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College of Business and Economics
School of Commerce
Master of Arts in Project Management

The Effect of Team Cohesion on project performance:
The case of Compassion International Ethiopia assisted Holistic
Child Development Projects.

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A project work submitted to Addis Ababa University school of Graduate
Studies in partial fulfillment of the requirements for the award of Master of
Arts Degree in Project Management

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Addis Ababa, Ethiopia

Declaration

Aboma Tamiru, do hereby declare that this work **entitled “The effect of team cohesion on project performance: The case of Compassion International Ethiopia assisted Holistic Child Development Projects”** is the outcome of my own effort and study, and that all sources of materials used for the study have been duly acknowledged. I have produced it independently except for the guidance and suggestion of my research advisor. This study has not been submitted for any degree in the university or any other university. It is offered for the partial fulfillment of the degree of Master of Arts in Project Management.

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This Project work has been submitted to Addis Ababa University School of Commerce graduate studies for examination with my approval as a University Advisor.

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Statement of Certification

This is to certify that the project work prepared by Aboma Tamiru entitled: **“The Effect of team cohesion on project performance; The case of Compassion International Ethiopia assisted Holistic Child Development Projects”** was carried out under the supervision of Abdurazak Mohammed (PhD), submitted in partial fulfillment of the requirements for the Degree of Master of Arts in project Management, complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Abbreviations and Acronyms

ATG	Attraction to group
ATGS	Attractions to Group – Social
ATGT	Attractions to Group – Task
CIE	Compassion International Ethiopia
CPR	Cardiopulmonary Resuscitation
GEQ	Group Environment Questionnaire
GIS	Group Integration – Social
GIT	Group Integration – Task
HCD	Holistic Child Development
NGO	Non – Governmental Organization
SCQ	Sport Cohesiveness Questionnaire
SNQ	Social Network Analysis

Abstract

The purpose of this study was to investigate the impact of team cohesion on the performance of child development projects in Compassion International Ethiopia. This quantitative research aimed to establish the relationship between various dimensions of team cohesion—such as social and task both in the group integration and attraction to group settings—and project performance. This study was conducted to determine how different aspects of team cohesion—like social and task aspects of group integration and attractiveness to group environments—relate to project success. The study employed a quantitative research design to explore the effect of team cohesion on project performance in Compassion International Ethiopia (CIE) assisted Holistic Child Development (HCD) projects. Primary data were collected through structured surveys and interviews conducted via email with 76 project team leaders. A stratified proportional random sampling technique was used to ensure representativeness, and the sample size was determined using Carvalho's method. The reliability of the instruments was confirmed through Cronbach's alpha, and validity was ensured through expert reviews. Data were analyzed using descriptive statistics, correlation tests, and multiple regression analysis. Ethical considerations, including informed consent and confidentiality, were strictly adhered to throughout the research process. The findings demonstrate that cohesive teams are more successful in meeting project objectives, and satisfying stakeholders since there is a positive correlation between high levels of team cohesion and enhanced project performance. The results of the study highlight how crucial it is to promote team cohesion in order to increase development projects' effectiveness and success.

/ Key Words: Team cohesion, Project performance, Group Integration, Attraction to group, social cohesion, Task Cohesion /

Chapter 1

Introduction

1.1. Background of the study

The idea of work teams could be detected as early as the 20th century when some scholars, such as Elton Mayo and his associates, began studying the impact of group work on productivity as well as on the welfare of workers. Mayo, in his famous Hawthorne studies, demonstrated that workers who worked in groups had better productivity and job satisfaction compared to individual workers. (Mayo, 1933). These findings laid the foundation for the study of work teams and their impact on organizational performance.

Over the years, different theories and models have come into being to try and explain the functioning and effectiveness of work teams. One of the most applied models to explain the evolution process of a work team towards becoming effective is the Drexler/Sibbet team performance model. The model outlines the stages through which a team can be expected to develop into six clear steps: orientation, trust building, goal clarification, commitment, implementation, and high performance. (Drexler & Sibbet, 1994). According to this model, teams go through a development process that begins with team formation and ends with high performance.

Another important theory is the Tuckman/Jensen model, which describes the stages of team development as forming, storming, norming, performing, and adjourning (Tuckman & Jensen, 1977). This approach places a strong emphasis on the importance of resolving conflicts and defining roles and norms for the team.

Although working in teams has its historical roots, organizational teamwork for the last two decades has been marked by dramatic growth, growth impelled by changes in the nature of jobs and the structure of organizations. (Levi, 2014)

We humans are social beings, and team work is part of our nature. Katzenbach and Smith define a team as a small number of individuals with complimentary skills who are dedicated to a shared objective, performance standards, and methodology and who hold each other accountable for their actions. (Katzenbach & Smith, 1993)

Teamwork is fundamentally a very basic concept in which a group of people come together that have different skills and resources in order to accomplish a common goal. It encompasses strengths that are conjoined and work collectively towards particular objectives that could hardly be achieved by a single person. In teamwork, as far as one talks about its effectiveness, it is founded on good communication, cooperation, cohesion, trust, and shared responsibility among members of the team.

Factors that contribute to team effectiveness include effective communication, clear goals and roles, task interdependence, leadership quality, and a supportive organizational culture (Salas, Cooke, & Rosen, 2008). The synergy created by combining different talents leads to greater efficiency and success in achieving goals. Organizations may promote creativity, enhance performance, and establish a favorable work atmosphere by developing a culture of teamwork. A typical project is composed of a project manager and team members. This composition works hard to complete the project successfully. Therefore, we can say that the success or failure of projects is dependent on the performance of the team. The ability of teams to produce desired goals effectively and efficiently is a key component of project performance, which is a fundamental component of organizational success.

In a variety of industries, the success of projects is greatly dependent on the cohesiveness of the team. Team cohesion is important for teams as it is positively related to team performance (Carless & De Paola, 2000).

According to Festinger, team cohesion is defined as "the resultant of all the forces acting on the members to remain in the group" (Festinger L., 1950). Carron (Carron A. V., 2007) defined team cohesion as tendency of team members to stay together and remain united while working towards goals and objectives.

There are three components of team cohesion: task cohesion, social cohesion, and pride. (Festinger L., 1950). Task cohesion is defined as "the group's shared commitment and ability to execute the group task or goal, or the group's capacity for teamwork" (Sottolare & Sottolare, 2018). Social cohesion is defined as "the group's bond that promotes the development and maintenance of social relationships" (Sottolare & Sottolare, 2018).

It is critical to understand the differences between task cohesion and social cohesion because, whereas social cohesiveness has been shown to be significant in the short term for people-related, task cohesion has been proven to positively correlate with team performance. (Chang & Bordia, 2001). In this case, the research will be on both task cohesion and social cohesion which will focus on the ability of teams to perform in projects.

When there is a lack of cohesiveness within the team, members will be less inclined to stick together and take part in team activities. (Eduardo , Diana , & Tobias , 2015). This will eventually lead to a decline in task performance and in the big picture, the project performance, which in turn leads to failure of the project. Here we can see that team cohesion is one of the very important aspects that influence the success of projects and tasks in projects, therefore we should be able to understand how it affects the team and the project. Especially project managers should be well capable to manage team cohesiveness in order to get desired results from their teams. Project performance represents the degree to which a project achieves all its planned targets and objectives, under a condition where they are done in good quality, speed, minimized costs, and scope, as well as stakeholders' satisfaction. There are several measures of project performance that can be used to evaluate the success of a project. Some of the common ones are schedule performance, cost performance, and quality performance. In the next chapters this study will try to prove whether the performance measures will be positively or negatively affected by the cohesiveness of the teams in the selected organization.

1.2. Background of the Organization

Non-Governmental Organizations, or NGOs, are nonprofit organizations that run without interference from the government. They are typically founded by groups of individuals that share a same goal or interest and are motivated by a particular mission or cause. Among the many different NGOs working on child sponsorship programs, Compassion International is one of the major ones. Compassion International is a Christian child development organization dedicated to releasing children from poverty. It began its ministry in Ethiopia in 1993. Over 2.2 million babies, children, and young adults receive Compassion's holistic child development (HCD) program partnering with more than 8,500 churches in 29 countries. (International, 2024)

1.3.Statement of the problem

In CIE HCD projects, the importance of team cohesion in affecting project performance is a critical issue that is not adequately addressed. The impact of cohesive teams on project success is acknowledged to be important in project management, however the empirical evidence in this particular domain is still limited and lacks clarity. In order to optimize resources, satisfy stakeholders, and provide sustainable project outcomes, this information gap poses a significant challenge. It would be unproductive for the organization to attempt to reach and positively impact the children it serves without a thorough knowledge of how cohesive teams contribute to success in the face of the complexities and dynamic changes that are inherent in CIE HCD projects.

While some researchers have found no relationship or contradictory findings, others have indicated that team cohesion has a favorable effect on project performance. The previously mentioned contradiction implies the possibility of contextual factors influencing the correlation between team cohesion and project performance. A thorough examination of the connection between team cohesion and project performance in the particular setting of CIE HCD projects is necessary to close this knowledge gap. Additional research is necessary to identify the specific factors influencing this relationship. In addition, identifying the existence of particular information gaps about the setting for team members and beneficiaries as well as difficulties in executing organizational change projects emphasize how urgent this research project is.

While previous studies have examined the relationship between team cohesion and project performance, much of this research has been conducted in a sports team setting rather than a work team environment. There is limited research on how team cohesion dimensions impact project performance in the unique organizational context of NGO-run development projects. Examining the relationship between team cohesion and project performance in this work team setting can provide valuable insights to enhance the effectiveness of similar development initiatives, complementing the existing literature primarily focused on sports teams.

1.4. Research Questions

1. What is the relationship between Cohesion and project performance in general in CIE HCD projects?
2. What is the effect of individual attraction to the group, specifically social and task aspects, on project performance within the context of CIE HCD projects?
3. What is the effect of group integration, both social and task elements on project performance in CIE HCD projects?
4. How can CIE improve its project performances with regard to cohesion?

1.5. Objectives of the Study

The following are general and specific objectives of the study;

1.5.1. General Objective

The objective of the study is to understand team cohesion and its relationship with project performance in the project management setting in Compassion International Ethiopia assisted Holistic Child development (CIE HCD) projects.

1.5.2. Specific Objectives

The specific objectives of this research are;

1. Understand the degree to which different team cohesion variables affect project performance in CIE HCD projects.
2. Understand the relationship between team cohesion and performance and its impact on CIE HCD projects.
3. Propose strategies and recommendations for enhancing team cohesion within CIE HCD projects to optimize project outcomes and maximize the organization's impact on child development projects.

The study made recommendations on how to improve team cohesion and performance of the projects based on the findings.

1.6. Definition of key terms

Team Cohesion: Team cohesion is defined as "the resultant of all the forces acting on the members to remain in the group" (Festinger L. , 1950). It is the interest of the members to stay in the team considering the forces that gives them the motive to stay. Carron also defined team cohesion as tendency of team members to stay together and remain united while working towards goals and objectives. (Carron A. V., 2007).

Task Cohesion: Task cohesion can be defined as the group's ability to work together as a team and their shared commitment to completing the task at hand. (Sottolare & Sottolare, 2018)

Social Cohesion: Social Cohesion can be defined as the group's cohesiveness that fosters growth as well as maintenance of social ties. (Sottolare & Sottolare, 2018)

Group integration: Describes how a member feels about the group overall, including how they see the norms, cohesion, and shared objectives. It refers to the degree to which team members feel that they are part of a cohesive group, where everyone works together effectively and supports one another.

Individual attractions to the group: Relate to a member's individual reasons for joining and sticking with the group. It refers to the degree to which individual team members are attracted to the group and motivated to contribute to its success.

Project Performance: the degree to which a project achieves all its planned targets and objectives. It consists of measuring outputs and results against originally intended output and result plans to get the variance.

1.7. Significance of the study

The study will offer insightful information to development sector policy makers. The study underscores the significance of cohesion in attaining successful project outcomes by investigating the correlation between team cohesion and project performance. Policy makers who are in charge of supervising projects and making sure they are successful and efficient will be greatly impacted by the results of this research. It is possible for policy makers to improve the lives of the people they serve by funding team-building activities and encouraging cohesion among team members. This will also improve the efficiency of projects.

Project managers who are in charge of the execution of projects will find the study useful. Project managers, particularly in CIE HCD projects can use the study's findings regarding the effect of team cohesion on project performance as empirical proof of the value of cohesion in completing successful projects. Project managers can raise the possibility of obtaining successful project outcomes and enhance project outcomes by cultivating a cohesive team atmosphere.

The study offers insightful information that can be used practically in the field of development. The results of the study can be applied to improve team cohesion in particular and to guide the planning and execution of development projects. Development organizations especially CIE can find areas for improvement and make data-driven decisions to improve project results by assessing the amount of team cohesion and its effect on project performance. The creation of best practices and standards for team cohesion in development projects can also be influenced by this empirical data.

Lastly, the study is significant for other researchers who are interested in exploring the relationship between team cohesion and project performance. The study's findings provide a foundation for further research in this area.

1.8.Scope of the study

This project work will focus on Compassion international Ethiopia assisted Holistic child development projects in the case of project teams. Particularly, for this research, data will be collected from different project teams operating in conjunction with Compassion International in order to ensure that the sample is varied. In essence, in this study, quantitative method will be used to provide the relationship between team cohesion and project performance.

1.9.Organization of the study

The study will consist of the subsequent sections:

Chapter 1 will have a comprehensive introduction to the research, covering the study's background, statement of the problem, general and specific objectives, research questions, significance of the study, scope, and organization of the research. Chapter 2 will provide a review of the literatures, which will contain both theoretical and empirical reviews, as well as

a conceptual framework for the study. Chapter 3 will cover the research methodology, which integrates the research design, sample size, data sources, data collection method, and data analysis. Chapter 4 will present the study's findings by summarizing, interpreting the data, and discussing the results. Chapter 5 will include a summary, conclusion, and recommendations for the study.

Chapter 2

Literature Review

2.1.Theoretical Review

2.1.1. Concepts and definitions of teams

A team is a group of people who manage their relationships across organizational boundaries, see themselves and each other as a cohesive social entity embedded in one or more larger social systems and are interdependent in their tasks and outcomes. (Cohen & Bailey, 1997)

Groups of individuals working collectively towards a unified goal or objective are commonly referred to as teams. These teams typically consist of individuals with diverse skill sets, expertise, and viewpoints, who engage in effective collaboration and communication to accomplish a mutual objective. The presence of teams is evident across a wide range of contexts including sports, business, education, projects and non-profit organizations.

According to Jon R. Katzenbach and Douglas K. Smith, a team consists of a limited group of individuals possessing diverse skills, united by a shared objective, performance targets, and methodology, leading to mutual accountability among themselves. (Katzenbach & Smith, 1993)

Teams are goal oriented and require high levels of collaboration and cooperation between members to achieve team goals.

Many scholars divide teams in many different ways but most of them have a common way of categorizing them. According to Cohen and Bailey, teams are divided into four categories namely work teams, parallel teams, project teams and management teams. (Cohen & Bailey, 1997)

When people talk about teams, they typically think of work teams. Work teams are extensions of the work units in charge of manufacturing products or providing services. Parallel teams coexist with the official organizational structure in parallel. They can only offer recommendations to those who are higher up in the organizational hierarchy and typically have minimal authority. For tasks involving problem-solving and improvement,

parallel teams may be used. (Cohen & Bailey, 1997) Project Teams have a time constraint. They create one-time outputs like a new information system, new facility, or a new product or service that the business will market. (Mankin, Steven, & T. , 1996) The management team is in charge of a company unit's overall performance. The members' hierarchical rank is the source of its authority. (Cohen & Bailey, 1997)

2.1.2. Team cohesion

According to Festinger, team cohesion is defined as "the resultant of all the forces acting on the members to remain in the group" (Festinger L. , 1950). To put it another way, the different forces that attract and repel people inside a group combine to create cohesion. According to Festinger, cohesiveness is a multifaceted concept that takes into account a number of elements, such as:

- Attraction to the group: This describes the extent to which people find themselves drawn to the group and its members. Goals, interests, and shared values are a few examples of this.
- Attraction to group activities: This is the extent to which people find purpose and enjoyment in the tasks and activities that the group participates in.
- Prestige of the group: The degree to which a group is seen as prestigious or attractive.

Carron (Carron A. V., 2007) defined team cohesion as tendency of team members to stay together and remain united while working towards goals and objectives. This definition places emphasis on the notion that cohesiveness is a dynamic, continuous process involving team members' interactions across time. According to Carron's concept, it is critical for team members to be willing to collaborate in order to accomplish shared objectives and to be fully committed to the team.

Even though cohesion's components were recognized early on, researchers have frequently just measured a single aspect of the construct. For example, (Seashore, 1954) used a component of cohesion known as "attraction to the group" or "group attractiveness." A survey was utilized in Seashore's study to measure the level of cohesiveness among a sample of industrial workers, with an emphasis on the function of cohesiveness in work groups. The survey included items that assessed the workers' attraction to the group, such as their desire to belong to the group, their satisfaction with the group, and their willingness

to work together with other group members. Seashore was able to illustrate the significance of group cohesiveness in forecasting a range of outcomes, including group productivity, employee happiness, and turnover, by utilizing this cohesive component.

According to Van Bergen and Koekebakker (Van Bergen, & Koekebakker, 1959), the concepts of attraction to the group (ATG) and group cohesion should be distinguished from one another. Cohesion was defined as the degree of group field unification, whereas ATG was described as the interaction of motives functioning on the individual to stay in the group. This differentiation acknowledges that cohesiveness is a collective attribute, as opposed to individual group member-reflecting ATG.

Building on the work of Van Bergen and Koekebakker, Evans and Jarvis (John St. & John , 1980) elaborated on the idea of cohesiveness and how it relates to attraction to the group (ATG). According to their argument, cohesiveness entails a sense of intimacy, shared perspectives on events, and a uniting effort in reaction to external circumstances. Consequently, focusing on variability rather than a group mean may be necessary when measuring cohesiveness. ATG, on the other hand, is a composite of each member's feelings about the group, including their desire to fit in and be recognized as a group member as well as their involvement in the group on a personal level and with other members.

Talks about group cohesion have also taken into account the second issue: the necessity of making a distinction between the task and social parts of teams and their members. For instance, Festinger et al. (Festinger, Riecken, & Schachter, 1951) identified two categories of factors—means control and group attractiveness—that contributed to a member's decision to stay in the group.

Attraction to groups (ATG) was studied by Enoch and McLemore (Enoch & McLemore , 1967), who distinguished between two kinds of attraction: instrumental attraction and intrinsic attraction.

Mikalachki (Mikalachki, 1969) made a clear distinction between task cohesion and social cohesion, two distinct forms of group cohesion. In contrast to social cohesiveness, which happens when a group stays together for social reasons like friendship or common interests, task cohesion happens when a group stays together to complete a certain task or goal.

2.1.3. Cohesion a conceptual model

Carron, Widmeyer, and Brawley (Carron, , Widmeyer, & Brawley, , 1997) relied on two main contrasts in the development of the Group Environment Questionnaire (GEQ): task versus social issues and individual versus group concerns. These differences had a huge influence on the creation of the model and are evident in its two main categories: individual attraction to the group and group integration.

The term "group integration" describes how a member feels about the group overall, including how they see the norms, cohesion, and shared objectives. The task and social aspects of this category are further subdivided, representing the members' views of the group's capacity to accomplish its objectives and their own relationships with the group, respectively.

On the other hand, individual attractions to the group relate to a member's individual reasons for joining and sticking with the group. This category is further subdivided into task and social components, which indicate the member's interest in the objectives and activities of the group as well as their interpersonal connections with one another.

To fully understand the dynamics of group behavior, one must grasp the critical roles that both group integration and individual attractions to the group play in tying members to their groups.

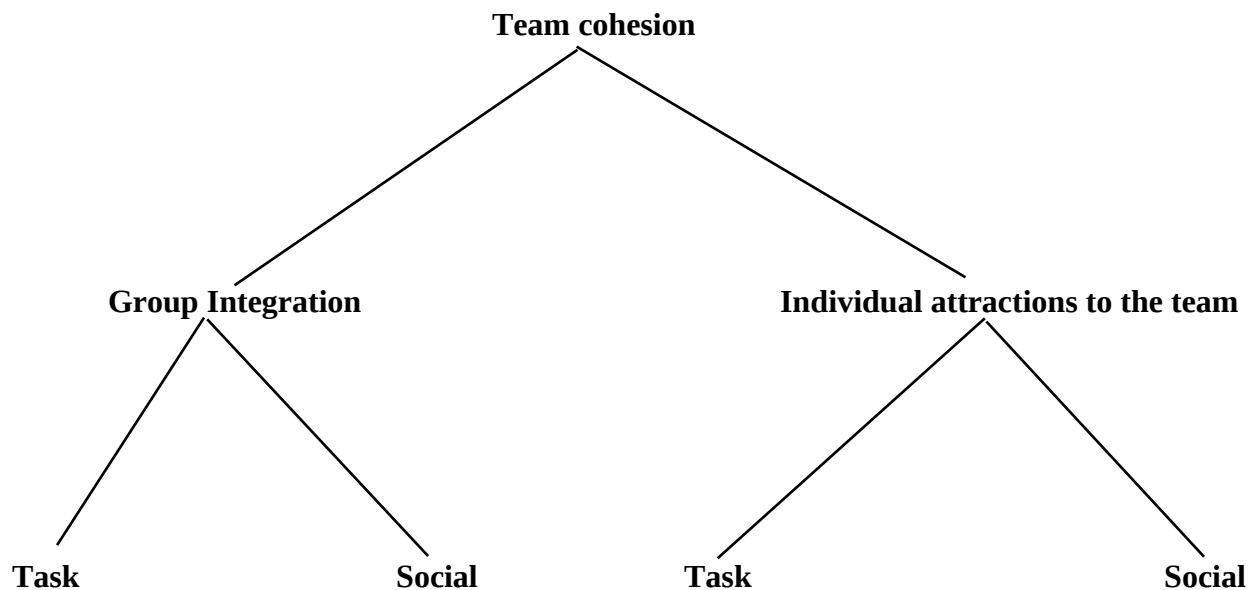


Figure 1 Conceptual Model of the Team Cohesion

2.1.4. Project performance

Many writers have put forth differing definitions and metrics for project performance, a concept that has been the subject of substantial research in the literature. The definitions and metrics employed by various writers frequently differ based on their viewpoints and the circumstances in which they are researching project performance, as there is no one set of metrics or definition of project performance that is universally recognized.

Project performance refers to the project team's capacity to complete the work within the predetermined parameters of scope, schedule, and budget, while also meeting quality requirements and stakeholder expectations. (Akgün & Kılıç, 2021)

In the past, the amount of resources needed to complete a project was frequently used to evaluate its performance. Recent research, however, indicates that following the projected timeline, adhering to the allocated budget, and making sure all deliverables satisfy the needs of project stakeholders are more accurate measures of project success (Ahmad & Rahman, 2019) This change in focus is a result of an understanding of the significance of delivering projects on time and under budget, as well as the necessity of making sure they satisfy the requirements of the people they will affect.

2.2. Empirical Review

This section examines the empirical research from several fields that shows how team cohesion affects project performance.

2.2.1. Team cohesion and project performance

Project success is essential for firms to meet their strategic objectives in the fast-paced, harsh economic environment of today. Team cohesion is one important element that can have a big impact on a project's success.

A study conducted by Arden Anderson, (Arden , 2015) examines the connections between NCAA Division-I women's volleyball teams' performance, anxiety, retention, and satisfaction and team cohesion. The Group Environment Questionnaire (GEQ) and Social Network Analysis (SNA) are the two-cohesiveness metrics used in the study. According to the study, there is a positive correlation between team performance and team cohesion as determined by the GEQ and SNA. In addition to highlighting the benefits of team cohesion, the study further establishes the SNA and the GEQ as valuable but distinct instruments that coaches and sports administrators can utilize to gain a deeper understanding of their teams'

performance. However, the limitations of this study are that it is restricted to women's volleyball teams; its application to other teams in sports or work teams is still under question.

The relationship between team cohesion and team performance in sports is examined in the 2002 Journal of Sports Sciences paper "Team cohesion and team success in sport" by Albert V. Carron, Steven R. Bray, and Mark A. (Albert , Steven , & Mark , 2002). The association between cohesion and success was investigated by the authors using a meta-analysis of 49 papers from several subdisciplines of psychology, including sport psychology. The findings indicate a minor but positive correlation between cohesion and success, with actual organizations showing much higher cohesion-success effects than artificial ones. Additionally, they discovered that the largest correlation between cohesion and success is seen in sports teams, which are followed in order of importance by military and non-military groups.

The Sport Cohesiveness Questionnaire (SCQ), which is no longer used for group dynamics research in sport because of its low psychometric qualities, is one of the research constraints on team cohesion and success that the article emphasizes. The Group Environment Questionnaire (GEQ) is based on a conceptual model that views cohesion as the outcome of four main elements, and the authors emphasize that it has the potential to significantly advance the development of a more comprehensive understanding of team cohesion in sports.

The authors draw the conclusion that team cohesion and team performance in sports are positively correlated, and that the GEQ is a useful instrument for analyzing this relationship. They also point out that in order to fully understand the connection between cohesiveness and performance in sports teams, future study should concentrate on the creation of multi-level statistical tools.

Another article by Daniel J. Beal et al. "Cohesion and Performance in Groups: A Meta-Analytic Clarification of Construct Relations" (Daniel , Robin , Michael , & Christy , 2003) focuses on the connection—which has received a lot of attention in the field of organizational psychology—between group cohesion and performance. The authors explore the moderating impacts of various types of performance criteria, namely behavior versus outcome, efficiency versus effectiveness, and team workflow patterns, through a

meta-analysis of prior research. The study is not without its limits. The authors point out that because their meta-analysis is restricted to research that assessed group cohesion and performance, it might not include all studies that assessed these dimensions at the individual level.

A study by Brian Mullen and Carolyn Copper (Mullen & Copper, 1994) offers a meta-analytic integration of the relationship between group cohesion and performance, looking at the importance and scope of the impact as well as the variables that regulate it. The cohesiveness-performance impact is examined through an analysis of the authors' findings about the contributions of interpersonal attraction, task commitment, and group pride to cohesiveness. The relationship between cohesion and performance is also examined in terms of trends in time.

With a mean effect size of $r = .320$, the study concludes that the cohesiveness-performance impact is a small-scale, substantial effect. The authors warn that one should interpret their figures cautiously because there are inconsistencies in earlier narrative presentations of the phenomena. The study revealed a strong cohesiveness-performance effect, indicating a favorable correlation between group cohesion and performance. Cohesion and performance do not, however, have a strong correlation because of the relatively small effect size. A one unit rise in cohesiveness corresponds to a 0.320-unit gain in performance, according to the mean effect size of $r = .320$. This suggests that there may be other factors influencing performance and that cohesion and performance might not have a significant relationship.

However, the article does not define cohesion precisely and does not discuss the drawbacks of the meta-analytic methodology. Additionally, it does not address the useful implications for real-world contexts and does not offer a thorough examination of temporal patterns and moderating factors.

A research paper titled "Work-Group Cohesion" (Summers, Coffelt, & Horton, 1988) discusses the concept of work-group cohesion and its relationship to organizational outcomes. The authors stress the value of cohesiveness in enhancing productivity and other organizational outcomes like goal attainment. They imply that an organization's performance could be influenced, at least somewhat, by the cohesion among its many work groups. They also indicate that the Wheelless et al. tool can be used to construct studies that

examine the connection between organizational outcomes and work-group cohesion. The measurement of cohesion and its connection to organizational results are the main topics of this research. But the writers don't offer enough factual data to back up their claims. They simply cite research by Wheelless et al. (1982) that shows cohesion and organizational outcomes have a positive link, but they don't go into great detail about the methodology or findings of the study.

A study conducted by (Vazquez, 2019) examines into the relationship over time between contextual performance, project team performance, and team cohesion. The study gathers information from 120 teams participating in a business simulation project using a longitudinal design. The findings demonstrate that a cohesive team improves contextual performance, which benefits the performance of the project team. The study also reveals that contextual performance acts as a moderator in the association between team cohesion and project team performance. The results of the study have application for organizations; they recommend that in order to improve project team performance, they give priority to the formation of team cohesion and contextual performance.

The study's exclusive focus on project teams in a business simulation environment may restrict how broadly the conclusions may be applied to other kinds of teams and situations. The study uses self-reported surveys, which may have biases and limits, to quantify contextual performance and team cohesion.

Another study conducted on impact of team building on cohesion (Wong, 2015) investigates the effect of team building on multicultural teams' group cohesion, particularly in workgroups with members of several nationalities. The study looks into the effectiveness of a team-building program that includes components best suited for a multicultural setting, like workshops on Appreciative Inquiry, experiential games, and cultural awareness training. The goal of the program was to improve team member social cohesiveness, task cohesion, and group cohesion.

The study's Group Environmental Questionnaires (GEQ) were adjusted for the work-team setting. Though widely used and modified for use with many groups, including work teams, the GEQ was first designed for use with sports teams. The GEQ was modified for application with work teams by customizing the elements to more accurately represent the unique dynamics and context of work teams. This might have involved changing the items'

language and substance to better reflect the kinds of interactions and experiences that are common in work teams, as well as eliminating or changing any that weren't pertinent to the setting of the work team.

According to the study, the team building activities improved the members of the team's rapport and trust as well as their cohesiveness, cooperation, and communication. Along with encouraging team members to collaborate more successfully to achieve shared objectives, the program also contributed to the development of a pleasant and encouraging team culture.

A thesis by Rahel Girmachew (Girmachew, 2021) "Team Cohesion and Its Contribution to Improve Team Performance: The Case of Selected Amhara League Football Teams," examines how cohesive teams perform in the 2020–21 Amhara League football season. The study included 106 participants, including players, coaches, and team leaders from the football teams Dembecha Kenema, Buri Kenema, Jega Kenema, and Mankusa Kenema. It used a descriptive research methodology. Formal interviews and questionnaires were used to collect data, and the results showed a strong positive association between performance and team cohesion. The results highlight the necessity of encouraging social and task coherence among team members in order to improve overall team performance, both theoretically and practically.

2.2.2. Validity of the GEQ

Based on decades of research and validation studies, the GEQ is widely recognized as a valid and trustworthy tool for measuring the multidimensional construct of team cohesion. It is still one of the scales that is most frequently applied in studies on teams and collaboration.

A study by Carron, Widmeyer, and Brawley (Carron, Widmeyer, & Brawley, 1985) support the validity of the Group Environment Questionnaire (GEQ) as a measurement of cohesiveness within a team. To create and validate the GEQ, the authors carried out four investigations. Group integration-task (GIT), group integration-social (GIS), individual attractions to group-task (ATGT), and individual attractions to group-social (ATGS) were the four constructs linked to group cohesion that were found in the first study. They created

an 18-item survey to measure these concepts, and they tested it on two different sports teams.

The study's findings showed the high levels of content validity, reliability across studies, and internal consistency of the GEQ. The purpose of the second study was to look at the connection between cohesiveness and team performance. Cohesion and team performance were found to be positively correlated by the researchers, indicating that cohesive teams perform better.

These research' findings support the GEQ's applicability as a measure of team cohesion. The different elements of cohesion, such as individual attraction, group integration, and team norms, were all captured by the questionnaire. The results also imply that team performance and satisfaction are significantly influenced by cohesiveness.

2.3. Conceptual Framework

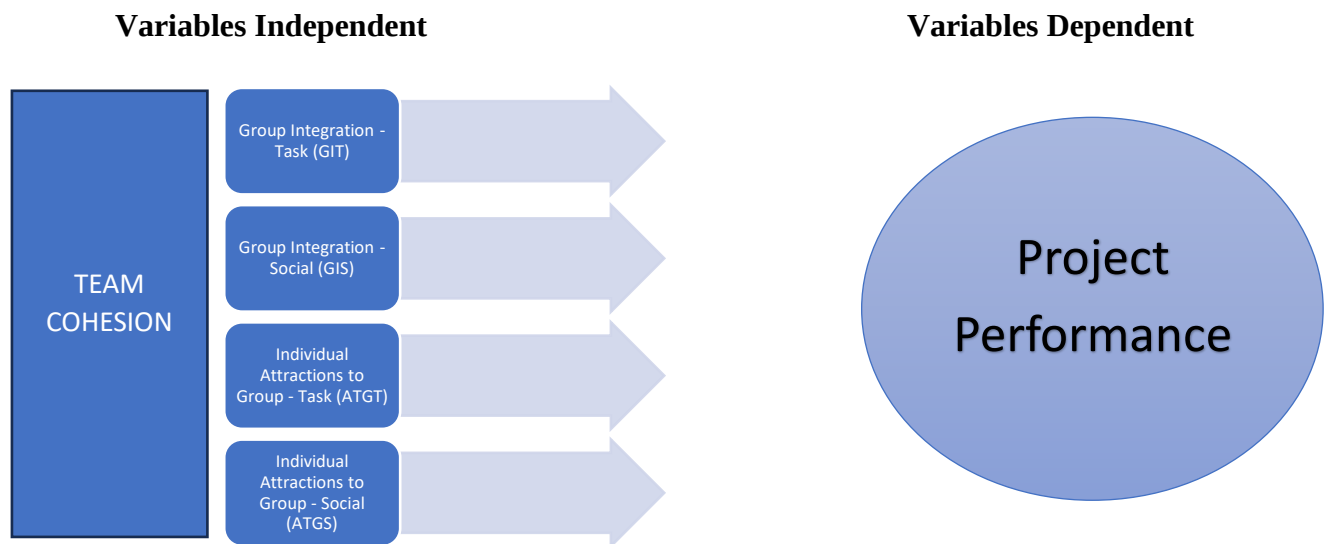


Figure 2 conceptual framework of the study on Cohesion and performance (Brian & Carolyn , 1994)

The dependent variable is Project Performance. Variations in team cohesion have an impact on this outcome variable. Several indicators, including project completion time, deliverable quality, stakeholder satisfaction, and stakeholder involvement, can be used to measure it. The main independent variable that is believed to have an impact on project performance is team cohesion. It is divided further into group integration and individual attractions to group.

Group Integration: Indicates how much a person identifies with and feels a part of the group as a whole. It has social and task sub-groups. Social group integration (GIS) refers to the connections and relationships that exist between members of a group. Task Group Integration (GIT) shows how members of the group are working together to accomplish shared project-related goals and objectives.

Individual Attractions to the Group represents the individual's personal connections and attractions to specific group members. This also has social and task sub-groups. Social Individual Attractions to group (ATGS) shows the relationships and attraction of each group member to others. Task Individual Attractions to group (ATGT) shows how well a person aligns with the goals and objectives of the group. GIS, GIT, ATGS and ATGT are all independent variables which are believed to have an effect on the dependent variable which is Project performance.

Chapter 3

Research methodology

3.1. Research Design and approach

The primary goal of quantitative research methods is to address research issues through the collection and analysis of numerical data. The effect of team cohesion on project performance at Compassion International Ethiopia is examined through the use of a quantitative research design in this study. Since examining the correlations between team cohesion variables i.e. ATGS, ATGT, GIS and GIT against project performance is the main objective of the study, and also studying the effects of the team cohesion variables on CIE project team performances requires quantitative observations of patterns, quantitative approaches are a good fit. It makes it possible to examine a lot of data, identify patterns, and make conclusions regarding how team cohesion and project performance are related. A more detailed and comprehensive examination of the study question was possible with the application of quantitative methods.

3.2. Data types and sources

The research gathered a quantitative data. A questionnaire was used to collect this quantitative data on team cohesion. The survey consisted of closed-ended questions with a Likert scale for scoring.

Two types of data sources were used in the study: primary and secondary. The questionnaire created for project teams is used to gather primary data and the secondary data is from existing research and literature on project performance and team cohesion.

For the primary data this study used questionnaires created using the Group Environment Questionnaire (GEQ) model as its data source. The GEQ model consists of 18 closed-ended questions divided into four categories. They are categorized into four main sections: group integration – task (GIT), group integration – social (GIS), individual attractions to group – task (ATGT) and Individual attractions to group – social (ATGS). Originally created for sports teams, the GEQ model is adapted to fit work - teams as done earlier in research by (Wong, 2015) for use with work teams in her paper.

The last part of the questionnaire addressed the questions related to the project performance measurements of respondents' respective projects based on how CIE measures performances

of their projects specifically on stakeholder involvement, beneficiary satisfaction, quality of objectives, on time and on budget completion of project activities. (CIE portal, 2024)

Regarding the secondary data, reviews were done on books, journals, articles, websites and CIET documents.

3.3.Data collection and instrument

Data collection for the survey was facilitated through email communication and Microsoft Forms. Project teams were sent an email containing the questionnaire, which they were requested to complete and return. This method of data collection was chosen for its effectiveness, affordability, and ability to reach a large sample of project teams across different regions.

This survey employed a Microsoft Forms-administered questionnaire as its data collecting instrument. Project teams did not need to physically distribute or return paper-based surveys because they could obtain the questionnaire directly from their email inbox. Because of the user-friendly interface offered by Microsoft Forms, respondents were able to complete the questionnaire with ease and in an organized way. Project teams were able to easily participate in the survey from any location with internet access, which enabled a simplified and accessible data collection process.

3.4.Target population and sample design

Project managers and members working on HCD projects in the North, East, South-West, South, and Central regions are the study's target population.

The population has been classified into five homogenous sub-groups or strata according to the five regions: North (n1), East (n2), Central (n3), South (n4), and South-West (n5). This sample design for the study uses a stratified random sampling technique. Each stratum will have a random sample of project managers and members chosen, for a total sample size of $n1 + n2 + n3 + n4 + n5 = 588$ population. (CIE portal, 2024)

3.5.Sample size and Sampling Technique

It is important to give considerable thought to sample size selection for research projects, particularly if the population being studied is big and dispersed throughout several locations,

in order to guarantee statistically significant and practically practicable results. Various techniques can be employed to ascertain the sample size for any project, contingent on variables including the intended degree of precision, degree of confidence, and availability of resources.

For example, applying the formula used by (Krejcie & Morgan, 1970)

$$n = \frac{X^2 * N * P * (1-P)}{(ME^2 * (N-1)) + (X^2 * P * (1-P))}$$

Where n = sample size =?

X = confidence level at 1 degree of freedom = 1.96 (assuming 95% confidence level)

N = Population Size = 588

P = Population proportion (50) in this case = 0.5

ME = desired margin of error = 0.5 for 95% confidence level

After calculating we get an approximated n = 233

Considering the time limitation and resource for this study, this is not a feasible choice.

Stratified Sampling: This technique includes selecting a random sample from each stratum after the population is divided into homogeneous groups (strata) according to particular criteria, like region or project type. This enables comparisons between the subgroups while assuring representation from each one. One might group the projects according to region for the study, then take a proportionate sample from each region.

Proportional Allocation: In this method, the sample size for each project is determined based on its proportion to the total population. For example, if one region has a larger number of projects compared to others, it would be allocated a larger sample size accordingly. This method ensures that each project contributes proportionally to the overall sample.

Given the quantity of projects in this situation, which are dispersed among five areas of Ethiopia, a combination of stratified sampling and proportional allocation is chosen. By using this method, the sample is representative of each region and project type while remaining proportionate to the size of the population as a whole.

It is reasonable to choose a sample size based on Carvalho's (Carvalho, 1984) table for the sample size range.

From the table 3.1. below for a population size of 588, it lies in the range between 501 and 1200. Considering the medium sample size to be on the safe size, a sample size of 80 is chosen.

Population Range	Sample size		
	Low	Medium	High
2 - 8	2	2	3
9 – 15	2	3	5
16 – 25	3	5	8
26 – 50	5	8	13
51 – 90	5	13	20
91 – 150	8	20	32
151 – 280	13	32	50
281 – 500	20	50	80
501 – 1200	32	80	125
1201 – 3200	50	125	200
3201 – 10000	80	200	315
10001 – 35000	125	315	500
35001 - 150000	200	500	800

Table 1 Carvalho's sample size selection

The chosen 80 sample size can now be proportionally distributed to the regions (strata) based on their percentage of population. This is summarized on the table below.

Region (strata)	Population size	Population in %	Sample size (approximated)
North (n1)	102	17.34	$(0.1734 \times 80) = 14$
East (n2)	114	19.39	$(0.1939 \times 80) = 16$
Central (n3)	125	21.26	$(0.2126 \times 80) = 17$
South (n4)	126	21.43	$(0.2143 \times 80) = 17$
South – West (n5)	121	20.58	$(0.2058 \times 80) = 16$
Total	588	100	80

Table 2 proportional sample size calculation

3.6. Reliability

The stability and consistency of the tools or measurements used to gather data are referred to as a study's reliability. In this study, the Cronbach's alpha technique was used to evaluate the questionnaire's reliability. Cronbach's alpha (α) is a popular statistical tool for evaluating the internal consistency of a group of variables within a questionnaire.

Cronbach's alpha (α) was calculated to evaluate the consistency of responses across the several items measuring team cohesion and project performance in order to guarantee the reliability of the questionnaire. A high α value implies a close relationship between the questionnaire items and a reliable measurement of the same underlying construct.

In this study, Cronbach's alpha was used for two main reasons. First of all, it showed if the developed or chosen questionnaire was appropriate for measuring project performance and team cohesion in the study's setting. The research evaluated if the questionnaire successfully captured the intended constructs and offered reliable measurements by calculating Cronbach's alpha (α).

Secondly, Cronbach's alpha (α) was used to evaluate the reliability of the measurement of the components included in the questionnaire. This involved examining the internal consistency of the items measuring team cohesion (including group integration and individual attractions to the group and their social and task sub-groups) and project performance (such as quality, timeliness, Stakeholder involvement and stakeholder satisfaction). A high Cronbach's alpha value for each component indicates that the items were consistent and reliable measures of their respective constructs.

As table annex 2 shows. strong internal consistency across the questionnaire items is demonstrated by the Cronbach's alpha coefficient of 0.783, 0.750, 0.710, 0.754 and 0.764 for ATGS, ATGT, GIS, GIT, and Project performance respectively, which suggests that the questionnaire is appropriate for measuring team cohesion and project performance in the context of the study. Furthermore, the measuring components for project performance and team cohesion demonstrate strong internal consistency, with a Cronbach's alpha of 0.843 for standardized items, confirming their validity as reliable indicators of the corresponding constructs.

3.7. Validity

A study's validity can be defined as the degree to which it accurately measures the variables it set out to test and the degree to which its conclusions can be applied to a larger population or relevant context. In the case of this study, the implementation of the Group Environment Questionnaire (GEQ) contributes to both the content and construct validity of the research.

Content validity is the extent to which the items in a measurement instrument adequately represent the construct being measured.

The GEQ is a well-known tool created especially to evaluate group cohesion in a variety of contexts, such as sports teams, workgroups, and project teams. It was created by Albert Carron, Lawrence Widmeyer, and William Brawley (Carron, Widmeyer, & Brawley, 1985). By offering a thorough and consistent way to measure team cohesion, the GEQ's usage in this study improves the content validity of the findings.

On the other hand, construct validity describes how well the results of a measurement tool represent the underlying theoretical concept under study. Extensive empirical research confirms the GEQ has revealed good construct validity. Through the use of the GEQ in this study, the researcher took advantage of the instrument's proven validity to evaluate team cohesion in the context of project teams.

3.8. Data analysis and presentation

Quantitative data collected from the respondents through questionnaires were analyzed using statistical techniques and presented in tables and charts. The Statistical Package for the Social Sciences (SPSS) program was used to code, enter, and analyze the numerical data.

In order to investigate the connection between team cohesion and Project performance in CIE HCD projects, inferential statistics were used. The purpose of these statistical analysis was to find out whether or not project performance was significantly affected by team cohesion variables using probability. Conclusions based on the extrapolation of results from the sample to the larger population were made, and explanations for observed patterns and relationships were put forth using inferential statistics.

Regression analysis was also done to forecast how the independent variable (team cohesion) would affect the dependent variable (project performance).

3.9.Ethical considerations

Prior to collecting any participant data, the researcher got informed consent from all participants. The study guaranteed the confidentiality and privacy of the participants as well as the safe storage of the data. Every detail of the research was disclosed to the participants. Participants weren't pressured into taking part in the study; participation was completely voluntary. They are informed that they may refuse to participate in the study at any time and that doing so would not have any negative consequences.

The study made sure the procedures are harmless and don't put people through excessive stress, physical or psychological harm. The researcher conducted the study in a way that respects the rights and liberty of every participant while keeping in mind cultural sensitivities and participant diversity.

Chapter 4

Data Analysis Presentation and Discussion

This chapter will present the analysis of the data and the discussion of the findings for the study of the effect of team cohesion on project performance in CIEHCD projects.

4.1. Response Rate

Out of the number of population size for the survey of 80 participants, 76 were able to respond to the questionnaires and the rest 4 were unresponsive. According to Fowler (Fowler, 2014) if a survey has a low non-responsive rate of 5% or less, it suggests that the survey is well designed and the data collection process is effective. Therefore, the non-responses are unlikely to have a significant impact on the survey. In this case, the percentage of responses is $(76/80) \times 100 = 95\%$. This is acceptable in research surveys.

4.2. Demographic data of the respondents

In the first part of the questionnaire, demographic data was collected including gender, age, level of education and work experience.

According to table 4.1, the study involved both male and female respondents. Out of the 76 respondents, 65 (85.5%) were male and 11(14.5%) were female. The age range of most of the respondents is in the range between 20 and 50 years. Majority of the respondents are aged between 31-40 which comprises 53.9% of the total sample population. This is followed by the age range of 41-50 which is 28.9% and 20-30 (14.5%) of the total sample population. 2.6% of the population are aged >50.

Majority (73.7%) of the respondents hold a graduate/degree followed by 25% holding a Post – Graduate degree. Only a single respondent has a diploma comprising of the rest 1.3%.

The demographic shows that Most of the participants with a percentage of 42.1% have 0-5 years of experience followed by 19 participants (25%) having 6-10 years of experience. Respondents having years of >20 have the lowest percentage which is 6.6%.

Majority of the sample size were given to Central and South regions of the CIE projects with percentages of 22.4% each followed by East and South – West, each consisting of 21.1%. The North region consists of 13.2%.

Demographic Data		Frequency	Percent
Gender	Male	65	85.5
	Female	11	14.5
	Total	76	100
Age Range	20-30	11	14.5
	31-40	41	53.9
	41-50	22	28.9
	>50	2	2.6
	Total	76	100
Level of Education	Diploma	1	1.3
	Graduate/Degree	56	73.7
	Post Graduate	19	25
	Total	76	100
Work Experience	0-5	32	42.1
	6-10	19	25
	11-15	12	15.8
	16-20	8	10.5
	>20	5	6.6
	Total	76	100
Region	North	10	13.2
	East	16	21.1
	Central	17	22.4
	South	17	22.4
	South - West	16	21.1
	Total	76	100

Table 3 Demographic data of the respondents

4.3.Descriptive analysis

In this part of the study, the results of the descriptive analysis of cohesion variables and project performance are shown. The cohesion variables have 4 categories i.e. ATGS, ATGT, GIS and

GIT, ATGS and GIT each have 5 items of questionnaire while ATGT and GIS have 4 items of questionnaire with a total of 18 items. Project performance on the other hand has 5 items. The analysis is presented as follows.

4.3.1. Descriptive analysis of Team Cohesion variables in CIE HCD projects

- **ATGS of CIE HCD projects**

ATGS was measured using 5 items out of the 18 items GEQ questionnaire. i.e. items 1,3,5,7,9.

Item	ATGS Questions	Value	Freq.	Percent	Valid percent	Cumulative Percent
1	I do not Enjoy being part of the social activities of the team	Moderately Agree	1	1.3	1.3	1.3
		Neither Agree nor Disagree	6	7.9	7.9	9.2
		Mildly Disagree	7	9.2	9.2	18.4
		Moderately Disagree	14	18.4	18.4	36.8
		Disagree	15	19.7	19.7	56.6
		Strongly Disagree	33	43.4	43.4	100.0
		Total	76	100	100.0	
3	I'm not going to miss the members of this team when I eventually leave the job	Mildly Agree	1	1.3	1.3	1.3
		Neither Agree nor Disagree	4	5.3	5.3	6.6
		Mildly Disagree	8	10.5	10.5	17.1
		Moderately Disagree	12	15.8	15.8	32.9
		Disagree	18	23.7	23.7	56.6
		Strongly Disagree	33	43.4	43.4	100.0
		Total	76	100.0	100.0	
5	Some of my best Friends are on this Team	Neither Agree nor Disagree	11	14.5	14.5	14.5
		Mildly Agree	10	13.2	13.2	27.6

Item	ATGS Questions	Value	Freq.	Percent	Valid percent	Cumulative Percent
		Moderately Agree	10	13.2	13.2	40.8
		Agree	15	19.7	19.7	60.5
		Strongly Agree	30	39.5	39.5	100.0
		Total	76	100.0	100.0	
7	I enjoy other social gatherings more than those with this team	Neither Agree nor Disagree	3	3.9	3.9	3.9
		Mildly Disagree	7	9.2	9.2	13.2
		Moderately Disagree	22	28.9	28.9	42.1
		Disagree	15	19.7	19.7	61.8
		Strongly Disagree	29	38.2	38.2	100.0
		Total	76	100.0	100.0	
9	For me, this team is one of the most important social groups to which I belong	Moderately Disagree	1	1.3	1.3	1.3
		Mildly Disagree	1	1.3	1.3	2.6
		Neither Agree nor Disagree	5	6.6	6.6	9.2
		Mildly Agree	10	13.2	13.2	22.4
		Moderately Agree	18	23.7	23.7	46.1
		Agree	20	26.3	26.3	72.4
		Strongly Agree	21	27.6	27.6	100.0
		Total	76	100.0	100.0	

Table 4 Summarized table of the ATGS responses

For question 1, "I do not enjoy being part of the social activities of the team," the dominant answer is "Strongly Disagree," with a frequency of 33 (43.4%) and a percent of 43.4%. The second most frequent answer is "Disagree," with a frequency of 15 (19.7%) and a percent of 19.7%. The least frequent answer is "Moderately Agree," with a frequency of 1 (1.3%) and a percent of 1.3%. The dominance of "Strongly Disagree" suggests a strong level of social cohesion within the team, as

the majority enjoy participating in team social activities, while the low frequency of "Moderately Agree" indicates that very few feel disengaged from such activities.

For question 3, "I'm not going to miss the members of this team when I eventually leave the job," the dominant answer is again "Strongly Disagree," with a frequency of 33 (43.4%) and a percent of 43.4%. The second most frequent answer is "Disagree," with a frequency of 18 (23.7%) and a percent of 23.7%. The least frequent answer is "Mildly Agree," with a frequency of 1 (1.3%) and a percent of 1.3%. The dominance of "Strongly Disagree" indicates strong emotional attachment to team members and a high level of social cohesion, while the low frequency of "Mildly Agree" suggests minimal detachment from the team upon departure.

The most popular response to question 5, "Some of my best friends are on this team," is "Strongly Agree," with a frequency of 30 (39.5%) and a percentage of 39.5%. "Agree," with a frequency of 15 (19.7%) and a percentage of 19.7%, is the second most commonly given response. "Neither Agree nor Disagree" is the least common response, coming in at 11 (14.5%) and 14.5% respectively. The strong social cohesion of the team is indicated by a majority of "Strongly Agree" responses, whilst the low frequency of "Neither Agree nor Disagree" implies that few respondents are neutral about their connections within the team.

The most popular response to question 7, "I enjoy other social gatherings more than those with this team," is "Strongly Disagree," with a frequency of 29 (38.2%) and a percentage of 38.2%. "Strongly Disagree" is the second most commonly given response, with a frequency of 22 (28.9%) and a percentage of 28.9%. The least common response, "Neither Agree nor Disagree," has a frequency of 3 (3.9%) and a percentage of 3.9%. The prevalence of "Strongly Disagree" indicates that team social gatherings are preferred over other social events, demonstrating a high degree of social cohesiveness.

The majority response to question 9, "For me, this team is one of the most important social groups to which I belong," is "Strongly Agree," with a frequency of 21 (27.6%) and a percentage of 27.6%. The second most common response, "Agree," with a frequency of 20 (26.3%) and a percentage of 26.3%. The least common response, "Moderately Disagree," has a frequency of 1 (1.3%) and a percentage of 1.3%. The high frequency of "Strongly Agree" implies that the team is highly valued as a social group that contributes to strong social cohesiveness, whilst the low frequency of

"Moderately Disagree" indicates that there is little dispute over the significance of the team as a social unit.

All of the answers here indicate that there is a comparatively higher level of social team cohesion between team members.

- **ATGT of CIE HCD projects**

ATGT was measured using 4 items out of the 18 items GEQ questionnaire. i.e. items 2,4,6,8.

Item	Value	Frequen cy	Percent	Cumulative Percent
2	Mildly Agree	4	5.3	5.3
	Neither Agree nor Disagree	3	3.9	9.2
	Mildly Disagree	3	3.9	13.2
	Moderately Disagree	9	11.8	25.0
	Disagree	18	23.7	48.7
	Strongly Disagree	39	51.3	100.0
	Total	76	100.0	
4	Neither Agree nor Disagree	7	9.2	9.2
	Mildly Disagree	1	1.3	10.5
	Moderately Disagree	14	18.4	28.9
	Disagree	21	27.6	56.6
	Strongly Disagree	33	43.4	100.0
	Total	76	100.0	
6	Mildly Agree	2	2.6	2.6
	Neither Agree nor Disagree	5	6.6	9.2
	Mildly Disagree	6	7.9	17.1
	Moderately Disagree	13	17.1	34.2
	Disagree	21	27.6	61.8
	Strongly Disagree	29	38.2	100.0
	Total	76	100.0	

Item	Value	Frequency	Percent	Cumulative Percent
8	Moderately Agree	3	3.9	3.9
	Mildly Agree	4	5.3	9.2
	Neither Agree nor Disagree	2	2.6	11.8
	Mildly Disagree	4	5.3	17.1
	Moderately Disagree	11	14.5	31.6
	Disagree	19	25.0	56.6
	Strongly Disagree	33	43.4	100.0
	Total	76	100	

Table 5 Summarized table of the ATGS responses

The majority response to question 2, "I am not happy with the amount of responsibilities I get," is "Strongly Disagree," with 39 (51.3%) indicating satisfaction. Members of the team seem pleased with their workload, which shows task cohesiveness within the group. The least common response, "Mildly Agree," had four replies (5.3%), suggesting that a small percentage of respondents are just mildly dissatisfied with their role.

With 33 replies (43.4%) reflecting a strong agreement with the team's performance drive, "Strongly Disagree" is the most popular response to question 4, "I am unhappy with my team's level of desire to perform well." This shows that everyone is strongly committed to completing the task at hand, indicating task cohesiveness. The least popular comment, "Mildly Disagree," received just one response (1.3%), indicating a low level of discontent with the team's performance motivation.

The majority response to question 6, "This team does not give me enough opportunities to improve my personal performance," is "Strongly Disagree," with 29 respondents (38.2%) expressing that there are plenty of options for personal development. This suggests task coherence since participants feel sufficiently encouraged to improve their performance. The least popular choice, "Mildly Agree," had two replies (2.6%), suggesting that a tiny percentage of respondents felt marginally cheated out of chances for advancement.

The most common response to question 8, "I do not like the working style on this team," is "Strongly Disagree," with 33 respondents (43.4%) saying they are satisfied with the way the team works. Given that members are happy with the way activities are tackled and completed, this shows task cohesiveness. The least popular response, "Moderately Agree," had three replies (3.9%), indicating that a small percentage of respondents did not always enjoy the way the team worked.

- **GIS of CIE HCD projects**

GIS was measured using 4 items out of the 18 items GEQ questionnaire. i.e. items 11,13,15,17.

Item	Value	Frequency	Percent	Cumulative Percent
11	Agree	1	1.3	1.3
	Mildly Agree	5	6.6	7.9
	Neither Agree nor Disagree	14	18.4	26.3
	Mildly Disagree	7	9.2	35.5
	Moderately Disagree	16	21.1	56.6
	Disagree	16	21.1	77.6
	Strongly Disagree	17	22.4	100.0
	Total	76	100	
13	Agree	1	1.3	1.3
	Moderately Agree	1	1.3	2.6
	Mildly Agree	4	5.3	7.9
	Neither Agree nor Disagree	12	15.8	23.7
	Mildly Disagree	7	9.2	32.9
	Moderately Disagree	19	25.0	57.9
	Disagree	17	22.4	80.3
	Strongly Disagree	15	19.7	100
	Total	76	100	
15	Strongly Disagree	1	1.3	1.3

Item	Value	Frequency	Percent	Cumulative Percent
	Moderately Disagree	6	7.9	9.2
	Mildly Disagree	5	6.6	15.8
	Neither Agree nor Disagree	14	18.4	34.2
	Mildly Agree	11	14.5	48.7
	Moderately Agree	16	21.1	69.7
	Agree	11	14.5	84.2
	Strongly Agree	12	15.8	100
	Total	76	100	
17	Moderately Agree	9	11.8	11.8
	Mildly Agree	7	9.2	21.1
	Neither Agree nor Disagree	12	15.8	36.8
	Mildly Disagree	8	10.5	47.4
	Moderately Disagree	14	18.4	65.8
	Disagree	14	18.4	84.2
	Strongly Disagree	12	15.8	100.0
	Total	76	100.0	

Table 6 Summarized table of the GIS responses

With 16 responses (21.1%), the most common response to question 11, "Members of our team would rather go out on their own than get together as a team," is "Disagree," indicating a preference for team meetings. Given that a sizeable fraction of the team appreciates group activities, this suggests a moderate level of social side cohesion within the group. The least popular response, "Agree," received one response (1.3%), suggesting that people are not very inclined to prefer solo activities over group ones.

Regarding question 13, "Our team members rarely socialize together," the most often given response is "Moderately Disagree," with 19 responses (25.0%), suggesting that team members do socialize to some extent. Given that most members participate in social activities together, this shows a modest level of social side cohesion. "Strongly Disagree," which received 15 responses

(19.7%), is the least popular response and suggests that some people do not strongly support regular team socialization.

The majority response to question 15, "Our team members would like to spend time together even after we leave the job," is "Moderately Agree," with 16 respondents (21.1%) indicating that they would prefer to maintain their social connections when they leave their jobs. This suggests a modest level of social side cohesion because a sizable portion value ties that transcend beyond the workplace. The least popular response, "Strongly Disagree," had one response (1.3%), suggesting little desire to keep in touch with people after leaving their position.

In response to question 17, "Members of our team do not stick together outside of work hours," the most common response is "Disagree," which received 14 replies (18.4%), indicating that there may be some cooperation outside of the workplace. Given that certain members of the team keep in touch outside of work, this suggests a moderate amount of social cohesiveness. Of the respondents, 9 (11.8%) chose the least popular response, "Moderately Agree," signifying a minority that feels modestly about the team's cohesion outside of work hours.

The team demonstrates a moderate level of social cohesion, with a preference for collective activities and some engagement in socializing outside of work, although there are varying degrees of desire for continued social connection after leaving the job.

- **GIT of CIE HCD projects**

GIT was measured using 5 items out of the 18 items GEQ questionnaire. i.e. items 10,12,14,16,18

Item	Value	Frequency	Percent	Cumulative Percent
10	Mildly Disagree	1	1.3	1.3
	Neither Agree nor Disagree	6	7.9	9.2
	Mildly Agree	7	9.2	18.4
	Moderately Agree	9	11.8	30.3
	Agree	22	28.9	59.2
	Strongly Agree	31	40.8	100.0
	Total	76	100.0	
12	Mildly Disagree	2	2.6	2.6
	Neither Agree nor Disagree	5	6.6	9.2

Item	Value	Frequency	Percent	Cumulative Percent
	Mildly Agree	7	9.2	18.4
	Moderately Agree	17	22.4	40.8
	Agree	21	27.6	68.4
	Strongly Agree	24	31.6	100.0
	Total	76	100.0	
14	Moderately Agree	4	5.3	5.3
	Mildly Agree	8	10.5	15.8
	Neither Agree nor Disagree	9	11.8	27.6
	Mildly Disagree	4	5.3	32.9
	Moderately Disagree	17	22.4	55.3
	Disagree	9	11.8	67.1
	Strongly Disagree	25	32.9	100.0
	Total	76	100.0	
16	Strongly Disagree	1	1.3	1.3
	Mildly Disagree	3	3.9	5.3
	Neither Agree nor Disagree	5	6.6	11.8
	Mildly Agree	5	6.6	18.4
	Moderately Agree	15	19.7	38.2
	Agree	17	22.4	60.5
	Strongly Agree	30	39.5	100.0
	Total	76	100.0	
18	Agree	1	1.3	1.3
	Mildly Agree	4	5.3	6.6
	Neither Agree nor Disagree	7	9.2	15.8
	Mildly Disagree	3	3.9	19.7
	Moderately Disagree	16	21.1	40.8
	Disagree	16	21.1	61.8
	Strongly Disagree	29	38.2	100.0

Table 7 Summarized table of the GIT responses

The majority response to question 10, "Our team is united in trying to reach its goals for performance," is "Strongly Agree," with 31 responses (40.8%), demonstrating a high degree of task cohesiveness and group commitment to performance objectives. This shows that the team is well-integrated and working toward shared goals.

Question 12, "We all take responsibility for any poor performance by our team," has 24 responses (31.6%), the majority of which are "Strongly Agree," indicating a high degree of accountability and shared responsibility for the success of the team. This suggests a cohesive team environment where individuals are prepared to take responsibility for their actions.

With 25 replies (32.9%), "Strongly Disagree" is the most popular response to question 14, "Our team members have conflicting aspirations for the team's performance," suggesting that there is little disagreement among team members' performance goals. This suggests that the team's goals and objectives are highly aligned, which promotes task cohesion and harmony.

The most common response to question 16, "If members of our team have problems on the job, everyone wants to help them," is "Strongly Agree," which had 30 responses (39.5%), indicating that the team members are supportive of one another and work well together. This implies a supportive atmosphere where people are eager to help one another overcome obstacles, which promotes task cohesiveness.

With 29 replies (38.2%) to question 18, "Members of our team do not communicate freely about each other's responsibilities during work," "Strongly Disagree" is the most popular response. This suggests that there is open communication and transparency regarding roles within the team. Since good communication makes it easier for team members to coordinate and collaborate, this points to a high degree of task cohesiveness.

With high levels of dedication to performance objectives, shared accountability for results, little discord in goals, a readiness to assist one another, and transparent communication regarding duties, the team exhibits strong task cohesion and fosters an integrated and cohesive work environment.

4.3.2. Descriptive analysis on project performance of CIE HCD projects

No.	Project performance	N	Minimum	Maximum	Mean	Std. Deviation
1	Stakeholders are actively involved in the project activities	76	3	5	4.25	0.614
2	Project beneficiaries are satisfied	76	3	5	4.20	0.611
3	The project objectives are achieved with quality	76	3	5	4.12	0.632
4	Project activities are completed within time	76	3	5	4.34	0.579
5	Project activities are completed within Budget	76	3	5	4.45	0.598
	Total				4.27	0.60

Table 8 Table for the summary of perception of performance

The average rating for each component of the project's performance is shown by the mean values, which range from 4.12 to 4.45 out of 5. With values ranging from 0.579 to 0.632, the standard deviation numbers show the degree of variability or dispersion around the mean rating.

Overall, the mean rating of 4.27 out of 5 indicates that the project performed at a high level, according to the results. The very low standard deviations suggest that respondents usually agree on how different project parts are performing. In particular, beneficiaries are satisfied, quality is reached in achieving project objectives, and project operations are finished on schedule and within

budget, with stakeholders actively participating in project activities. This shows that the project is performing consistently across a range of parameters and is accomplishing its objectives in an effective and efficient manner.

4.4.The relationship between Team cohesion variables and project Performance in CIE HCD projects

4.4.1. Normality test

Verifying normality is a good idea before to performing correlation analysis. Pearson correlation analysis can be used if the data is normally distributed. If the data is not normally distributed, on the other hand, it will be a good idea to use non-parametric correlation techniques such as Spearman's rank correlation coefficient or Kendall's tau.

Tests of Normality						
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
ATGS	0.079	76	.200*	0.962	76	0.023
ATGT	0.147	76	0.000	0.896	76	0.000
GIS	0.127	76	0.004	0.966	76	0.040
GIT	0.101	76	0.052	0.941	76	0.001
Project performance	0.132	76	0.002	0.949	76	0.004
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

Table 9 Tests of Normality

Since the data is less than 100, Shapiro-Wilk will be used to determine the normality of the data. A significant deviation from a normal distribution is indicated by significance values less than 0.05 in the data. The Shapiro-Wilk test produced a significance value of 0.023 for the ATGS variable.

Given that this number is less than 0.05, the null hypothesis of normality is rejected. The ATGS data is therefore is not normally distributed.

Likewise, the Shapiro-Wilk test yielded a significant value of 0.000 for the ATGT variable, signifying a notable departure from normality.

The Shapiro-Wilk test yielded a significance value of 0.040 for the GIS variable, which is less than 0.05. The GIS data is not normally distributed as a result. The GIT variable's significance value for the Shapiro-Wilk test was 0.001, indicating a significant deviation from normality in the GIT data.

Last but not least, a deviation from normality was shown by the Shapiro-Wilk test's significance value of 0.004 for the project performance variable. Project performance, ATGS, ATGT, GIS, and GIT do not all show a normal distribution, according to the findings of the Shapiro-Wilk test.

For a further check, the data is transformed using log-10 scale to check for normality.

Tests of Normality						
	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
log_ATGS	0.100	76	0.057	0.958	76	0.013
log_ATGT	0.161	76	0.000	0.869	76	0.000
log_GIS	0.100	76	0.058	0.973	76	0.105
log_GIT	0.110	76	0.023	0.929	76	0.000
	0.148	76	0.000	0.930	76	0.000
a. Lilliefors Significance Correction						

Table 10 log₁₀ transformed tests of normality

The Shapiro-Wilk test yielded a significance value of 0.013 for the log-ATGS variable. We reject the null hypothesis of normality because this value is less than 0.05, demonstrating that the log-ATGS data is not normally distributed. Likewise, the Shapiro-Wilk test yielded a significant

deviation from normality for the log-ATGT variable, with a significance value of 0.000. A Shapiro-Wilk significance value of 0.105, which is higher than 0.05, was observed for the log-GIS variable. As a result, we are unable to rule out the null hypothesis that log-GIS is normal.

A significant deviation from normality was indicated by the Shapiro-Wilk test, which produced a significance value of 0.000 for the log-GIT variable. Last but not least, the Shapiro-Wilk test resulted in a significance value of 0.000 for the project performance variable, suggesting a deviation from normality. Overall, the project performance variables, log-ATGS, log-ATGT, log-GIT, and the results of the Shapiro-Wilk test show considerable deviations from a normal distribution. Nonetheless, there is not a notable departure from normality in log-GIS.

We cannot assume that the entire dataset follows a normal distribution just because one variable is found to be normally distributed. The assumption of normality may not apply to the dataset as a whole if any variable is shown to significantly vary from normality. Each variable should be examined separately for normality. As a result, it's critical to take into account the normality of each variable separately and use the proper statistical procedures.

But since the non-transformed data of GIS is not normally distributed, Spearman's correlation analysis will be used to determine the relationship between each independent variable and the dependent variable.

There are two ranges in the Spearman's correlation coefficient: perfect positive correlation and perfect negative correlation. When two variables have a correlation coefficient near +1, it suggests that they have a strong positive link and rise together. A value close to -1, on the other hand, denotes a strong negative correlation, with the variables declining simultaneously. The absence of correlation, or the unrelatedness of the variables, is shown by a coefficient near 0. The stronger the relationship, either positively or negatively, the farther the coefficient is from 0.

According to the Spearman's analysis which is summarized below, the direction and strength of each independent variable's link to project performance are shown by the Spearman's correlation coefficients. Project performance and ATGS (Attraction to Group Social) have a reasonably strong positive connection ($\rho = 0.586$, $p < 0.01$), suggesting that better project performance is often correlated with higher levels of attraction to group social features. Increased attraction to group tasks is correlated with better project outcomes, according to ATGT (Attraction to Group Task),

which also shows a moderately strong positive connection ($\rho = 0.414$, $p < 0.01$) with project performance. Meanwhile, GIS (Group Integration Social) displays a weaker positive correlation ($\rho = 0.187$, $p > 0.05$) with project performance compared to ATGS and ATGT. In contrast, a similar moderately favorable relationship ($\rho = 0.540$, $p < 0.01$) has been shown between project performance and GIT (Group Integration Task). These findings highlight the importance of group cohesion's social and task-related components in favorably affecting project performance.

Correlations							
			ATGS	ATGT	GIS	GIT	Project performance
Spearman's rho	ATGS	Correlation Coefficient	1.000	.713**	.420**	.695**	.586**
		Sig. (2-tailed)		0.000	0.000	0.000	0.000
		N	76	76	76	76	76
	ATGT	Correlation Coefficient	.713**	1.000	.505**	.732**	.414**
		Sig. (2-tailed)	0.000		0.000	0.000	0.000
		N	76	76	76	76	76
	GIS	Correlation Coefficient	.420**	.505**	1.000	.552**	0.187
		Sig. (2-tailed)	0.000	0.000		0.000	0.106
		N	76	76	76	76	76
	GIT	Correlation Coefficient	.695**	.732**	.552**	1.000	.540**
		Sig. (2-tailed)	0.000	0.000	0.000		0.000

Correlations							
			ATGS	ATGT	GIS	GIT	Project performanc e
		N	76	76	76	76	76
	Project performanc e	Correlatio n Coefficien t	.586**	.414**	0.187	.540**	1.000
		Sig. (2- tailed)	0.000	0.000	0.106	0.000	
		N	76	76	76	76	76
**. Correlation is significant at the 0.01 level (2-tailed).							

Table 11 Spearman's correlation test between Cohesion variables and project performance

4.5.The effect of independent variables (ATGS, ATGT, GIS and GIT) on the dependent variable (Project performance) in the CIE HCD projects

4.5.1. Tests of assumptions for Regression Model

- **Linearity test**

As it can be seen from the scatter plot matrix (as shown in the appendix), there is somehow a linear relationship between the independent variables and the dependent variables. To confirm this a correlation, a bivariate correlation analysis is done and the result is shown below.

The Pearson correlation coefficients between every pair of variables are displayed in the table. These coefficients, which range from -1 to 1, quantify the linear relationship between the variables. A perfect positive linear relationship is represented by a value of 1, a perfect negative relationship by a value of -1, and no linear relationship is represented by a value of 0. A linear relationship between the variables is suggested by the substantial correlation coefficients (designated with **). Thus, we may deduce that there are linear correlations between Project Performance, Group Integration Social, Group Integration Task, Attraction to Group Social, and Attraction to Group Task, based on the significant correlation coefficients.

Correlations						
		Attraction to Group Social	Attraction to Group Task	Group Integration Social	Group Integration Task	Project performance
Attraction to Group Social	Pearson Correlation	1	.718**	.408**	.705**	.559**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000
	N	76	76	76	76	76
Attraction to Group Task	Pearson Correlation	.718**	1	.497**	.706**	.331**
	Sig. (2-tailed)	0.000		0.000	0.000	0.004
	N	76	76	76	76	76
Group Integration Social	Pearson Correlation	.408**	.497**	1	.542**	0.179
	Sig. (2-tailed)	0.000	0.000		0.000	0.122
	N	76	76	76	76	76
Group Integration Task	Pearson Correlation	.705**	.706**	.542**	1	.531**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000
	N	76	76	76	76	76
Project performance	Pearson Correlation	.559**	.331**	0.179	.531**	1
	Sig. (2-tailed)	0.000	0.004	0.122	0.000	
	N	76	76	76	76	76
**. Correlation is significant at the 0.01 level (2-tailed).						

Table 12 Bivariate Relationship Between Each Variable

Table showing the bivariate relationship between each variable

- **Auto correlation test**

The mistake terms (residuals) in the context of auto collinearity should ideally be unrelated to one another. The correlation between a variable and its surrounding values is known as auto collinearity. Auto collinearity defies the assumption of independent and identically

distributed errors in many statistical models by suggesting that the error terms may display some patterns or correlations over time or space. Consequently, in order to guarantee the validity of statistical inferences and model predictions, auto collinearity must be identified and addressed.

To address this a Durbin – Watson test is applied. In this test, the possible ranges are from $0 \leq D \leq 4$. In the case where the Durbin – Watson statistics is around 2, the residuals are not unrelated. $D < 2$ implies positive auto correlation and $D > 2$ implies negative auto correlation.

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.632a	0.400	0.366	0.42342	1.741
a. Predictors: (Constant), Group Integration Task, Group Integration Social, Attraction to Group Social, Attraction to Group Task					
b. Dependent Variable: Project performance					

Table 13 Auto Correlation Test

The Durbin-Watson statistic quantifies whether autocorrelation exists in a regression model's residuals. There may be a linear link between successive residuals, as indicated by the residuals' modest positive autocorrelation of 1.741. In this instance, autocorrelation is not severe because the Durbin-Watson statistic is near to 2, the optimal value showing no autocorrelation. But it still has to be addressed.

- **Homoscedasticity test**

In the context of regression analysis, homoscedasticity refers to the presumption that the variance of the residuals, or errors, is constant at all predictor variable levels. Put more simply, it indicates that the residuals' spread should be fairly constant over the whole range of expected values.

The regression model's errors are random and don't show any systematic patterns if the residuals are normally distributed. This is a desired feature since it shows that the model is

accurately representing the relationship between the predictors and the result variable, free from the influence of significant data points or outliers.

In this case, a simple p-p plot was done on the residuals (attached in the appendix) and it shows a normal distribution.

- **Multicollinearity test**

When independent variables in a regression model have strong relationships with one another, this is referred to as multicollinearity. It may result in problems like erratic parameter estimations and less interpretable coefficients. Tolerance, and variance inflation factor (VIF) are the primary techniques used in multicollinearity testing. Multicollinearity is indicated by VIF values more than 10, or low tolerance values less than 0.1.

Independent Variable	Collinearity Test	
	Tolerance	VIF
ATGS	0.405	2.467
ATGT	0.390	2.562
GIS	0.678	1.474
GIT	0.382	2.621

Table 14 Multicollinearity Test

From this table, we can see that there is no multicollinearity within the independent variables.

4.5.2. Regression result

The purpose of regression analysis is to represent and measure how the independent variables affect the dependent variable. It offers insights into the relationship between changes in the independent variables and changes in the dependent variable by fitting a regression model to the data. In this case, the linear regression model was developed and analyzed to understand the relationship between team cohesion

$$PP = \beta_0 + \beta_1(ATGS) + \beta_2(ATGT) + \beta_3(GIS) + \beta_4(GIT) + e_1$$

Where;

PP = project performance, e = error

Bo, β_1 , β_2 , β_3 , and β_4 are coefficients of the variables.

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.632a	0.400	0.366	0.42342	0.400	11.814	4	71	0.000
a. Predictors: (Constant), Group Integration Task, Group Integration Social, Attraction to Group Social, Attraction to Group Task									
b. Dependent Variable: Project performance									

Table 15 Analysis of the Relationship of the Model and Project Performance

The multiple correlation coefficient R between the independent variables (ATGT, ATGS, GIS, GIT) and the dependent variable (project performance) is moderate with a value of R = 0.4. The variables (ATGS, ATGT, GIS and GIT)) significantly contribute to the regression model, which accounts for 36.6% of the variance in project success. As a whole, the independent variables are able to predict project success more accurately than chance alone, according to the significant overall model fit ($F(4, 71) = 11.814, p < 0.001$).

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.472	4.000	2.118	11.814	.000b
	Residual	12.729	71.000	0.179		
	Total	21.202	75.000			
a. Dependent Variable: Project performance						
b. Predictors: (Constant), ATGS, ATGT, GIS, GIT						

Table 16 ANOVA test results

The usefulness of the regression model we have constructed for predicting the outcome variable, i.e. "Project performance" is indicated by the ANOVA table. The F-value of 11.814 suggests that there is a significant enough difference between our developed model and pure guesswork. Given the significance level (Sig.) of .000, it is highly unlikely that this difference could have happened by accident. Essentially, then, it appears that our model is performing well in forecasting project performance.

4.5.3. Multiple Regression result

The multiple regression analysis helps to understand the effect of team cohesion variables on project performance in CIE HCD projects.

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.719	0.452		3.802	0.000		
	Attraction to Group Social	0.308	0.090	0.495	3.429	0.001	0.405	2.467
	Attraction to Group Task	-0.136	0.072	-0.276	-1.873	0.065	0.390	2.562
	Group Integration Social	-0.054	0.047	-0.128	-1.148	0.255	0.678	1.474
	Group Integration Task	0.209	0.070	0.446	2.994	0.004	0.382	2.621
a. Dependent Variable: Project performance								

Table 17 Table for Multiple Regression Analysis

The coefficients table in the multiple regression analysis sheds light on the relationships between each independent variables (ATGS, ATGT, GIS, GIT) and the dependent variable (Project performance). A statistically significant positive coefficient ($B = 0.308$, $t = 3.429$, $p = 0.001$) indicates that there is a positive correlation between higher degrees of Attraction to Group Social and improved project performance. In contrast, the association between project performance and attraction to group tasks is negative, but it is not statistically significant ($B = -0.136$, $t = -1.873$, $p = 0.065$). Furthermore, there is not a noticeable effect of Group Integration Social changes on Project performance ($B = -0.054$, $t = -1.148$, $p = 0.255$). On the other hand, a statistically significant positive coefficient ($B = 0.209$, $t = 2.994$, $p = 0.004$) supports the association between higher levels of Group Integration Task and improved Project success. These results imply that Integration regarding task responsibilities and attraction to group social cohesiveness within the group are important factors influencing project performance.

Chapter 5

Summary, Conclusion and Recommendation

In this section, the summary of the research findings, conclusions and recommendations and suggestions for a further future are research are put forth.

5.1.Summary of major findings

The study is conducted to assess the effect of team cohesion on project performance. It was conducted on 76 projects of CIE HCD. The research had its base on the 4 factors of team cohesion i.e. Attraction to group both the social and task aspects and Group integration consisting of both social and task aspects. Based on the Group environment questionnaire (GEQ) consisting of 18 item survey to measure team cohesion and a survey consisting of 5 major items to measure project performance in CIE HCD projects conducted, the responses, the tests conducted and the study findings are summarized as follows.

Looking at the descriptive analysis, the findings demonstrate the high degree of social cohesion among the team members of CIE HCD projects, since most of them strongly disagree with claims that they don't like or participate in team social events. Additionally, they have a favorable opinion of ATGS; most of them believe that the team is among their most significant social groupings. On ATGT, there is a somewhat lower degree of agreement; most respondents don't think the team provides them with enough chances to improve their individual performance.

The results of the project performance measurement show that the projects of CIE HCD performed at a high level, with a mean rating of 4.27 out of 5 and low standard deviations, indicating consistent performance across different parameters. The respondents were particularly satisfied with the project's ability to achieve its objectives with quality, the involvement of stakeholders in project activities, and the completion of project operations within time and budget. Overall, the findings suggest that the CIE HCD project is accomplishing its objectives in an effective and efficient manner.

According to the correlation analysis, the results demonstrate a positive correlation between project performance and both attraction - to - group social and task aspects, suggesting that better project outcomes are linked to higher levels of attraction in these areas in CIE HCD projects. Additionally, task-related group integration shows a relatively strong positive

correlation with project performance, while social integration within the group displays a weaker positive correlation. These findings highlight that both social and task-related aspects of group cohesion positively impact project performance in CIE HCD projects.

The findings from the regression analysis indicate that social attraction within the group significantly enhances project outcomes, suggesting that stronger social bonds contribute positively to performance in CIE HCD projects. Conversely, attraction to group tasks shows a negative but not statistically significant relationship with project performance, indicating that this factor does not have a strong influence. Similarly, changes in social integration within the group do not significantly affect project performance. However, task-related group integration significantly improves project outcomes, highlighting that effective coordination and integration of tasks within the group are crucial for project success in CIE HCD projects.

5.2. Conclusion

The main objective of the study is to understand the relationship between team cohesion and project performance in the CIE HCD projects. The methodology that was used to reach this objective is quantitative research design and descriptive statistics. A mixed approach of correlation and regression analysis was made to analyze the primary data that was collected through MS forms through e-mails. Secondary data sources were journals, books, web pages. To meet the first and second specific research objectives, Regression analysis and Correlation analysis were employed. The regression analysis answered the degree to which team cohesion variables (ATGS, ATGT, GIS and GIT) affect project performance in CIE HCD projects.

Regression analysis reveals that while attraction to group tasks (ATGT) has no effect, social attraction (ATGS) greatly improves project performance. Performance is not considerably impacted by social integration (GIS), while task-related integration (GIT) significantly enhances project outcomes. This emphasizes how important social relationships and efficient work management are to CIE HCD projects.

The correlation analysis revealed that both social and task-related attractions positively correlate with project performance in CIE HCD projects. Task-related integration shows a strong positive correlation, while social integration has a weaker positive impact. These findings emphasize that team cohesion, both socially and task-related, positively affects project outcomes in CIE HCD projects.

5.3.Recommendation

The results show that social attraction within the group and task-related integration are the most highly regarded aspects to boost project performance and success in CIE HCD projects. Strong social ties created by social attraction significantly enhance project outcomes, and task-related integration that is well-executed greatly increases project success through task management and coordination. In order to perform better in CIE HCD projects, these components of team cohesion are essential.

The study prioritizes the establishment of strong team cohesion and good coordination as a means of improving project performance and success in CIE HCD projects. Strong social relationships within the team, efficient task-related integration, social attraction within the group, enhanced task-related integration, opportunities for training and development, open communication, and the creation of a positive and encouraging team culture are all means by which this can be accomplished. Project performance and success can be improved by CIE HCD projects by putting these suggestions into practice.

5.4.Limitations of the study

This study is subject to several limitations that should be considered when interpreting the results. First, the project work was limited to a 6-month time frame. A longer data collection period may have allowed for a larger sample size and greater representativeness of the target population.

Additionally, the study relied on online surveys distributed through email, respondents were required to have access to the internet and be active on the selected online platforms. This may have excluded individuals in disadvantaged regions.

Furthermore, the study was conducted amidst a period of regional political instability in certain parts of the country. This likely contributed to lower response rates from those areas, as potential participants may have been preoccupied with more pressing concerns or hesitant to engage in research activities.

Despite these limitations, the study provides valuable insights into the phenomenon of interest. Future research should seek to overcome these constraints, expanding the data collection

timeline, and exploring alternative recruitment strategies to reach a more diverse and representative sample across various geographic regions.

5.5.Suggestions for further Research

The study looked at how team cohesion affected project outcomes, but it did not fully investigate important factors like team size and composition. It would be interesting to explore how these cohesion elements interact with these other aspects to affect project performance. Giving sufficient time for research design and data collecting is crucial in order to produce more refined and comprehensive results, since time constraints might have restricted the study's depth. Researchers may gain a deeper understanding of the relationships between project performance and team cohesion by utilizing a thorough methodology that takes into consideration a range of contextual factors.

Furthermore, the use of a single team representative to complete the questionnaire might have induced bias and ignored other viewpoints within the group. All team members should participate in the data collection procedures for future research in order to overcome this constraint. Including a range of perspectives guarantees a deeper comprehension of team dynamics and increases the reliability of study outcomes. Future research can yield more precise insights into the relationship between team cohesion and project outcomes by promoting inclusivity and actively engaging all team members.

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Appendix 1 – Questionnaire

Addis Ababa University
College of Business and Economics
School of Commerce

Dear Sir/Madam,

Thank you for considering this questionnaire as part of a research study for a Master's degree in Project Management. The goal of this study is to identify the effect team cohesion has on project performance in Compassion International Ethiopia's assisted holistic children development projects.

Your participation in this survey is entirely voluntary, and you are not obligated to answer any questions that you may feel uncomfortable answering. However, your genuine response is crucial for the success of this research. Please be assured that the information you provide in this survey questionnaire will be used solely for the purpose of this research and will not be disclosed or used for any other purpose without your explicit consent.

Your individual responses to this survey will be kept anonymous and will only be used for data analysis. Thank you for your cooperation and support in completing this questionnaire.

Sincerely,

Part I: General Information

1. Gender

Male ☐

Female ☐

2. Age Range

20-30 ☐

31-40 ☐

41-50 ☐

>50 ☐

3. Level of Education

Diploma ☐

Graduate/ Degree ☐

Post-Graduate ☐

Above Post-Graduate ☐

4. Which region is the child development center you are working is located?

North ☐

South ☐

East ☐

South-west ☐

Central ☐

5. For how many years have you worked in the child development center as project manager/director?

0- 5 ☐ 6-10 ☐ 11-15 ☐ 16-20 ☐ >20 ☐

Part II: Team cohesion measurement

Modified GEQ questionnaires

(Modifications of the original GEQ are indicated in bold)

1. I do not enjoy being a part of the social activities of the team.

Strongly
disagree

Strongly agree

1 2 3 4 5 6 7 8 9

2. I am not happy with the amount of **responsibilities** I get.

Strongly
disagree

Strongly agree

1 2 3 4 5 6 7 8 9

3. I am not going to miss the members of this team when **I eventually leave the job.**

Strongly
disagree

Strongly agree

1 2 3 4 5 6 7 8 9

4. I am unhappy with my team's level of desire to **perform well.**

Strongly
disagree

Strongly agree

1 2 3 4 5 6 7 8 9

5. Some of my best friends are on this team.

Strongly
disagree

Strongly agree

1 2 3 4 5 6 7 8 9

6. This team does not give me enough opportunities to improve my personal performance.

Strongly
disagree

Strongly agree

1 2 3 4 5 6 7 8 9

7. I enjoy other **social gatherings** more than **those with this team.**

Strongly

Strongly agree

disagree

1 2 3 4 5 6 7 8 9

8. I do not like the **working style** on this team.

Strongly

Strongly agree

disagree

1 2 3 4 5 6 7 8 9

9. For me, this team is one of the most important social groups to which I belong.

Strongly

Strongly agree

disagree

1 2 3 4 5 6 7 8 9

10. Our team is united in trying to reach its goals for performance.

Strongly

Strongly agree

disagree

1 2 3 4 5 6 7 8 9

11. Members of our team would rather go out on their own than get together as a team.

Strongly

Strongly agree

disagree

1 2 3 4 5 6 7 8 9

12. We all take responsibility for any poor performance by our team.

Strongly

Strongly agree

disagree

1 2 3 4 5 6 7 8 9

13. Our team members rarely **socialize** together.

Strongly

Strongly agree

disagree

1 2 3 4 5 6 7 8 9

14. Our team members have conflicting aspirations for the team's performance.

Strongly

Strongly agree

disagree

1 2 3 4 5 6 7 8 9

15. Our team members would like to spend time together **even after we leave the job**.

Strongly

Strongly agree

disagree

1 2 3 4 5 6 7 8 9

16. If members of our team have problems **on the job**, everyone wants to help them.

Strongly

Strongly agree

disagree

1 2 3 4 5 6 7 8 9

17. Members of our team do not stick together outside of **work hours**.

Strongly

Strongly agree

disagree

1 2 3 4 5 6 7 8 9

18. Members of our team do not communicate freely about each other's responsibilities during **work**.

Strongly

Strongly agree

disagree

1 2 3 4 5 6 7 8 9

Part III: Project performance measurement

1. How would you rate the performance of the project center that you are currently working in

Poor ☐ Below average ☐ Average ☐ Excellent ☐

2. Indicate to the extent to which you agree with the following statements relating to the performance of Compassion International Ethiopia assisted holistic child development Project /centers that you are involved in. (1 being strongly disagree and 5 being strongly agree)

	Project performance measurement items	1	2	3	4	5
2.1	Stakeholders are actively involved in the project activities.					
2.2	Project beneficiaries are satisfied.					
2.3	The project objectives are achieved with quality.					
2.4	Project activities are completed within time.					
2.5	Project activities are completed within the budget.					

Appendix 2 – plots and Histograms

Scatterplot Matrix Attraction to Group Social,Attraction to Group Task,Group Integration Social,Group Integration Task...

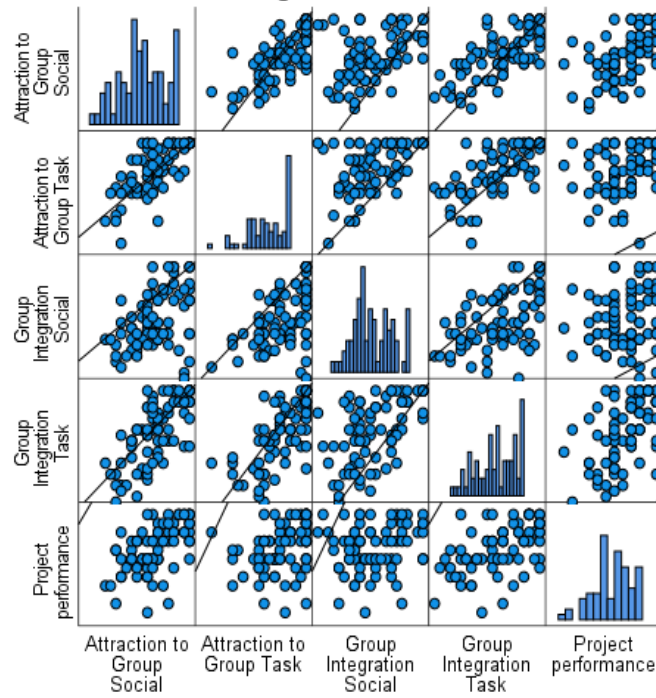


Figure 3 Scatter plot for linearity test

P-

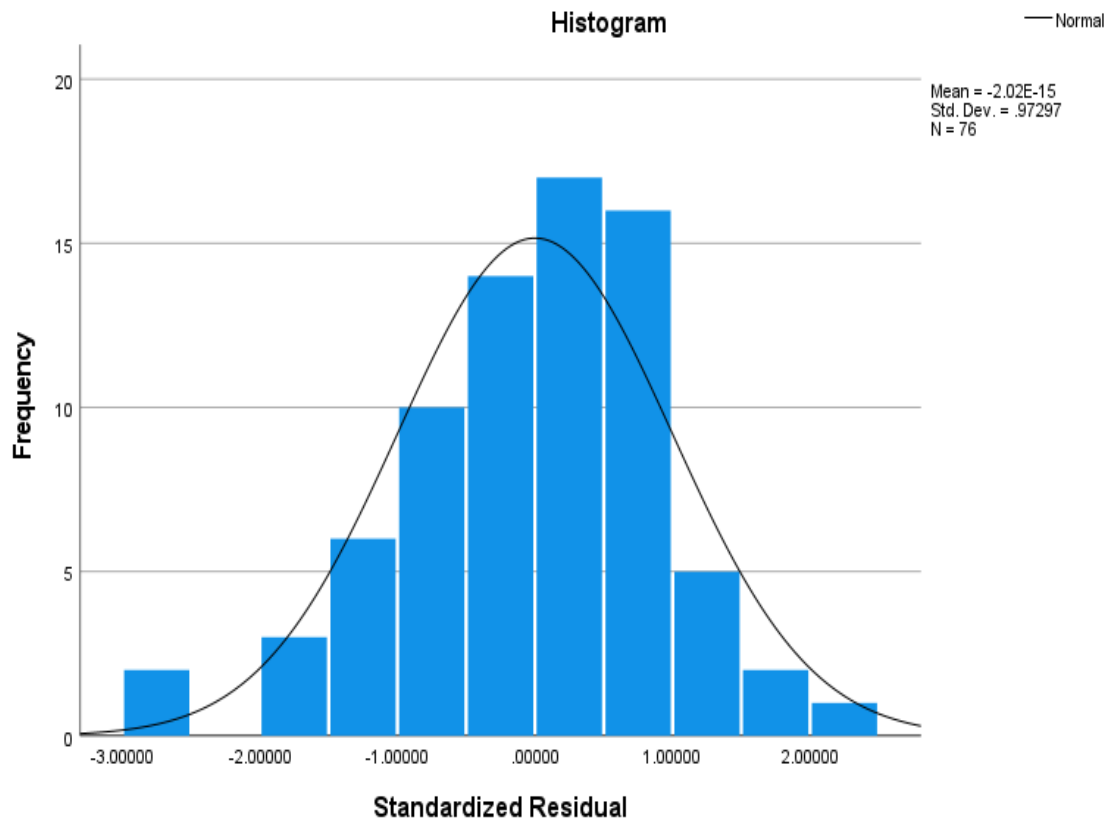


Figure 4 P-P plot for homoscedasticity

Reliability Statistics		
Variables	Cronbach's Alpha	N of Items
ATGS	0.783	5
ATGT	0.750	4
GIS	0.710	4
GIT	0.754	5
Project Performance	0.764	5

Table 18 Reliability analysis