation	Benefit variation	Determining the Control points	Budget variation	Identification of goal deviations (Feedback meetings)
Marital Status	Pearson			.288**			
	Sig. (2-tailed)			.004			
	N			96			
Experience (Present)	Pearson		.288**				
	Sig. (2-tailed)		.004				
	N		96				
Experience (Previous)	Pearson			.242*	.201*		
	Sig. (2-tailed)			.017	.050		
	N			96	96		
Role on the team	Pearson	.215*	.227*				.231*
	Sig. (2-tailed)	.035	.026				.024
	N	96	96				96
Team Knowledge and Learning (**Knowledge Integration**)	Pearson						.227*
	Sig. (2-tailed)						.026
	N						96
PM Leadership Style	Pearson		.210*			.221*	
	Sig. (2-tailed)		.040			.031	
	N		96			96	
PMC Frequency_month	Pearson				.271**	.211*	
	Sig. (2-tailed)				.008	.039	
	N				96	96	
PM Frequency_quarterly	Pearson				.213*		
	Sig. (2-tailed)				.039		
	N				95		
PMC Tool_virtualmeeting	Pearson				.250*		.210*
	Sig. (2-tailed)				.014		.040
	N				96		96
PMC Tool_socialmedia	Pearson	.227*					
	Sig. (2-tailed)	.027					
	N	95					
PM Conflict management	Pearson		.300**	.306**			
	Sig. (2-tailed)		.003	.002			
	N		96	96			

**. Correlation is significant at the 0.01 level (2-tailed).

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

Table 9: The correlation between the role of team management and the lessons learned group (MCG) for the success of project management

		Correlation					
		Lessons Learned Group					
		LLG-1	LLG-2	LLG-3	LLG-4	LLG-5	LLG-6
The role of team mangement		Conclusion with the planned deadline	Conclusion with the planned budget	Information as to the evolution of the project (Communication)	Conclusion with the established scope (Project proposal)	Changes to objectives and goals	Compilation of project documentation
Marital Status	Pearson	.297**	.338**	.245*			.232*
	Sig. (2-tailed)	.003	.001	.016			.023
	N	96	96	96			96
Experience (Previous)	Pearson	.205*	.274**	.233*		.238*	.218*
	Sig. (2-tailed)	.045	.007	.023		.020	.033
	N	96	96	96		96	96
Role on the team	Pearson			.232*	.202*		
	Sig. (2-tailed)			.023	.049		
	N			96	96		
PM Leadership Style	Pearson		.233*			.213*	
	Sig. (2-tailed)		.023			.037	
	N		96			96	
PMC Frequency_month	Pearson				.205*		
	Sig. (2-tailed)				.045		
	N				96		
PMC Frequency_quarterly	Pearson					.216*	
	Sig. (2-tailed)					.036	
	N					95	
PM Motivation_build trust	Pearson	.226*		.240*	.227*		
	Sig. (2-tailed)	.028		.019	.027		
	N	95		95	95		
PM Motivation_reward	Pearson			.241*	.252*	.260*	
	Sig. (2-tailed)			.019	.014	.011	
	N			94	94	94	
PM Conflict management	Pearson			.221*			
	Sig. (2-tailed)			.031			
	N			96			

**. Correlation is significant at the 0.01 level (2-tailed).

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

Having pinned the variables that have a negative correlation, age with CSF (meeting the budget), MCG (budget variation and identification of goal deviations). It's not uncommon to say that the young generation (in this research 31-40) are an executive leadership ability for the success of projects. However, in the current research, those age groups are vulnerable to budget and goal deviations. The form of team employment, which was found fixed(43.8%), project-based (54.2%), and part-time (2.1%) was negatively correlated with deadline

variation. It can be deduced these could be due to a lack of tight MEAL (monitoring, evaluation, accountability, and learning) wing to make sure that all project-based employees of PIE are accountable for post-completion of the project.

The current finding proved that the project managers' leadership roles in PIE's project were coordinator (45.8%), facilitator (20.8%), mentor (18.8%), director (6.3%), and facilitator and monitor with 4.2% each. Surprisingly, the PM leadership role was negatively correlated with CSF (commitment from the team), MCG (determining the control points), and LLG (conclusion with the planned deadline, budget, established scope, and compilation of the documentation). With the above-mentioned PM leadership role of PMs at PIE, the researcher finds it difficult to provide a scientific explanation.

Table 10: The negative correlation profiles

		Correlations										
		MAG	CSF		MCG				LLG			
		Defining realistic goals and objectives	Commitment from the team	Meeting the budget	Deadline variation	Determining the Control points	Budget variation	Identification of goal deviations (Feedback meetings)	Conclusion with the planned deadline	Conclusion with the planned budget	Conclusion with the established scope (Project proposal)	Compilation of project documentation
Age (years)	Pearson			-.205*			-.290**	-.217*				
	Sig. (2-tailed)			.045			.004	.033				
	N			96			96	96				
Form of employment	Pearson				-.240*							
	Sig. (2-tailed)				.019							
	N				96							
Team Knowledge and Learning (**Interteam**)	Pearson	-.231*				-.206*	-.225*	-.341**				
	Sig. (2-tailed)	.023				.045	.028	.001				
	N	96				96	96	96				
PM Leadership Role	Pearson		-.204*			-.232*			-.256*	-.285**	-.261*	-.295**
	Sig. (2-tailed)		.046			.023			.012	.005	.010	.004
	N		96			96			96	96	96	96
PMMotivation_punish	Pearson	-.221*				-.305**						-.272**
	Sig. (2-tailed)	.031				.002						.007
	N	96				96						96

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

4. 5. Regression Analysis

In this subsection, first, the data collected were diagnosed for tests of normality with a p-p plot graph and Skewness and Kurtosis. Then, the strength of the relationship between selected (based on the correlation result above) independent and dependent variables were performed through multiple regression.

Normality Test

To check whether the residuals are normally distributed and clustered around the straight line or not, the normality plot graph and histogram graph were generated for the normality test. The P-P plot (probability–probability plot or percent–percent plot or p-value plot) compares the empirical cumulative distribution function (CDF) of the data set with a specified theoretical cumulative factor F (-). A Q-Q plot compares the quantiles of data distribution with the quantiles of a standardized theoretical distribution from a specified family of distribution. The construction of a Q-Q plot does not require the location or scale parameters of F(-) to be specified. The normality distribution and normal P-P plot points should lie reasonably straight diagonal lines from the bottom left to the top right. The points in the P-P plot lie on a straight diagonal line with a minimal deviation from the straight line.

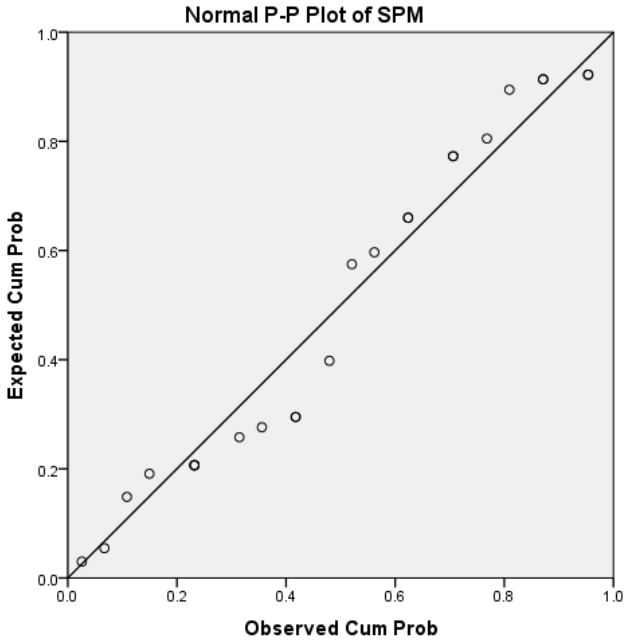

Figure 3: The P-P plot comparing the empirical cumulative distribution

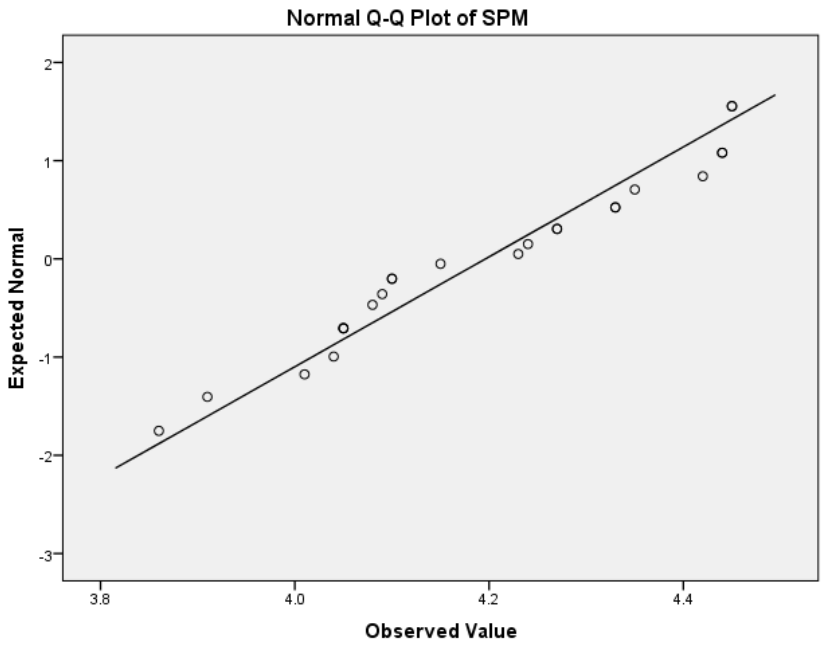

Figure 4: The Q-Q plot compared the quantiles of the data distribution with the quantiles of a standardized theoretical distribution from a specified family of distribution.

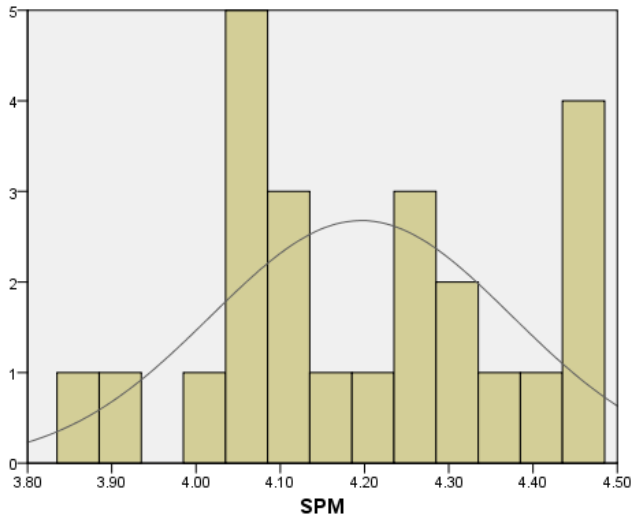

Figure 5: The histogram of the critical success factors for the success of project management based on the Q-Q-plot.

Using the Skewness and Kurtosis, it is possible to test the normality. While skewness assesses the extent to which a variable's distribution is symmetrical, Kurtosis is a measure of whether the distribution is too peaked which very narrow distribution with most of the responses in the center. When both skewness and kurtosis are zero the pattern of responses is considered a normal distribution. A general guideline for skewness is that if the number is greater than +1 or lower than –1, this is an indication of a substantially skewed distribution. For kurtosis, the general guideline is that if the number is greater than +1, the distribution is too peaked. Likewise, a kurtosis of less than –1 indicates a distribution that is too flat. The Skewness and Kurtosis of the current study were found to be -0.03 ± 0.472 and -1.096 ± 0.918, respectively. It showed a relatively normal distribution and flat.

Table 11: Skewness and Kurtosis of the critical factors for SPM

		Statistic	Std. Error
SPM	Mean	4.1963	.03648
	Skewness	-.030	.472
	Kurtosis	-1.096	.918

4.5.1. Multiple regressions analysis

After we identified the relationship between the independent (the role of a team) and dependent variables (critical success factors for the success of project management), we performed a multiple regression analysis to understand how strong (strength relationship) is between the role of team management and success of project management.

If the *F*-value is statistically significant (typically $p < 0.05$), the model explains a significant amount of variance in the outcome variable. R^2 statistic (coefficient of determination) can be interpreted as the percent of the variance in the outcome variable that is explained by the set of the predictor variable. After the evaluation of the *F*-value and R^2, it is important to evaluate the regression beta coefficient. The beta coefficient can be positive and negative and have a t-value and significance of the *t*-value associated with each. If the beta coefficient is significant, the direction should be examined. If the beta coefficient is positive, the interpretation is that

for every 1-unit increase in the predictor variable, the outcome variable will increase by the beta coefficient value. The t-test assesses whether the beta-coefficient is significantly different from zero. If the beta coefficient is not statistically significant (i.e., the t-values not significant), the variable does not significantly predict the outcome.

Therefore, in the current research, the regression analysis is used to develop a formula based on the beta-coefficients of each independent variable (X, 38 variables of the role of team management) to determine the dependent variable (Y, 24 critical success factors for the success of project management). $Y(1\text{-}24) = \beta 0 + \beta 1X1 + \beta\ 2\ X\ 2 + \beta\ 3\ X3 + \beta\ 4X4 + \beta\ 5X5 + \beta\ 6X6 + \ldots\ \beta\ 38X38 + Ɛ0$. Y(1-24) is the dependent variable of the success of project management, where β0, β1, β2, β3, β4, β5, β6, and…β38 are the coefficient regression, X1, X2, X3, X4, X5, X6, and …. X38 are the role of team management (independent variables) and Ɛ0 is the error term. A high coefficient of regression with statistical significance ($p < 0.05$) indicated that the role of team management (independent variables) has made a significant statistical contribution to the success of project management.

Out of a total of 38 independent variables, 10 of them were correlated with the managerial ability group, 12 were correlated with the critical success factor group, 13 of them were correlated with the monitor and control group, and 9 of them were correlated with the lessons and learned group. Based on that the researcher followed a multiple regression analysis between the role of team management and the success of project management. In all the regression analyses on the four groups of the success of project management variables, the model works with a statistically significant *F*-value ($p < 0.05$).

Regression analysis of Managerial Ability Group (MAG)

From the regression analysis between the 10 independent variables (marital status, previous project experience, role on the team, PM leadership style, PM communication tool (telephone), PM communication frequency (quarterly), PM motivation (build trust), PM motivation (reward), PM motivation (professional development)), the role of team management has positive impact on the success of project management (unstandardized

coefficient of MAG-1 (β = 3.90), MAG-2 (β = 2.95), MAG-3 (β = 3.37), MAG-4 (β = 3.57), MAG-5 (β = 4.12) , and MAG-6 (β = 3.691)) with significance of the *t*-value ($p<0.001$). The R square for each of the six dependent variables were found to be 0.101, 0.194, 0.149, 0.389, 0.110, and 0.118, respectively.

Regression analysis of Critical Success Factor Group (CSF)

From the regression analysis between the 12 independent variables (salary, marital status, role on the team, team knowledge integration, PM leadership style, PM communication tool (virtual meeting), PM communication frequency (in a week, month, and quarterly), PM motivation (build trust and rewar, and PM conflict management), the role of team management has positive impact on the success of project management (unstandardized coefficient of CSF-1 (β = 2.70), CSF-2 (β = 3.46), CSF-3 (β =4.13), CSF-4 (β = 3.52), CSF-5 (β = 2.66), and CSF-6 (β = 3.79)) with significance of the *t*-value ($p<0.001$). The R square for each of the six dependent variables were found to be 0.263, 0.162, 0.041, 0.207, 0.257, and 0.106, respectively.

Table 12: Regression analysis of the managerial ability group (MAG)

Managerial Ability Group												
Regression weight		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig. F Change
Dependent Variable	Independent Variable	B	Std. Error	Beta								
Ability to communicate (MAG-1)	(Constant)	3.901	.182		21.460	.000	.317[a]	.101	.081	.705	5.203	.007[b]
	Role on the team	.268	.110	.242	2.445	.016						
	PMMotivation_professional developmentt	.052	.029	.177	1.787	.077						
Defining the schedule (MAG-2)	(Constant)	2.947	.295		10.002	.000	.229	.194	.695	.229	6.665	.000b
	Marital Status	.224	.082	.267	2.737	.007						
	Experience (Previous)	.139	.077	.173	1.815	.073						
	Role on the team	.231	.110	.199	2.096	.039						
	PMCFrequency_quarterly	.140	.049	.279	2.878	.005						
Accepting the proposal of the project (MAG-3)	(Constant)	3.371	.284		11.865	.000	.385[a]	.149	.120	.659	5.234	.002[b]
	PM Leadership Style	.173	.065	.264	2.655	.009						
	PMCTool_telephone	.104	.073	.150	1.425	.158						
	PMMotivation_reward	.062	.046	.145	1.354	.179						
Indicating roles and responsibilties (MAG-4)	(Constant)	3.574	.236		15.157	.000	.389[a]	.389[a]	.389[a]	.389[a]	5.396	.002[b]
	Marital Status	.153	.073	.204	2.105	.038						
	Role on the team	.243	.104	.233	2.340	.021						
	PMMotivation_build trust	.083	.047	.177	1.779	.079						
Defining realistic goals and objectives (MAG-5)	(Constant)	4.177	.160		26.154	.000	.332[a]	.110	.091	.601	5.769	.004[b]
	Role on the team	.229	.094	.242	2.437	.017						
	Interteam	-.143	.074	-.192	-1.941	.055						
Team qualification (MAG-6)	(Constant)	3.691	.194		18.996	.000	.344[a]	.118	.109	.694	12.594	.001[b]
	Marital Status	.272	.077	.344	3.549	.001						

Note: For all the tables (a: the predictor constant or independent variable and b: dependent variable)

Table 13: Regression analysis of the critical success factor group (CSFG)

Critical Successs Factor Group												
Regression weight		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig. F Change
Dependent Variable	Independent Variable	B	Std. Error	Beta								
Defining the scope of the project (CSF-1)	(Constant)	2.697	.431		6.257	.000	.513[a]	.263	.202	.623	4.290	.000[b]
	Salary (ETB)	.055	.079	.071	.698	.487						
	Role on the team	.187	.106	.179	1.771	.080						
	PM Leadership Style	.203	.065	.314	3.135	.002						
	PMCFrequency_quarterly	.041	.049	.088	.848	.399						
	PMCTool_virtualmeeting	.073	.037	.210	1.992	.050						
	PMMotivation_build trust	.078	.049	.165	1.574	.119						
	PMMotivation_reward	-.005	.050	-.011	-.094	.926						
Meeting the deadline (CSF-2)	(Constant)	3.463	.241		14.380	.000	.403[a]	.162	.125	.765	4.362	.003[b]
	Marital Status	.224	.089	.253	2.505	.014						
	Team Knowledge integration	.082	.054	.149	1.515	.133						
	PMCFrequency_month	.078	.092	.123	.854	.395						
	PMCFrequency_quarterly	.097	.079	.183	1.230	.222						
Commitment from the team (CSF-3)	(Constant)	4.130	.164		25.188	.000	.203[a]	.041	.031	.586	4.050	.047[b]
	Marital Status	.130	.065	.203	2.012	.047						
Plnning the budget (CSF-4)	(Constant)	3.524	.192		18.311	.000	.455[a]	.207	.163	.660	4.658	.001[b]
	Role on the team	.316	.109	.291	2.899	.005						
	Team Knowledge integration	.041	.047	.084	.882	.380						
	PMCFrequency_1week	.068	.074	.092	.926	.357						
	PMCTool_virtualmeeting	.033	.035	.090	.918	.361						
	PMMotivation_build trust	.090	.048	.185	1.869	.065						
Ability to communicate (CSF-5)	(Constant)	2.658	.433		6.134	.000	.506[a]	.257	.205	.607	5.003	.000[b]
	Salary (ETB)	.055	.076	.072	.722	.472						
	Role on the team	.276	.101	.270	2.725	.008						
	PM Leadership Style	.171	.064	.269	2.677	.009						
	PMCTool_virtualmeeting	.070	.035	.205	2.005	.048						
	PMMotivation_reward	.014	.044	.035	.326	.746						
	PM Conflict management	.069	.054	.122	1.278	.205						
Meeting the budget (CSF-6)	(Constant)	3.789	.121		31.189	.000	.325[a]	.106	.096	.749	11.104	.001[b]
	Salary (ETB)	.174	.052	.325	3.332	.001						

Regression analysis of Monitor and Control Group (MCG)

From the regression analysis between the 13 independent variables (marital status, previous project experience, team knowledge and learning (interteam and knowledge integration), role on the team, PM leadership style, PM communication tool (virtual meeting and social media), PM communication frequency (two weeks, monthly, and quarterly), and PM conflict management, the role of team management has a positive impact on the success of project management (unstandardized coefficient of MCG-1 ($\beta = 3.89$), MCG-2 ($\beta = 2.34$), MCG-3 ($\beta = 1.85$), MCG-4 ($\beta = 3.41$), MCG-5 ($\beta = 3.25$), and MCG-6 ($\beta = 3.64$)) with the significance of the *t*-value ($p<0.001$). The R square for each of the six dependent variables were found to be 0.094, 0.220, 0.223, 0.200, 0.156, and 0.203, respectively.

Regression analysis of Lessons Learned Group (LLG)

From the regression analysis between the 9 independent variables (marital status, previous project experience, role on the team, PM leadership style, PM communication frequency (monthly and quarterly), PM motivation (build trust and reward, and PM conflict management), the role of team management has positive impact on the success of project management (LLG ($\beta = 2.72$), CSF2 ($\beta = 2.40$), CSF-3 ($\beta = 2.17$), CSF-4 ($\beta = 3.72$), CSF-5 ($\beta = 2.64$), and CSF-6 ($\beta = 3.23$)) with significance of the *t*-value ($p<0.001$). The R square for each of the six dependent variables were found to be 0.282, 0.2,27 0.253, 0.122, 0.203, and 0.083, respectively.

Table 14: Regression analysis of the monitoring and control group (MCG)

Monitoring and Control Group												
Regression weight		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig. F Change
Dependent Variable	Independent Variable	B	Std. Error	Beta								
Project monitoring meetings (MCG-1)	(Constant)	3.886	.154		25.236	.000	.306[a]	.094	.074	.615	4.766	.011[b]
	Role on the team	.198	.096	.207	2.075	.041						
	PMCTool_socialmedia	.090	.043	.207	2.080	.040						
Deadline variation (MCG-2)	(Constant)	2.342	.416		5.623	.000	.469[a]	.220	.177	.767	5.086	.000[b]
	Experience (Present)	.161	.094	.170	1.706	.091						
	Role on the team	.202	.124	.159	1.626	.108						
	PM Leadership Style	.143	.074	.188	1.935	.056						
	PMCFrequency_2week	-.157	.088	-.172	-1.789	.077						
	PM Conflict management	.135	.068	.194	1.979	.051						
Benefit variaon (MCG-3)	(Constant)	1.846	.404		4.574	.000	.473[a]	.223	.198	.765	8.821	.000[b]
	Marital Status	.239	.086	.260	2.761	.007						
	Experience (Previous)	.179	.084	.201	2.130	.036						
	PM Conflict management	.231	.065	.327	3.551	.001						
Determine the control point (MCG-4)	(Constant)	3.412	.238		14.355	.000	.448[a]	.200	.155	.682	4.457	.001[b]
	Experience (Previous)	.180	.075	.233	2.404	.018						
	Interteam	-.154	.084	-.176	-1.842	.069						
	PMCFrequency_month	.113	.081	.195	1.398	.165						
	PMCFrequency_quarterly	.011	.069	.024	.164	.870						
	PMCTool_virtualmeeting	.092	.038	.248	2.451	.016						
Budget variation (MCG-5)	(Constant)	3.248	.285		11.382	.000	.395[a]	.156	.129	.718	5.680	.001[b]
	Interteam	-.223	.087	-.245	-2.554	.012						
	PM Leadership Style	.170	.067	.244	2.545	.013						
	PMCFrequency_month	.129	.055	.224	2.332	.022						
Identification of goal deviations (MCG-6)	(Constant)	3.642	.231		15.776	.000	.451[a]	.203	.168	.738	5.795	.000[b]
	Role on the team	.195	.118	.160	1.648	.103						
	Interteam	-.261	.093	-.273	-2.803	.006						
	Team Knowledge integration	.093	.053	.169	1.756	.082						
	PMCTool_virtualmeeting	.067	.039	.165	1.729	.087						

Table 15: Regression analysis of the lessons learned group (LLG)

Regression weight		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig. F Change
Dependent Variable	Independent Variable	B	Std. Error	Beta								
Conclusion with the planned deadline (LLG-1)	(Constant)	2.723	.256		10.626	.000	.531[a]	.282	.249	.628	8.718	.000[b]
	Marital Status	.305	.074	.386	4.106	.000						
	Experience (Previous)	.126	.069	.168	1.822	.072						
	PMCFrequency_quarterly	.127	.045	.272	2.825	.006						
	PMMotivation_build trust	.096	.046	.196	2.095	.039						
Conclusion with the planned budger (LLG-2)	(Constant)	2.402	.345		6.960	.000	.476[a]	.227	.201	.631	8.990	.000[b]
	Marital Status	.238	.071	.314	3.334	.001						
	Experience (Previous)	.158	.069	.214	2.281	.025						
	PM Leadership Style	.170	.059	.266	2.889	.005						
Information as to the evolution of the project (communication) (LLG-3)	(Constant)	2.166	.413		5.250	.000	.503[a]	.253	.201	.705	4.864	.000[b]
	Marital Status	.170	.082	.198	2.058	.043						
	Experience (Previous)	.178	.079	.216	2.242	.028						
	Role on the team	.115	.116	.097	.987	.326						
	PMMotivation_build trust	.103	.055	.194	1.883	.063						
	PMMotivation_reward	.073	.050	.153	1.473	.144						
	PM Conflict management	.162	.062	.247	2.602	.011						
Conclusion with the established scope (Project proposal) (LLG-4)	(Constant)	3.717	.184		20.248	.000	.349[a]	.122	.082	.702	3.051	.021[b]
	Role on the team	.114	.114	.104	.997	.322						
	PMCFrequency_month	.087	.056	.160	1.568	.121						
	PMMotivation_build trust	.055	.054	.113	1.026	.308						
	PMMotivation_reward	.072	.049	.163	1.465	.147						
Chnages to objectives and goals (LLG-4)	(Constant)	2.638	.377		6.995	.000	.451[a]	.203	.167	.731	5.618	.000[b]
	Experience (Previous)	.224	.080	.268	2.796	.006						
	PM Leadership Style	.152	.073	.204	2.082	.040						
	PMCFrequency_quarterly	.110	.056	.204	1.979	.051						
	PMMotivation_reward	.090	.051	.185	1.756	.083						
Compilation of project documentation (LLG-6)	(Constant)	3.226	.297		10.859	.000	.289[a]	.083	.064	.811	4.227	.017[b]
	Marital Status	.175	.092	.194	1.905	.060						
	Experience (Previous)	.154	.089	.176	1.732	.087						

CHAPTER 5: SUMMARY, CONCLUSION, & RECOMMENDATIONS

5. 1. Chapter introduction

The current chapter summarized the main finding of the study based on achieving the overarching aim to identify and analyzed the role of team management (now covered 38 key variables) on the success of project management (now 24 critical success factors) taking the case of Plan International Ethiopia (PIE) of 4 Programme and 35 Projects in the years of 2012-2022 GC in Ethiopia. While the conclusion section answered the research questions of the study, the researcher provided recommendations based on the objectives of the current study.

5. 2. Summary of findings

The researcher formulated and refined 38 key factors that describe the role of team management predictors and 6 groups of 24 critical success factors for the success of project management. Having targeted 18 projects, the researcher could able to manage to get 35 projects, which accounts for about 62.5% of the project at PIE. Therefore, the researcher trusted the findings of the current study were found the most representative to draw any conclusion regarding the success of project management and project success at PIE. With a Cronbach Alpha of 0.954 reliability test of the critical success factors, the current study has tangible outcomes to answer the research questions and recommend to the teams of the organization, the organization (PIE), similar project-oriented NGOs, and researchers in the project management and similar disciplines. With this, the major finding of the current study is stated in the following paragraphs.

Having a family responsibility (being married) with a high academic degree, working on fixed and project-based employment, with a majority of team members engaged, the current study found that there were high maturity, responsibility, abide by the team management roles to meet the requirements of the project. Therefore, it is encouraged to deduce there is project management maturity at PIE.

PIE project teams were found as action teams (76%), teams working in an extremely complex 'ecosystem' that constantly evolving and adapting to its environment achieve seemingly the impossible (complex teams with 20.8%), culturally and academically diversified but co-located engaging in single to multiple projects under the four programme. This proved that PIE project teams are excellent in problem-solving activities and have the highest knowledge integration.

The current finding proved that the project managers' leadership roles in PIE's project were coordinator (45.8%), facilitator (20.8%), and mentor (18.8%). From the current data analysis, most of the PIE project managers' leadership style was democratic (57.3%), coaching (15.6%), and affiliative (12.5%). Therefore, these PM leadership styles have the most positive effect on team climate (flexibility, responsibility, standards, rewards, clarity, and commitment). The PM employed the 'triple C' communication channels (methods, tools, frequencies, and support communications) and motivations (professional development, build trust, and reward), but punishment is almost nill. These findings directed towards a perfect defining of the schedule, scope, and meeting of the deadlines (with almost none in schedule slippage, cost overrun, and project delivery). Interestingly, project managers' knowledge and learning were 52.2% of multiple intelligence or competencies (MI), 27.1% of intelligence quotient or competencies (IQ), and 20.8% of emotional intelligence or competencies (EQ). This result assured the project managers at PIE have a great leadership knowledge and learning capacity to lead project teams. It's common to say that a project manager is a conflict manager though the types of managing approaches are critical. The majority of PMs at PIE projects followed, in the order of frequency, collaboration, compromise and accommodation that three of them are high cooperation. Consequently, the researcher encouraged to deduce that PIE project managers are conflict managers, so do encourage a healthier competition toward the success of project management and project success.

Had responded to 24 Critical Success Factors for the success project management (SPM), the study participants, with exception of budget and benefit variations of the monitor and control group (MCG) of SPM. 22 critical success factors were found with a mean value of above 4.0, i.e., they were rated good and above on a Likert Scale (84.6% of the respondents rated 4.0 and

above), which indicated that there was successful project management at Plan International Ethiopia. Pronouncedly, successful project management, in turn, indicated that more than 91.6% of Plan International projects were rated successful. With this, it's possible to deduce that the role of team management in the 35 PIE projects was indispensable for the success of project management, in particular, and to the success of the project, in general.

Additionally, among the 38 key predictors of the role of team management, exclusively and in part, established a weak positive relationship with moderate strength with the 24 critical success factors (group into MAG, CSF, MCG, and LLG, by the researcher) of SPM, which, in turn, the success of projects. Therefore, it is high time the researcher could able to answer the research questions in the conclusion section.

5. 3. Conclusion

The current project work is designed to address the following key research questions:

(a) What are the specific sociodemographic characteristics that impact the success of project management?

Answer: Marital status, project management experience, role on a team, and to a lesser extent salary are played a key role on the team management that is impacted the critical success factors for the success of project management, which, in turn, for the success of projects.

(b) What kind of types of team compositions have a direct relationship with the critical success factors for the success of project management?

Answer: Diversified and action teams that integrate knowledge are the most talented ones for problem-solving activities of projects, especially for an organization like PIE engaging in emergency issues.

(c) What are the key project manager (PM) competencies that have a significant impact on the success of project management?

Answer: Democratic, coaching, and affiliative project manager leadership styles are greatly impacted the team climate (responsibility, flexibility, commitment, etc).

Unfortunately, theoretically acknowledged PM leadership role, authoritative that have most strongly positive overall impact on team climate has only 5.2%, in which it may be the PM leadership role has negatively correlated on the success of project management in the case of PIE. All types of PM communication channels (methods, tools, frequency, and support communication); selectively four types of PM motivations (building trust, open environment, professional development, and setting realistic goals); and active conflict manager through collaboration, compromise, and accommodation approaches of conflict management are positively impacted the critical success factors for the success of project management. Unfortunately, the PM leadership role has negatively correlated with a few of the critical success factors. As a result, PM leadership competency is the main role of team management that have a great impact on the success of project management.

(d) What are the key roles of team management for the success factors of project management, in particular, and for the success of projects, in general?

Answer: Sociodemographic characteristics (marital status, project management experience, and active team and PM) of the project team, team composition (diversified, action, and teams with knowledge integration), and PM leadership competency (PM leadership style, PM communication, PM motivation, multiple intelligence, and being an active conflict manager) are the roles of team management on the success of project management, and so does project success.

In conclusion, the role of team management has a significant impact on the success of project management, which, in turn, on the success of projects for organizations engaged from a single to multiple project systems under different programme platforms.

5. 4. Recommendation

This research meets its objectives and recommends:

1) The researcher recommends maintaining gender equality during team building because findings in the current study showed that male team members are four times

the number of females, albeit the researcher is aware that most PIE projects are executed in the countryside with environmentally disadvantageous, which women employees might not interested.

2) Experience matters everywhere, and so do our findings from previous project experiences proved. Therefore, PIE should work more to retain project employees for quite long years to boost their role on team management.
3) Having acknowledged the diversified and co-located team identity of PIE project teams, the diversified not co-located team building should be considered. The latter helps for the virtual world full of uncertainties, which becomes the new normal.
4) The researcher highly recommends advancing the leadership role of PM (to the more innovator and director roles in the agile project management landscape, which are less emphasized in PIE) to impact the success of project management.
5) For similar NGOs, the researcher recommends engaging in such kind of research to understand their project teams' roles on the success of project management.
6) For project managers and project management researchers, the critical success factors identified and analyzed in the current study can be used as a baseline for similar research.

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ANNEXE

Annexe I: Information Sheet

Organization: Project Management Program, School of Commerce (SoC), College of Business and Economics, Addis Ababa University.

Title of the Research project: The Role of Team Management on the Success of Project Management: The Case of Plan International Ethiopia.

Introduction: Dear Participant, my name is Solomon Tebeje Gizaw working as a data collector for the study conducted in collaboration between Addis Ababa University and Plan International Ethiopia (PIE) by the PI who is an MA Project Management Candidate at Addis Ababa University. His advisor, Dr Bahren Asrat is from SoC, Addis Ababa University. I kindly request you to give me your attention to explain about the study and being a volunteer to participate in the study.

Objective: The objective of this study is to identify and analyze the role of team management in the success of project management taking the case of Plan International Ethiopia (PIE) 2012-2024 programs focusing on 56 Projects.

Procedures: If you are willing to participate in the study, we will provide a consent form to sign on it and return to the data collector. Then, the data collector gives you a questionnaire to answer questions such as socio-demographic data and information regarding your project team.

Possible Benefit: There is no incentive to be given to you as being participated in the study. But, we believe PIE will be benefited from being an active collaborator and seeing the status of the project teams in every program. Besides, the result of the study will benefit other NGOs, projectized organizations, in particular, and the community, in general.

Confidentiality: Your privacy and confidentiality are highly respected. There is no sensitive issue that you will be asked and any information obtained from you will be kept confidential. The data will be used only for the research. Any information that identifies you will not be shared with anyone outside the study team and it will be accessible only to the issued personnel involved in the study. The findings of the study will be general for the study area and will not reflect anything particular to the individual. The questionnaire will be coded to exclude your name.

Participation and withdrawal: Participation is based on voluntary and you have the right to withdraw at any time. You can ask any questions regarding the study.

Contact information

If you have any questions about the study, you can contact the principal investigators for further information.

Solomon Tebeje Gizaw: Phone: +251911731148; and Email: mersol9@gmail.com

Annexe II: Consent Form (English Version)

I have been informed that the objective of the study is the role of team management on the success of project management: The Case of Plan International Ethiopia. The results of the study will have an important to provide primary data to the research community and recommendations to the stakeholders of other NGOs, private and government projectized organizations, and access information to the public. I have also been informed about the confidentiality of this study. I have been requested to participate in the study to get my willingness to provide the required data that includes my biodata by filling out the questionnaire. Therefore, I understood the aim of the researchers' project work and was voluntary to provide the above-mentioned information. I am proud to be part of the research by contributing my part to the community.

Participant's code number: _____ Date: _____ Signature: _____

Name of data collector: _____ Date:_____ Signature:_____

Annex III: Questionnaire (English Version)

Code number: _____

Instruction: Please choose and encircle for close-ended questions and fill the spaces provided for open-ended questions.

1) Socio-demographic data

S.No.	Question	Answer
1	Gender	1) Female 2) Male
2	Age (years)	1) Below 20 2) 20-30 3) 31-40 4) 41-50 5) Above 50
3	Marital Status	1) Single 2) Engaged 3) Married
4	Educational Status	1) Diploma 2) First degree (BA/BSc/MD) 3) Graduate degree (MA/MSc/MPH) 4) PhD
5	Monthly salary (Gross in ETB)	1) Below 8000 2) 8001-15000 3) 15001-21000 4) 21001-35000 5) Above 35000
6	Form of employment	1) Fixed 2) Project-based 3) Part-time

7	Experience in the current project (Years)	1) Less than 2 2) 2-5 3) 6-10 4) Above 10
8	Previous Project work experience (Years)	1) Less than 2 2) 2-5 3) 6-10 4) Above 10
9	Role on the team	1) Team Member 2) Project Manager 3) Programme Head 4) Programme Director 5) Project Sponsor

2) Team Composition

The researcher trust you might aware of some key terms in the following questions. In case of unfamiliarity, the researcher respectfully shares the terminologies of the following:

Action team (Mohammed et al., 2010); that is, a team performing goal-directed, time-sensitive tasks necessitating members to coordinate actions in real-time and under pressure.

Cheetah team: a small, elite unit, separate from the product development team, that can be mobilized quickly to solve an unexpected problem threatening to hold up a project (Engwall and Svensson, 2001).

Complex team: the project team of varying sizes working in an extremely complex 'ecosystem' that is constantly evolving and adapting to its environment. It is a cohesive unit that can achieve the seemingly impossible even for the most experienced project manager whilst growing ever stronger.

Fragile team: A project team that makes one change and the whole entity suffers, requiring an extended period in which to recover (Jordan, 2016).

S.No.	Question	Answer
1	Team size	1) Below 4 2) 5-10 3) 11-15 4) Above 15
2	Team type	1) Action 2) Cheetah 3) Complex 4) Fragile
3	Team identity	1) Homogenous and co-located 2) Homogenous and not co-located 3) Diversified and co-located 4) Diversified and not co-located
4	Team Climate	1) Collaboration 2) Cooperation 3) Coordination 4) Collective Thinking 5) Role Allocation 6) Cohesion
5	Team System	1) Single-Project system 2) Single Programme, Multiple Project System 3) Multiple Programme, MultipleProject
6	Team knowledge and learning	1) Intrateam 2) Interteam 3) Knowledge integration 4) Problem-solving

3) **Project Manager Leadership role and style** (BA/BSc/MD = bachelor degree; MA/MSc/MPH = Master degree; PhD = Doctor of philosophy; and PM = Project manager)

S.No.	Question	Answer
1	PM leadership role	1) Mentor (Coach) 2) Facilitator 3) Innovator 4) Director 5) Monitor 6) Coordinator
2	PM leadership style	1) Coercive ("Do what I tell you") 2) Authoritative ("Come with me") 3) Affiliative ("People come first") 4) Democratic ("What do you think") 5) Pacesetting ("Do as I do, now'" 6) Coaching ("Try this")
3	PM Communication Frequency	1) Everyday 2) Once a week 3) Once in two weeks 4) Once a month 5) Quarterly
4	Frequently used PM Communication tool	1) Meeting 2) Telephone 3) Email 4) Virtual Meeting 5) Social media
5	PM Motivation	1) Open environment 2) Set realistic goals 3) Build trust

		4) Reward 5) Professional development 6) Punish
6	PM Knowledge and Learning	1) IQ (Intelligence quotient) 2) EQ (Emotional intelligence) 3) MI (Multiple Intelligence)
7	PM Conflict management	1) Avoidance (low assertive, low cooperative) 2) Accommodation (low assertive, high cooperative) 3) Competition (high assertive, low cooperative) 4) Compromise (moderately assertive and cooperative) 5) Collaboration (high assertive, high cooperative)

4) The success of project management

For the current and previously completed PIE projects, please indicate your level of agreement with the following statements relating to the performance of the overall project by putting a tick (√) in the number that describes best how you feel about the statement.

1. Very Poor
2. Poor
3. Fair
4. Good
5. Excellent

Drivers Group	Success Factors in Project Management					
	Variable description	**1**	**2**	**3**	**4**	**5**
Managerial Ability Group	Ability to communicate					
	Defining the schedule					
	Accepting the proposal of the project					
	Indicating roles and responsibilities					
	Defining realistic goals and objectives					
	Team qualification					
Critical Success Factors Group	Defining the scope of the project					
	Meeting the deadline					
	Commitment from the team					
	Planning the project					
	Ability to communicate					
	Meeting the budget					
Monitoring and Control Group	Project Monitoring meetings					
	Deadline variation (Planned vs. actual deadline variation)					
	Benefit variation (Planned vs. actual benefit variation)					
	Determining the Control points					
	Budget variation (Planned vs. Actual budget variation)					
	Identification of goal deviations (Feedback meetings)					
Lessons Learned Group	Conclusion with the planned deadline					
	Conclusion with the planned budget					

	Information as to the evolution of the project (Communication)					
	Conclusion with the established scope (Project proposal)					
	Changes to objectives and goals					
	Compilation of project documentation.					