PROJECT TEAM DIVERSITY, INTERPERSONAL CONFLICT, AND IMPLEMENTATION OF BUILDING CONSTRUCTION PROJECTS IN KAJIADO COUNTY, KENYA

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DECLARATION

This thesis is my original work and has not been presented for an award in any University.

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This thesis is dedicated to my loving wife Dr. Jeniffer Ketente, our beloved children Olive Mayiana, Bill Oshipae, and Jeff Oishorua whom I greatly love and treasure.

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ABBREVIATIONS AND ACRONYMS

CES	-	Comparative Emphasis Scale
CDF	-	Constituency Development Fund
DDO	-	District Development Officer
NCA	-	National Construction Authority
NGO	-	Non-Governmental Organization
NTA	-	National Taxpayers Association
OCP	-	Organizational Culture Profile
PMBOK	-	Project Management Body of Knowledge
SPSS	-	Statistical Package for Social Sciences

ABSTRACT

Economic growth coupled with urban population rise have necessitated the need for construction of buildings. The process of implementing construction project in the building sector is usually undertaken by individuals with diverse values, knowledge, and social-categories. This study mainly looked at how diversities among members of a construction project influences the implementation process. This was studied by looking at how diversities among the workers involved in implementation of the project in terms of their knowledge differences, value differences, and differences in their social categories, influence the whole implementation process. It further looked at the influence of the three diversities combined on the implementation process of the construction projects via a moderation of interpersonal conflicts. Pragmatic paradigm and a descriptive research design were used in the study. 657 staff made up the population of target for the study, out of which 251 were sampled. Collection of data was by use of semi-structured questionnaires and conducting interviews. Data of quantitative nature was analysed for descriptive and inferential statistics, while that of qualitative nature was analysed thematically, then the results triangulated. The results from the quantitative data analysis were presented in tables as percentages, frequencies, means, and standard deviations. It was established that all the three diversities, that is, diversity in knowledge, social-categories, and values had positive changes of 10.4%, 5.8%, and 16.1% respectively on implementation process of building projects. When combined, the diversities accounted for 25.6% of the changes in the process of implementing construction projects of building nature. The moderation effect of interpersonal conflict was also found to be positive. The study recommends that while recruiting teams a mix of diverse attributes should be considered, since their differences complement each other. For further research, the study recommends that a longitudinal study be carried out to gain more insight the relationship between team diversity and implementation of building projects over a period.

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Building infrastructure development is considered a key ingredient globally in matters economic development. The need for shelter to house industries and offices brought about by exponential population growth in the last couple of decades has necessitated an increase in project implementation in the building construction sector (Zhang, Xiaoling, Yuzhe, Liyin, & Martin, 2014). The design of projects of building construction nature must incorporate aspects of sustainability since they are supposed to last for several years (Haron et al., 2017). In the lifespan of construction projects of building nature, the implementation or execution phase usually takes the most investment in terms of time and money since it performs a pivotal role in the success of implementing projects. Avdeenko and Michael (2014) suggest that this phase involves aspects of risk management, project failures and success definition, and looking at the possible outcomes for every implementation stage.

The definition of success in the implementation of construction projects of building nature is usually determined by the different stakeholders involved in the whole lifecycle of the project. An accountant involved in the building construction project would consider the project to have been successfully implemented if the entire process is done within the budgetary limits, the project engineer will consider the project to have been executed effectively if it fulfills all the laid down technical specifications, the project architect will consider the aesthetics of the project as a measure of achievement in the implementation phase, and lastly, the project uses will the project implementation process to be a success if the project is completed within the defined time limits (Van Niekerk & Steyn, 2011). These sentiments are shared by Ofori (2013) who argues that the implementation process of a project can only be considered as being a success if all the desired technical goals of the project being implemented are met, is within budget and time limits that had been planned. From a classical viewpoint, the measurement of success of the project implementation phase is a combination of both measures of project performance and the iron triangle metrics. There is however, no universally accepted measure of success in the implementation phase of a project. It is expected therefore, that the stakeholder of the project to be implemented come together during the project planning phase and come up with a set of metrics that will be

used to determine whether the process of project implementation was a success or not (Yalegama, Chileshe & Ma, 2016; Kiganda, 2017).

The growth of infrastructure is central to the realization of Vision 2030 of Kenya. The gross domestic product from the construction industry increased from Kshs. 72,888 million to Kshs. 83,989 million between the second and third quarters of 2020. According an economic research survey done in all the forty seven counties of Kenya by the Kenya National Bureau of Statistics (KNBS) in 2020, there are approximately 148,000 people working locally in the construction industry of building nature. The building construction industry in Kenya grew by 8.7 percent in 2017. The growth was expected to remain steady until the year 2026, when it is anticipated the growth rate would be 6.2 percent (Nduire, 2017). In 2015, the building industry contributed close to USD 3 billion to the economy of Kenya, which was approximately 4.8% of the gross domestic product (Oxford Business Group, 2017).

The social pillar of Kenya's vision 2030 advances a cohesive society that accommodates diversity amongst individuals. Research indicates that a team composed of workers who are divergent in knowledge, values and social level are more productive. This is due to the fact that they bring different facets of their being to the job environment and hence improve the working conditions (Bell, Brown, Colaneri, & Outland, 2018). Scanty work has been done on the effect of diversity among project workers, on the process of implementing projects in construction projects of building nature as moderated by interpersonal conflicts. Against this backdrop, this research focuses on the association between workers' diversity and implementation/execution of projects in the building construction sector. Further, consider the moderation effect of interpersonal conflict on that relationship.

1.1.1. Implementation of Building Construction Projects

In construction projects of the building nature, the implementation phase is the most critical of all the phases in the lifecycle of the project. This is usually the longest phase which incorporates several stakeholders as well as a lot of investment in terms of resources. Measurement of the implementation progress in construction projects is diverse. The iron triangle metrics of scope, budget, and time are the commonly used metrics in measurement of success in both performance as well as implementation of several types of projects, not just those of construction nature (Koops, Bosch-Rekveldt, Coman, Hertogh, & Bakker, 2016). Other researchers, such as Irimia-Dieguez, Medina-Lopez, and Alfalla-Luque, (2015)

claim that the aspects of time, scope, and budget may not be good enough in measurement of the process of implementing construction projects. Creasy and Anantatmula (2013) argue that in the project lifecycle, the implementation phase is complex, ambiguous, and keeps varying depending on the project, hence making it quite tough for project practitioners to come up with specific metrics that can be universally used to measure the process involved in implementation, particularly in construction projects. De Wit (1988) adds that sufficient quantification is required before declaring that a project has been successfully implemented or not.

Further argument by Morris (2010) on the topic of measurement of success in project implementation indicates that slipperiness in the measurement of project success is brought about by the fact that, it is dependant on the project being measured, the timeframe within which it is being measured, and the person measuring. Adding to the debate on measurement of success in implementation of projects, Albadvi, Farahani, and Sheykh (2011) split defined two broad measures. The first broad category was made of primary measures which included; scope, budget, acceptance of the project by clients, quality of the project, and time while the second category was made up of secondary measures comprising of ability of the project to create new opportunities to the members of the host community, the project being implemented should not interrupt the life of the members of the host community, and lastly, the project should be capable of providing strategic alignment.

Another study on measurement of success in project implementation was carried out by Wolf and Hanisch (2014). The researchers came to the conclusion that a high category project is one that achieves 71% or more of its planned objectives, while a project is considered to be of low category if it achieves 65% or less of its planned objectives. The findings of their study indicates that a project is considered to be a low category project and by extension not successfully implemented even after attaining slightly more than half of its planned objectives. Gray (2000) did a study in the United Kingdom on measurement of project success and established that 44 project officials out of the 50 studied had indicated that their projects had been implemented successfully, but upon interrogation of the metrics on which they based their conclusion, the researcher found out that only 14 out of the 44 that had claimed had been successfully implemented were actually successful in the implementation process. This clearly indicates that there exists a great variance in what is deemed to be a measure for project implementation success.

Determination of the project implementation metrics should clearly be determined before the onset of project implementation. This will aid in proper monitoring of each step in the the project implementation phase hence making it successful (Hartman & Ashrafi, 2004). This sentiments are supported by Andersen (2012) who argues that the project stakeholder being an integral part of the project should come up with a criterion for measurement of success in the process of project implementation. Koop et al (2016) claim success in the process of executing/implementing a project is best gauged from the perspective of the recepient/user of the project. The user is best placed to determine if the project achieves the purposes it was meant to. Hartley (2003) posits that stakeholders in a project will always have diverse project implementation success measurement metrics, this is due to diversity in their expectations of the project, it is therefore prudent that the aspect of project measurement success should be made apart of the project planning phase rather than being considered a by the way. It is established that the best measures of success in the execution or implementation phase of a project are those agreed on during the planning phase by the stakeholder or those established at every level of the the project implementation phase.

Khosravi and Afshari (2011) in their study on the most important measures of project implementation success arrived at the conclusion that time performance, which is the ability of a project being implemented within the planned time is the main measure of project implementation followed by the project being implemented within the budget constraints, and the aspect of a project implementation process producing an output that meets the quality specification and satisfying the client was last. It can be argued that measurement of success in the project implementation phase is an abstract concept which implies that determination of success is highly subjective and complex in nature. In the building construction sector, implementation success is defined as the ability of the project meeting the pre-determined determined objectives as well as meeting the expectations of the stakeholders (Silva et al, 2016). In building construction pojects implementation in Kajiado County, the main stakeholders are the team involved in actual project execution, the contractor in charge of the project, the project client, who in this case is the county government representatives, the National Construction Authority (NCA), and the host community. The measurement of the process of implementation of these building construction projects will be based on the commonly used measurement metrics of the implementation phase being done within the time and budget constraints, client satisfaction, and meeting the quality expectations of the client.

1.1.2. Project Team Diversity

Team diversity indicates heterogeneity in project team members with respect to specific attributes (Srivastava, Das, & Pattanayak, 2018). Diversity in a project workforce refers to the dissimilarities that exists among the people involved in implementation of a project (Amaliyah, 2015). It can also mean a variety of variances within individuals and what they believe are the differences between themselves. The idea of diversity explains the psychological, physical, and sociological attributes that are used to differentiate individuals. These attributes incorporate demographics like education, age, ethnicity, political beliefs, religious affiliations, gender, and so on (Dhuppar, 2015). Research done by Cletus, Mahmood, Umar, and Ibrahim (2018) showed that profit margins for companies that had diverse workforce was 35% higher than companies with homogeneous workforce.

The levels of diversity amongst individuals are either primary or secondary. The primary diversity level include gender (McCuddy, Pinar, Kozak, and Birkan, 2011), race, ethnicity (Zopiatis, Constanti, and Theocharous, 2014), age (Chen and Choi, 2008) while the secondary diversity level is made up of political affiliations, religious beliefs, education level attained, marital status, personality, income level, as well as work experience. It is evident from research that project team diversity influences the success of project implementation. The measurement of project team diversity is dependent on the primary and secondary levels. This study will look at project team diversity based on the differences between project team workers in terms of knowledge (which entails education attainments as well as skills), social-category differences and value differences among the project team members.

1.1.2.1 Knowledge Diversity

Knowledge diversity or simply diversity in knowledge means to the dissimilarities that exist among workers in terms of the project implementation knowledge. There is a scarcity of research that has comprehensively sought to unravel the association existing between diversity in knowledge and building projects implementation. Kristinsson, Candi and Sæmundsson, (2016) looked at the association that exists between performance of innovation teams and diversity of knowledge among workers. Knowledge diversity was conceptualized in terms of specialty and the education level attained by the project team members. Diversity in project teams is important, since the members contribute the different ideas, they have towards the betterment of the project implementation process. The

differential use of knowledge resources affects the effectiveness of within team productivity (Taylor, 2013). A plethora of studies in diversity in knowledge have shown that it leads to provision of quick and good quality solutions to project implementation problems. This is due to skills complementation among the team members as well as aiding in better decision making in addition to providing effective, efficient, and realistic ideas (Naqvi, Ishtiaq, Kanwal, Butt, & Nawaz, 2013).

A study done by Huang et al. (2014) suggests that diversity in knowledge among project workers is favourable for the attainment. Gong et al. (2013) in their study on employee's knowledge creativity and performance of the firm, they observed that there was a negative link between creativity among employees and the performance of the firm when moderated by high risk while a positive correlation was observed in the same relationship when absorptive capacity was high. In general, they concluded that, the nature of association between firm's performance and knowledge creativity was more positive in smaller firms than bigger firms. This implies that the more the team members are in number the more diverse they are and hence the less successful the firm is. Huang et al. (2014) observed that the more diverse the members are in terms of knowledge, the more variety in terms of perspectives, ideas, and expertise they present to the project and hence making it successful, this was supported by Shin et al. (2012).

Other researchers in team diversity such as Bodla et al. (2018) and Buengeler et al. (2013) also indicated the existence of a significant positive association between knowledge diversity and performance of project workers. Bodla et al. (2018) looked at how knowledge sharing influences the creativity of teams, they conceptualized knowledge diversity in terms of education attained by the team member, work experience, and expertise in the field, while Buengeler et al. (2013) looked at the influence of how leadership style moderated the relationship between educational diversity influence team performance, education diversity which is an aspect of knowledge diversity was looked at in terms of education attainment, the experience that an individual has, and the level of expertise. Lee and Pillutla, (2015) in their research on the nexus between heterogeneity of abilities and performance of teams, considered knowledge diversity in form of the learning ability of the members of the team and concluded that teams in which members who were fast learners easily achieved their objectives as compared to those who were rigid.

Aral and Van Alstyne, (2011) while looking at the significance of knowledge diversity within project teams, posited that the exchange of knowledge that occurs between individuals is critical in success of projects. They further argued that teams with homogeneous individuals find it a bit challenging to implement tasks that are out of their knowledge scope while heterogeneous teams bring together all their diverse expertise and experience towards success of a project. Myaskovsky et al., (2005) considered the relationship training method and performance of small groups of workers. They established that workers who had been trained together spent a lot of time assembling radios and were prone to making errors as compared to those who had trained differently; this shows that project implementation is positively influenced in a significant manner by knowledge diversity among workers. Obare et al.,2016 noted that there was a positive and significant association between training diversity of project personnel (with regard to college attended, frequency of training, qualification specialty, and training intensity) and performance of road construction projects. Drawing from extant literature, this study looks at how knowledge diversity within teams influences the implementation of building projects.

1.1.2.2 Social Category Diversity

Social category diversity refers to the dissimilarities between individuals that are associated with their social status. These may include but are not limited to aspects of age, gender, ethnicity, and race (Pelled, 1996). These categorizations according to social grouping have mixed effects on the performance of workers involved in implementation of projects. According to the social identity theory, once individuals discover the existence of salient differences between them, then they are bound to behave in cold way towards each other and even perceive them differently, and this may result to relationship conflict which if not addressed may affect the project implementation process (Kahane et al., 2013).

The influence of social category diversity on performance of projects was studied by Sommers (2006) who conceptualized it as political affiliation, gender, and age of the project team. It was established that the social differences brought about tension between individuals and hence led to team efficiency which in turn affected the success of implementation process. Studies done by Nathan & Lee (2013) as well as Nathan (2015) looked at how cultural diversity which is an aspect of social categorization influences teams innovations. They established that diversity of culture among team members is an economic asset. Several studies only look at the influence of a single variable of social categorization on the

performance of teams. However, the effect of a particular social category diversity dimension may be dependent on interactions with other aspects of diversity. It would therefore suffice if research would be carried out on multiple aspects of social category diversity. Homroy and Soo (2020) in their research on the association between team diversity and individual diversity conceptualized social diversity as the nationality and gender of the respondents. They established that social category diversity had a significantly positive association with both the performance of teams and individuals. Additionally, they determined that diversity among individuals in terms of nationality had a small positive relationship with group performance while gender differences did not have any influence.

A study done by Low et al (2015) on the connection between diversity in gender of board members and performance of firms in Asia, established that gender diversity had a significant positive influence on firm's performance as measured by return on equity (ROE). However, the relationship was moderated by the attitude of the country towards working women. Racial diversity which is a categorization of individuals based on the race has a significant association with the implementation of projects (Andrevski et al. 2014). In yet another study, (Ali and Azmi 2016) examined on the role of religion diversity in performance of project. Religion was taken as a factor for socially differentiating project team members. The researchers found that there existed a non-significant nexus between the two variables. Hence religion did not influence the performance of the bank projects. Several researchers have studied the link between social category dimensions and project implementation; Srivastava et al., (2018) considered religion and Naqvi et al., (2013) looked at the influence of gender and age. Although social category diversity has been widely recognized as an important factor that affects performance, empirical investigation on the relation between social category diversity and implementation of projects is still lacking and the results are inconclusive in Kenya, this research aims at filling that knowledge gap.

1.1.2.3 Value Diversity

Value refers to the personal goals that are held dear by an individual and they drive or motivate them towards achieving their objectives. Value diversity therefore refers to the kind of diversity that stems from the differences between individuals in terms of their preferences, goals and beliefs (Bell, 2007). Values are responsible for shaping the behavior and thoughts of an individual towards a task presented before them (Breuer et al. 2015). Therefore, values are significant determinants of an individual's economic decision, which may eventually

influence the organizational decisions. Value diversity according to Liang et al (2012) refers to the disparities that exists among members of a team in relation to the actions they take in trying to achieve the objectives or goals of a project.

The similarity-attraction paradigm, which states that human beings feel comfortable working with people whom they are attracted to based on the similarities they have (Ruijten, 2021) explains value diversity better. This shows that the grouping of members a project team will be based on the similarities among them in values. Wiener (1988) defines values as intrinsic principles that guide a person away from punishment or towards rewards. Liang, Liu, Lin, and Lin (2007) defined value diversity as the disparities among members of a team on what the task at hand is, what the mission of the project is, and what the project targets to achieve. Value diversity as per Tyran and Gibson (2008) refers to perspective and behavioral differences that exist among members of a team.

Value diversity was measured in terms of the norms, ethics, and rituals by Chou et al (2008) when looking at the association between differences in values among team members and innovation. In another study, Liang et al (2007) measured value diversity by using a scale that was introduced by O'Reilly et al. (1991) which is made up of thirty-five Likert scale questions, a principal component analysis (PCA) was carried out on the questions making up value diversity followed by oblique rotation so as to extract factors that were used to compute the value diversity score. The theory of shared mental model argues that when project team members share values relating to work ethics then they tend to have similar interpretations on the task ahead and work together harmoniously towards attainment of the desired project goal (Cannon-Bowers and Salas, 2001). There has been a paucity of studies looking at the association between implementation of construction projects and value diversity (Bell, 2007). The theory of cognitive resource states that low levels of value diversity among members of a team leads to members sharing information easily and hence improve performance.

There exists a gap in knowledge on the association between the process of implementation of construction projects of building nature and diversity of team members in values, particularly in the Kenyan context. This study seeks to fill this gap by seeking to establish the nature and strength of association between value diversity and implementation of building construction projects in Kajiado County, Kenya.

1.1.3. Interpersonal conflict

Relationships at personal level play a key role in either making or breaking the process of achievement of the goals of a project. In the process of implementing project of building nature, conflicts among workers can be as a result of personality complexities, goals dissimilarities, task difficulties among other things (Zhang & Fan, 2013). According to Posthuma et al. (2011), conflicts occur during construction stage due to new entrance and change of project participants. Construction project teams consist of different professionals and quite a good number of diverse individuals like quantity surveyors, contractors, engineers, suppliers, and architects. This mixed composition is a breeding ground for conflicts among them, and this conflict is what is referred as interpersonal conflict (Zhang & Huo, 2015).

In generic terms, interpersonal conflicts are identified as active processes that happen amongst parties who are in dependent relationships, when they experience negative emotions over disagreements and obstructions in realizing the set project goals (Barki & Hartwick, 2004). However, Interpersonal conflicts are considered as a crucial factor for project performance (Zhang & Huo, 2015). Project based management is associated with complex situations. A project is made up of individuals who operate concurrently with a view of achieving the project objective. Thus, relationship among all the workers involved in the implementation process is a key influence of success in implementation of the project (Kärnä & Junnonen, 2016). The management of the project has to manage conflicts among the project subordinates approximately 30 – 42 percent of the time they manage projects (Brockman, 2014). Hence it is the project managers' responsibility to identify the conflict and positively harness it towards achievement of project goals.

A number of researchers have looked at how interpersonal conflicts, that is, task conflicts and relationship conflicts affect the performance as well as implementation of projects of construction nature (Brockman, 2014; Zhang & Huo, 2015). According to Bao et al (2016), the conflicts pattern mutate quite fast, therefore frequent studies should be done on them. Most of the studies on conflict in work places focus on individual rather than group level conflicts. This research study sought to look at how conflicts at the group level influence the process of project implementation in the building construction sector as well as looking at how this group level conflict, known as interpersonal conflict in this study, moderates the

association that exists between diversity among workers of a project and the process of implementation of projects in the building construction sector.

1.1. Statement of the Problem

Across the globe, both small and mega projects face implementation challenges that result into undesired outcomes. The UK Public Accounts Spending Committee (PASC) in the year 2011 reported that only 16% of the IT projects had succeeded while 53% of the projects were challenged and 31% completely failed (Holgeid & Thompson, 2013). Similarly, out of 105 Design-Bid-Build Road Projects initiated by the USA government between in the year 2008-2013, 57% of projects experienced cost overruns, 33% of projects suffered major delays while 30% of ICT projects were terminated (Shrestha & Mani, 2014).

For instance, a total of 11,886 federal government projects worth billions of naira in Nigeria got abandoned for a 40-year period. In addition, an electricity generating power plant projected to generate approximately 1500 megawatts and feed into the national grid when completed, was not successfully implemented (Okereke, 2017). In Ghana, Ghana-STX Building Project, which was funded to a tune of a $10 billion to construct 200,000 houses within five years, also failed (Ogunsanya et al., 2016). In Egypt, Toshka, New Valley Project to create new jobs through agricultural projects failed to succeed even with heavy funding of $90 Billion (Shrestha & Mani, 2014). Microsoft's Digital Villages Project in South Africa was funded to a tune of $100,000 and then failed within months after initiation due to sponsor withdrawal (Di Maddaloni & Davis, 2017).

Development of building infrastructure is key to the achievement of Kenya's Vision 2030. The contribution of the building construction industry was about US$ 3 billion to the Kenyan economy in 2015, this accounted for about 4.8% of the GDP of Kenya. A Kenya National Bureau of Statistics (KNBS) economic survey done in 2016 indicated that close to 148,000 people were employed in the building construction industry formally. The sector has a number of players who range from the local small enterprises to big multinational with foreign ownership. It is estimated that the country's growing population requires an annual input of approximately 210,000 houses to meet the demand. Approximately 48 per cent of projects implemented in Kenya report an overrun in terms of cost while time overrun is reported on about 87 per cent of projects (Kariuki, 2018).

In the last three decades, the building construction industry sector in Kenya has been characterized by risky buildings that do not meet the threshold for human habitation. Since the 1990's, slightly over 100 cases of building that have collapsed either during construction or post-construction have been reported. An audit done by the national construction authority indicated that out of the 14,895 buildings surveyed, 10,791 were declared unsafe, 1,217, were fair, 2,194 were safe for human habitation, while 723 were declared very dangerous for human habitation (NCA, 2020). This indicates that of all the 14,895 building only 14.7 per cent were safe. The completion rates of government sponsored building construction projects have been wanting, averaging 35.6 per cent between financial years 2006/2007 and 2010/2011 (Munano, 2012), project initiated by public universities had serious challenges with implementation with about half of them facing cost overruns (Mbawi & Muchelule, 2015). In Kikuyu constituency, a paltry 12 per cent of the building construction projects implemented in the financial year 2012/2013 were finished in time. This indicates the existence of an underlying problem with building construction projects.

The teams involved in the implementation of building construction projects are usually diverse in many aspects, such as values, training, knowledge, experience, and so on (Almahmoud et al 2012). Several studies have looked at factors relating to project team management that lead to time and cost overruns in projects but few have looked at how to mitigate these overruns (Gu et al., 2014; Gransberg et al., 2013). The teams in building construction projects work in a mix of judgements and skills (Abdul-Rahman et al. 2010) and these dissimilarities are usually manifest when executing the project (Zhang & Fan, 2013) which bring about divisions. The differences in the team can be a cause of friction which might result to failure in project implementation. Hence, this calls for a rigorous study to ascertain how the components that constitute project team diversity which are under investigation influence the implementation of building construction projects. In Kiambu, the county government in 2015 initiated a roads recarpeting project, a budget of Kshs. 221,005,870.30 was allocated to the recarpeting of roads in Thika sub-county and the work was supposed to be completed in a period of 18 months, reports indicate that the county government was not capable of make any payment as per the contract agreement three months down the contract period even after the contractor had done 5% of the allocated work. In Githunguri town, which is still in Kiambu county, the county government still did not meet its part of the bargain in terms of timely payment of the contractors, and hence affecting the process of project implementation.

Kajiado county government initiated a total of 50 projects in the financial year 2016/2017. By the end of the financial year 24 projects which had been scheduled for completion, had not been completed within the time and budget plan, they are either stalled, terminated or do not meet the expectations by the county government and the local community (Kajiado County 2016/2017 report). This accounts for 48 per cent project implementation failure, several reasons have been given for the failures, but the role of diversity among project implementation team members on the implementation of these building construction projects in Kajiado County, Kenya is still unknown. It is a fact that, the county building construction projects is made up of a workforce with diverse backgrounds. Anchored on this information and numerous project diversity challenges, there was need for an investigation of the influence project team diversity factors on the implementation of building projects and also ascertain the moderating role of interpersonal conflict on this relationship.

1.2. Purpose of the Study

The purpose of this research study was investigation of the influence of diversity among team members on the process of implementing construction projects of building nature in Kajiado County, Kenya. The study in addition did an examination of the moderating influence of interpersonal conflict on the association between project team diversity and process of implementing construction projects of building nature in Kajiado County, Kenya.

1.3. Objectives of the Study

The main objective of this research study was investigating the influence of project team diversity with moderating influence of interpersonal conflict on the process of implementing construction projects of building nature in Kajiado County, Kenya.

Specific objectives

i. To establish how knowledge diversity influences implementation of building projects in Kajiado County, Kenya.
ii. To determine how social category diversity influences implementation of building projects in Kajiado County, Kenya.
iii. To examine how value diversity influences implementation of building projects in Kajiado County, Kenya.

iv. To assess how team diversities influence implementation of building projects in Kajiado County, Kenya.
v. To examine how interpersonal conflict influences the implementation of building projects in Kajiado County, Kenya.
vi. To establish the moderation influence of interpersonal conflict on the relationship between team diversities and implementation of building projects in Kajiado County, Kenya.

1.4. Research Questions

This study answered the following research questions:

i. To what extent does knowledge diversity influence implementation of building projects in Kajiado County, Kenya?
ii. To what extent does social category diversity influence implementation of building projects in Kajiado County, Kenya?
iii. To what extent does value diversity influence implementation of building projects in Kajiado County, Kenya?
iv. How do team diversities influence implementation of building projects in Kajiado County, Kenya?
v. To what extent does interpersonal conflict influence implementation of building projects in Kajiado County, Kenya?
vi. What is the moderation effect of interpersonal conflict on the relationship between team diversity and implementation of building projects in Kajiado County, Kenya?

1.5. Hypotheses of the Study

The study tested the following hypotheses:

i. H_0: There is no significant relationship between knowledge diversity and implementation of building projects in Kajiado County, Kenya.
ii. H_0: There is no significant relationship between social category diversity and implementation of building projects in Kajiado County, Kenya.
iii. H_0: There is no significant relationship between value knowledge diversity and implementation of building projects in Kajiado County, Kenya.

iv. H_0: There is no significant relationship between team diversity and implementation of building projects in Kajiado County, Kenya.

v. H_0: There is no significant relationship between interpersonal conflict and implementation of building projects in Kajiado County, Kenya.

vi. H_0: There is no significant moderating influence of interpersonal conflict on the relationship between team diversity and implementation of building projects in Kajiado County, Kenya.

1.6. Significance of the Study

Majority of the developing countries are investing heavily in the improvement of their building infrastructure that has been occasioned by urbanization. One of the measures of the pace at which a country is moving towards economic growth is by looking at the infrastructure such as buildings projects that have been implemented over the years. Building construction projects which are successful in the implementation are those projects which are completed within the stipulated time, within the planned budget, satisfy the project stakeholder, and are in accordance with the quality specifications. However, it has become a norm rather than an accident for project to have overruns in time and cost. The mix of attributes of the construction professional is usually manifest during the implementation of the project, and this could lead to overruns in cost, time and quality. In the financial year 2016/2017 Kajiado County initiated an aggregate of 50 construction projects of building nature, out of which 24 projects were not implemented within the proposed time and budget, they either stalled, were terminated, or did not meet the quality expectations of the users.

Several factors have been attributed to the overruns but little progress has been done to reduce them. Scanty information exists on the role that team diversity plays in the entire process of executing the plans in project implementation, particularly in the Kenyan context. This research study consequently was carried out with the main task of determining the kind of connection that exists between project workers diversity and the implementation or execution process of construction projects of building nature. Additionally, it also looked at how the connection between project team diversity and interpersonal conflicts affects the process of implementing construction projects particularly in the building sector. These findings will be important to all stakeholders in the building construction industry. Further, the findings on operators of project team diversity which includes knowledge, social-category and value diversities will be key for those doing selection of individuals to form

part of the project team. Finally, the findings of the study will add more knowledge to the project management body of knowledge and hence form a basis for future studies.

1.7. Limitations of the Study

The study gathered information on knowledge diversity, social category diversity, value diversity and on implementation of building construction projects in Kajiado county, Kenya. Some of the workers involved in the implementation of the building construction projects found it difficult to give as much information as possible about their projects since they considered the information to be sensitive. The researcher dealt with this limitation by assuring the workers that the data being collected was purely for academic purposes and their anonymity will be maintained throughout the study.

Secondly, it was expected that this was going to be the first time for some of the respondents to participate in research. This implies that they would require a lot of time to familiarize themselves with research ethos. This was mitigated by the researcher providing the respondents with all the required approvals as well as taking time to explain to them why it is important for them to participate in the study and additionally provide accurate information.

1.8. Delimitation of the Study

The restriction of this research study was determining how the interaction between project team diversity and interpersonal conflicts affects the implementation process of the 2016/2017 financial year building construction projects in Kajiado County, Kenya. The study was confined to Kajiado County due to existence of a problem on construction projects, availability and ease of accessibility of data. The predictor variables studied include; diversity in knowledge, diversity in social-category, and diversity in values. The response variable is implementation of construction projects and the moderating variable is interpersonal conflict. The research study therefore looked at the influence of these predictor variables on implementation of construction projects as moderated by interpersonal conflict. In terms of methodology, the study adopted the mixed methods approach as well as the correlational research design. Collection of data was by use of semi-structured questionnaires on majority of the project workers while interviews with key respondents were also carried out. The research study only considered projects that were financed and owned by the County Government of Kajiado in Kenya during the financial year 2016/17.

In terms of respondents, the study only considered those who were directly involved in the process of implementing the project.

1.9. Basic Assumptions of the Study

The research study made the assumption that the variables of team diversity and implementation of projects interacted by the former influencing the later. It was also assumed that the constructs of project team diversity, that is, diversity in knowledge, social-category, and values of the workers would influence the implementation process of projects. therefore, factors not in this study were assumed to have minimal or not influence of the response variable which is implementation of projects of building construction nature in Kajiado County.

Regarding the feedback from the study respondents, the study assumed that the respondents will be willing and ready to provide accurate, objective, and complete information that will help in the achievement of the stated research objectives.

1.10. Definition of Significant Terms used in the Study

Project team diversity: this refers to the dissimilarities that exists among members of a project team. They can be in terms of their knowledge level, their values for work, regard for other, the social-status or category differences as well. In this research, project team diversity is defined in terms of knowledge diversity, social-category diversity, and value diversity.

Interpersonal conflict: this refers to the clashes/disputes that may arise among members of a project team occasioned by them having differences in their understanding of the task they are supposed to do as well as that relating to the personality differences. In this research, it is conceptualized as being made up of relationship and task conflicts.

Implementation of building construction projects: refers to the process of actioning the project plans. The success of the implementation process is usually based on the project being completed within time, budget, meets client requirements, and it is of good quality. These same measurement metrics will be used in this research study.

Project team knowledge diversity: this refers to the dissimilarities in members of a project team in terms of the knowledge as well as the skills they have. These differences in this study

are conceptualized as differences in the education levels of the members of the team, differences in specialty, differences in skills, differences in the years of experience, and differences in the level and type of training they have gone through.

Project team social category diversity: is the difference among project team members in terms of age, marital status, religion, ethnic group. In this study, the indicators are project members' race, gender, religion, political affiliation, and age differences

Project team value diversity: is diversity stemming from differences in basic values, preferences, and priorities of project team members. In this study, the indicators are achievements, beliefs, integrity and concern for others.

1.11. Organization of the Study

The study is organized into five distinct but related chapters as follows;

Chapter One: Introduction, provides a historical setting of the research, the problem being investigated in is given, purpose of the research study, objectives of the research study, research questions of the research study, hypotheses of the research study, significance of the study, the anticipated limitations that the research study might possibly encounter, contextual as well as geographical delimitation of the research study, the assumptions that the research study makes, significant terms used in the study are also defined, and lastly the organization of the research study.

Chapter Two: Literature Review, provides a review of the extant literature related to the research topic, it focuses on implementation of building construction projects, the concept of team diversity, knowledge diversity and implementation of building projects, social category diversity and implementation of building projects, value diversity and implementation of building projects, team diversity and implementation of building projects, interpersonal conflict and implementation of building projects, theoretical underpinnings, conceptual framework, summary of literature review, and the knowledge gaps identified in the review.

Chapter Three covers the research methodology. It describes the paradigm used in the research paradigm, the design applied in the study, the population targeted in the research, sample size to be used in the study and how it was determined, the procedure for sampling,

instruments to be used in data collection, validity and reliability of the research instruments, the procedures for data collection, techniques to be used in data analysis, ethical considerations and operationalization of the variables.

Chapter Four covers data analysis, presentation, interpretation and discussions. Lastly, Chapter Five covers summary of findings, conclusions, recommendations, suggestions for further research and contribution to the body of knowledge.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter focuses on the review of related literature. Literature relating to implementation of projects of building construction nature, project team diversity, the association between knowledge diversity and implementation of construction projects, the link between social-category diversity and implementation of construction projects, as well as the nexus between value diversity and implementation of construction projects. Literature on interpersonal conflict and implementation of building projects is also discussed. It further presents a theoretical framework where the theories of ecosystems theory, social identity theory and schema theory are discussed, a conceptual framework upon which this study is anchored is presented, the summarized literature is discussed and lastly the knowledge gaps are also presented.

2.2. Implementation of Building Construction Projects

The metrics used in the measurement of the process of implementation of construction projects is a hot topic in project management spheres. Several metrics have been defined in the measurement, the most common being the Key Performance Indicators (KPI) of time, quality, and budget as referred to as the triple constraints. According to Obare et al (2018) to ascertain whether the process of implementing a construction project was successful or not, the project auditor should look at the stated project goals and check whether the milestones have been achieved in terms of quality, cost, and time. Kerzner (2017) adds scope, resources, and actions to the iron triangle as the metrics that are sufficient in measuring the success or failure of a project implementation process. Measurement of success in implementation of a project has always been relative, mostly depending on the perspective of the donors, owners, and all the other stakeholders. For instance, the NGO community considers a project to have been successfully implemented if it has an impact both socially and economically on the surrounding community while other people in the project management world might look at success in the context of completion in time, within budget, and meeting the quality specifications (Kamrul and Indra, 2010). This leads to the conclusion that measurement of success or lack of it in implementation of projects is still inconclusive (Klagegg et al, 2005).

In an endeavor to define a yardstick for the measurement of project implementation process success, Diallo and Thuilleir (2004) gave an expansive evaluation set that incorporated issues such as achievement of project objectives, a project being rated highly by donors, project completion within budget and time, as well as the beneficiaries being satisfied with the project outcome. This basically implies that success of a project is to a greater level dependent on who the stakeholders are and the sector in which success is being measured. Lim and Mohamed (1999) claim that project owners and stakeholders usually consider the aspect of time as a prime measure for project implementation success. To many of them, if a project is not fully executed within the planned time frame, then that implies that the project encountered hiccups during implementation, hence the process was not smooth. The duration that a project takes to be implemented is measured from the time the site work starts to when the project closeout happens.

Chan and Chan (2004) while looking at the key performance indicators in the construction projects implementation argued that the success of a project is entirely dependent on the perspective of the project owner, but they went further and developed a set of key performance indicators that they argued would be sufficient in measurement of success in project implementation. Their indicators were based on the works of Chan (1997) and Naoum (1994). They claim that to sufficiently measure success in project implementation one has to look at the aspects of completion time, project cost, project value and profit, health and safety of those involved in execution of the project, quality of the final project, the impact of the project on the environment, conformance of the project to the technical requirements, as well satisfaction of both the users and participants in the project. Freeman and Beale (1992) and Chan and Ho (2001) also indicated that technical requirement conformance as well as meeting the functionality requirement are key metrics for measure success in project implementation.

The project implementation phase is not always successful, Elawi et al (2016) in a study on infrastructural projects in Mecca, Saudi Arabia noted that the major causes of delay in completion of projects within the stipulated time were issues to do with contractors lacking the necessary expertise, several change requests, permits and approvals taking long to be granted, and the process of acquiring land being unnecessarily bureaucratic. Obodoh and Chikasa (2016) similarly looked at the causes of cost and time overruns in construction projects in Nigeria, they concluded that lack of enough equipment, poor time and cost

estimation, difficulties in payment of contractors, many change requests, and lack of project management skills were the major drawbacks to successful project implementation. In looking at construction projects delay in Cambodia, Durdyev, Omarov and Ismail (2017) showed that the main causes of the delays in meeting the project timelines were; lack of skilled manpower, several change requests, delay in delivery of construction materials, project contractors not being paid in time, lack of proper safety measures, poor costing and scheduling of projects, and complexity of projects. In the three scenarios looked at, the common causes of failure in project implementation are change requests, lack of professional in projects management, and poor scheduling and costing in projects.

There are some other intangible factors that are used in measurement of success in project implementation. Liu and Walker (1998) describe satisfaction as one of the key measures of success in project implementation. According to them, this intangible measure looks at success in terms of satisfaction of all the project stakeholders, once the project stakeholders are all satisfied with the projects, then that implies that the whole implementation process was a success. The owner of a project will generally be satisfied if the project meets its primary objectives. Scholars in project management are generally not in agreement on the additional metrics for measurement of project implementation performance. Some scholars such as Almahmoud et.al., (2012) and Jha and Iyer, (2007) are in support of the traditional performance measurement metrics with few additions while some researchers such as Toor and Ogunlana (2010) claim that the traditional measurement metrics of the iron triangle are not sufficient in measurement of project implementation performance in large scale construction projects rather the construction industry is fast embracing a mix of both the qualitative and quantitative measures of performance. While the measurement of success in project implementation entails several metrics, this research measures implementation of construction projects using the commonly known metrics of the project being completed within the planned time, the project meeting its cost schedule, the quality of the completed project being as planned, and the project stakeholders being satisfied with the project outcome. These metrics are based on the works of Barclay and Osei-Bryson (2010) and Wi and Jung, (2010) who advocated for the iron triangle measures of quality, budget, and time.

2.3. The Concept of Project Team Diversity

Building construction projects are usually implemented by a team of workers who have several diversities. These diversities can be in form of social category, values, or even

knowledge. The relationship between diversity and project implementation performance remains inconclusive (Wu, Zhao, Zuo & Zillante, 2019; Zhou & Rosini, 2015). According to Milliken and Martin (1996) projects are increasingly being implemented by multinational and multicultural organisations, therefore, getting a clear understanding of how the diversity in project teams in terms of functional background, training, values, or even skills affect the project implementation process is very important. Diversity in project teams presents both threats and opportunities to the process of project implementation. When well-managed, heterogeneity in teams usually creates an important working synergy, but when poorly-managed can lead to intra-group conflicts hence becoming a major impediment the optimal functioning of the process of project implementation (Jehn, Northcraft, & Neale, 1999; Watson, Kumar, & Michaelsen, 1993).

Extant literature indicates the existence of conflicting associations between team diversity and implementation of projects. Some studies such as Williams and O'Reilly (1998) indicated that the relationship between project workers diversity and the process of implementation cannot be estimated, other researchers like Stahl et al (2010) claim that there does not exists a direct link between project workers diversity and the process of project implementation or there does not exist a statistically significant connection concerning project workers diversity and project implementation (Meckl & Johanning, 2013; Bowers et al, 2000; Webber & Donahue, 2001), while some such as Kozlowski and Bell (2001) and Staples and Zhao (2006) present a negative association between team diversity and implementation of projects by claiming that diversity among team members brings about conflicts and cohesion issues which are detrimental to team work hence negatively impacting the process of project implementation. However, other researchers in the same field like Van Knippenberg, De Dreu, and Homan (2004) and Jehn, Northcraft, and Neale (1999) found a positive link between project team diversity and performance of the project implementation process. They considered team diversity in terms of dissimilarities in skills, competencies, experience, and job specialization. While there exist divergent conceptualizations of diversity among teams in extant literature, recent studies have settled on the use of compositional perspective, that is an emphasis on the variations that exists within-groups (Roberson et al., 2017).

The paradoxical nature of diversity in project teams has inspired researchers to look for justifications for how diverse project teams evade within-teams biases predicted by the social

categorization theory while banking on the benefits guaranteed by the information and decision-making approach (Polzer, Milton, and Swann, 2003). In trying to understand the relationship between diversity among project workers and the success of the process of implementation, researchers have categorized diversity into two broad categories, that is; visible and invisible diversities. The visible category also known as surface-level or observable diversity are those aspects that can be observed and measured in easy ways, they include aspects like age, gender, nationality, while the invisible or deep-level category are the attributes that are communicated through verbal and non-verbal patterns in behaviour and can only be learnt via extended interaction periods, they includes aspects of values, attitudes, and knowledge (May, & Whitney, 1995; Milliken & Martin, 1996;Harrison, Price, & Bell, 1998; Harrison, Price, Gavin, Florey, 2002; Tekleab & Quigley, 2014; Jackson, Liang, Shih, & Chiang, 2015). According to Milliken and Martin (1996) differentiating between visible and invisible diversity is important since disparities in visible aspects can provoke stereotyping.

From the perspective of project job needs, researchers have looked at diversity in terms of experience in the industry, functional background, and education level (Pelled, Eisenhardt, & Xin, 1999; Webber & Donahau, 2011). Job-related diversity captures the perspective and experience related to the task to carried out by the team members, therefore, it has a greater effect on the group processes that are task-related and the eventual performance of the teams (Webber & Donahue, 2011). In as much as human beings are diverse in many aspects, the shared values and aspirations among diverse team members can conquer the divisive dissimilarities by making project team members consider the team as whole unit rather than focusing on their individual identities, as a basis for perceived differences and identification (Richard 2000; Chatman, Polzer, Barsade, and Neale, 1998). With increased contact between members of a project team over time, which reduces social categorization negative effects, the level of collaboration and cooperation increases hence improving the process of project implementation (Chatman & Flynn, 2001; Harrison, Price, Gavin, & Florey, 2002).

Researchers in support of diversity among team members in a project claim the existence of a positive link between team diversity and team performance, while those against team diversity claim that most heterogeneous teams are prone to having interpersonal conflict which negatively affects the success of the project implementation process. These conflicting findings particularly in the field of managerial research call for a thorough

research to discover the direction, strength, and nature of association between diversity in team and implementation of projects, particularly in the building context. Wu et al., (2019) showed that diversity among members of a project team may lead to conflict which negatively affects the project implementation process. This led to Pelled et. al., (1999) proposing that conflict relating to tasks can mediate the connection existing between team diversity and implementation of projects. Despite these efforts, the means by which team diversity affects implementation of project particularly building projects is still unclear. Additionally, team diversity being a multi-dimensional concept, this study looked at how knowledge diversity, social-category diversity, and value diversity, which are dimensions of team diversity influence the process of implementation projects in building projects context.

2.4. Knowledge Diversity and Implementation of Building Construction Projects

Knowledge is a derivative of thinking and can also be viewed as an amalgamation of experiences and insights (Hu, 2009). It is can be generated either collectively as a group or individually and shared. Researchers have long held that knowledge can be shared or learnt through exposure to individuals with new knowledge or expertise. Interactions between individuals who are diverse in terms of knowledge can lead to ideas cross-fertilization hence leading to acquisition of new ideas (van der Vegt, 2005). In line with these, extant literature suggest that creativity and innovativeness is present in heterogeneous groups as compared to groups that are homogeneous in terms of knowledge. In building construction projects, experience is key in addition to skills, project managers and contractors mostly rely on their more experience project workers to deliver projects without fail. This experience leads to the acquisition of fresh skills and knowledge (Dulaimi, 2005).

Kotur and Anbazhagan (2014) looked at how performance of teams is influenced by the work-experience and education level of the team members. Using a random sample of 112 workers and 32 supervisors from a sugar factory in South India, they established that the education level of a team member directly influenced their performance levels, in particular, workers who had middle level education performed better than workers who had little and those with high education attainment. This study fails to establish whether education level homogeneity in workers has an influence on workers performance. With regard to experience, the study again establishes a direct relationship between work-experience and performance but fall short of determining what happens to the performance levels if the workers have the same work experience. Lin (2011) in a study on the moderating role of

knowledge diversity on the association between inter-firm relationships and absorptive capacity noted that knowledge diversity does not significantly affect the growth of firms. Kristinsson et al. (2016) in their study on the association between innovation performance and founder team diversity posited that in new entrepreneurial ventures, a diverse skill set is usually needed so as to address the multiple challenges coming from uncertainties in markets, and these skills are established by teams rather than individuals. Naqvi et al., (2013) indicated in their study that diversity in knowledge among team members leads to better decision making and high quality solutions to emanating problems due to existence of complementary skills.

The training level of the project workers plays a fundamental role in success or failure of the project implementation process. A study by Myaskovsky et al., (2005) on the link between training and performance of small works groups noted that workers who had received similar training took more time in assembling radio units and also made several errors in the process as compared to workers who had received training independently. They associated these findings to the fact that workers who had trained together were not diverse in knowledge, they therefore, were not capable of findings alternatives away from what they trained on while workers who were trained differently brought about a wealth of diverse knowledge and hence could complement each other when stuck. These findings contradict the sentiments of Moreland and Myaskovsky, (2000) who claimed that training team members together was beneficial to project implementation since it enhances the development of transactive memory which provides group members with better information than what an individual worker has.

Education level as well as training specialty are key areas considered when employing workers in building construction projects. Ahmad and Rahman (2019) in a study on the effect of workplace diversity and performance of employees noted that experience diversity among teams has a positive influence of team's performance. Kyalo and Gachunga (2015) in their study on how diversity of workers in the workplace influences employees' performance in the banking industry, used a random sample of 221 middle level managers from the headquarters of 43 commercial banks in Kenya, the study established that education diversity among members of a team has an influence on the performance of the commercial banks employees. The study fails to indicate expressly the nature and strength of association between education diversity and employee performance, it basically focusses on the

influence of level of education on performance of employees. Pelled (1996) looked at the influence of diversity in highly-job related attributes such as experience, work-perspectives, and skills on the performance of projects teams. The findings of her analysis indicated that attributes that were highly related to the job such as industry background, education, and functional expertise had a greater impact on the performance of teams.

Bunderson (2003) defines functional expertise as the work specialization as well as the knowledge level that an employee has. Govindarajan (1989) showed that there was a positive significant association between the functional expertise of a manager and the firm's profitability. It is further indicated that teams that are heterogenous in functional expertise may encounter conflicts and find it difficult to develop a shared understanding of tasks (Dougherty, 1992; Jehn & Bezrukova, 2004). Diversity in education background has a significantly positive influence on the performance of project teams since it nurtures a wider range of cognitive skills (Cohen & Bailey, 1997). Some authors such as Jehn, Chatwick, & Thatcher, (1997); Wiersema and Bird (1993) indicated in their studies that differences in education levels among team members had a negative impact of organizational performance, this is because the dissimilarities led to an increase in job-related debates among team members. In addition, Knight et al. (1999) argued that diversity in education increased discomfort level in team members hence leading to conflicts whose effect would be reduced social integration in team members.

Valls, González-Romá, and Tomás (2016) looked at the relationship between education diversity and team performance as moderated by team communication quality. Using a sample of 57 bank branches, the study established that diversity in education level among team members had a positive influence on the quality of team communication and performance, when the level of innovation within the team was high but with low team innovation level, education diversity was negatively correlated with both team communication quality and performance. The conclusion drawn from the study is that, diversity in education level influences the performance of teams both negatively and positively depending on the level of innovation of the teams. Wafula and Were (2018) looked at the influence of education diversity on the performance of teams, they used a descriptive research design and census method on a population 146 worker. Their findings indicated that education diversity had a negative influence on workers performance.

Diversity in knowledge among team members gives rise to acquisition of expertise, skills, and knowledge in individuals in the team (Huang, Hsieh, and He, 2014). It additionally, increases workers mutual understanding which is key for team performance success (Gong, Kim, Zhu, and Lee, 2013; Huang, Hsieh & He, 2014). This implies that in a work environment where creativity is required, the diversity in knowledge comes in handy since workers can tap into the expertise, skills, and knowledge of co-workers to come up with novel ideas for solving challenging task (Shin et al., 2012). Studies on diversity in knowledge among workers have given mixed results, and sparse information exists particularly on, the nexus between knowledge diversity among project workers and the process of implementation of projects of the building construction nature in an African context in particular Kenya, this study sought to fill this void in literature by ascertaining the relationship between project team knowledge diversity and implementation of projects of the building construction in Kajiado County, Kenya.

2.5. Social Category Diversity and Implementation of Building Construction Projects

Social category diversity variables were defined by Harrison et al., (1998) as those differences in individuals that are easily observable such as race, gender, age, ethnicity, and nationality, they are also known as surface-level diversity aspects. According to Anderson and Metcalf (2003), social-category diversity simply refers to the demographic differences that exist between individuals. Their study established that group communication was negatively affected by both age and racial diversity, which in turn had a negative effect on the performance of teams. Racial diversity is additional seen to increase conflict among workers which is perceived to have negative influence on their performance level. According to the categorization-elaboration model, which integrates both the information processing and the social-categorization theories, the social-category diversity attributes may stimulate social-categorization processes (Tajfel, 1982) which can result to both negative and positive influences on the performance of project teams.

Gender diversity is one of the salient aspects of social-categorization in work-places (van Knippenberg et al., 2004). For instance, in the building construction industry, gender diversity is more distinctive and salient due to the female work force underrepresentation. It has been claimed by Randel (2002) that intergroup bias that leads to disruption of pro-social behaviour and collective teamwork can be triggered by gender dissimilarity. A study by Hoogendoorn, Oosterbeek and Van Praag (2013) claimed that work-places that have teams

that are gender balanced outperform teams that are either gender homogeneous or imbalanced. This is because mixed gender teams motivate and complement each other resulting in better performance. Several other studies have indicated a positive impact of diversity in gender of the leadership of organisations having a positive effect on organisational performance (Vetter, 2013; Nakagawa & Schreiber, 2014). A study on gender diversity and firm's performance done by Joecks, Pull and Vetter (2013) showed that the quality of organisational boardroom leadership and management in mixed gender firm's is better than that of firms that are mono gender. They further indicated that involvement of both genders improves the processing of managerial information and decision making, leading to effective strategy formulation.

Pelled (1996) established in his study that in the electronic manufacturing industry, gender diversity led to intragroup conflict which affected the overall productivity. In a consolidative analysis of the influence of gender dissimilarity on performance of teams, Wood (1987) established the existence of a slight positive effect of mixed-gender teams on the performance of teams. However, Bayazit and Mannix (2003) found no relationship between performance and gender diversity of teams. Ritter-Hayashi, Vermeulen and Knoben (2019) in their research study on gender diversity in the construction industry showed that teams that are diverse in gender made correct decisions 87% of the time, and the decisions they made were found to delivery better results 60% of the time. Building construction projects just like all other labour-intensive infrastructure projects are mostly dominated by male workers and as per the social learning theory the women who join profession, as occasionally compelled to seek assistance from their male counterparts. The association between gender diversity and firm's performance is not conclusive. Some studies have indicated a positive relationship (Reguera-Alvardo, de Fuentes and Laffarga 2017), others a negative association (Ahern and Dittmar, 2012), and some have shown no association (Miller and del Carmen Triana, 2009). This study sought to determine the strength and nature of association between the two variables in the context of a building construction project in Africa.

Ethnicity refers to grouping of persons according to their lifestyles, origins, and tribe (Wambui et al., 2013). Ethnic diversity therefore, means the differences that exists between individuals based on their ethnicity. Building construction projects, the world over are implemented by individuals who are ethnically diverse. The role of ethnicity in the process of project implementation has been researched by several researchers giving mixed results.

Cox and Blake (1991) argued in their study that organisations who have work force that are ethnically diverse gain a marketing advantage over organisations that are not ethnically diverse. Mwatumwa (2016) in their study on the influence of work place diversity on team's performance, found that teams that were ethnically heterogenous were more innovative and creative than mono-ethnic teams. These findings are supported by studies done by Madera (2013), and Singh, Winkel and Selvarajan, (2013) who all argued that if well managed, ethnic diversity can have a positive influence of work-force performance, which in turn can improve the performance of the company. Loosemore et.al. (2012) employed a three-stage method in evaluating the influence of cultural diversity on the performance of construction projects in the Australian construction industry. In the first stage, they picked a random sample of 1155 building construction workers and found out that ethnic alignments had a critical responsibility in preserving the borders between dissimilar units, hypothetically increasing a lack of cross-cultural understanding on construction sites, hence creating conflicts that slow down the implementation of the building construction projects. The second stage involved 204 construction project supervisors; the findings showed that 87% of the supervisors supported culturally diverse teams since they enabled exchange of ideas from different cultures which in turn was assumed to have a positive influence on the implementation of building construction projects. Pitts and Jarry (2005) found that when the levels of ethnic diversity are high process-oriented difficulties are bound to occur negatively impacting the performance at work.

Age is one of the salient aspects of social-category diversity. Wegge et.al., (2008) looked at age diversity in a team influences their performance. They established that age diversity has a negative influence on the performance of teams, it affects the way members of a team interact with each. Schalk et al., (2011) claims that having older people alone in a project is not good, since they are less flexible, most are not ready to learn new ideas, and are uncooperative, this implies that the rate of productivity in a project will be significantly lowered if there is no age diversity. Gellert and Schalk (2012) argued that diversity in age among team workers had a positive influence on performance of projects. They premised their argument on the fact that a mix of old people who have experience with young people who have fresh ideas is key in enabling a company achieve its objectives. Diverse age cohorts have varied socialization processes, they look at their working environment with different attitudes, which increases the chances of having value conflicts. This, leads to a reduction in the degree of socialization among the cohorts and in the long run affects the

productivity of the workforce (Somech, Desilvilya, Lidogoster, 2009; Jackson, Joshi, 2004). Extant literature indicates that there exist frequent productivity-diminishing conflicts in a workforce having a wide inter-generational gap, leading to production costs increases (Lau, Murnighan, 2005; Pitcher, Smith, 2001). Homogeneity in age tends to result in group thinking, which is a static and rigid decision-making style that suits intra-group limits (Janis, 1982).

Another benefit of a heterogeneous group in terms of age is its ability to counter the dominance of one specific age group and the resultant problems to a company. A dominant homogenous age group might limit the career chances of an upcoming age group, since they choke the career ladder. In an age homogeneous group there are expected to be conflicts due to the scarcity of career progression opportunities, this in turn leads to a reduction in productivity of the workforce. On the flipside, the productivity levels of an age diverse workforce are bound to be higher due to the motivation brought about by the existence of carrier progression opportunities (Pelled, Eisenhardt, and Xin, 1999). In addition, Cremer (1986) gives evidence that a heterogenous workforce in terms of age encourages loyalty to implicit contracts. The older employees set the standards for the younger employees, and this is necessary in maintenance of a company's code of conduct, which is key in maintaining a productivity or performance level expected in a company. Reviewed work indicates the existence of mixed influence of age diversity on performance of employees. This study sought to determine the age composition of workforce in building construction projects and the resultant influence on the process of implementation.

Religion determines the level of involvement of people in work-place chores as well as their behaviour. People are affiliated to different religious groupings the world over, and these groups are diverse in terms of their teaching doctrines. In a building construction setting, the workers come from diverse religions. Several studies have looked at how religion influences the performance of employees. Some of them are, a study by Petchsawang and Duchon (2012), who was interested in finding out how the performance of employees is affected by their spirituality and meditation. They established that meditation did not affect the work performance whereas spirituality had a direct influence on work performance. According to Vieira (2017) the influence of religious diversity on performance of teams is not straight forward. In her study on the influence of religious diversity on the performance of healthcare workers in Dubai, which is predominantly Muslim, she established that there existed an

inverse-U kind of relationship between religious diversity and performance of the workers. This implies that moderate diversity in religion is beneficial to the organisation but once the diversity goes beyond a certain threshold, teams were bound to group according to their religious affiliations and assume their internal cohesive views. This would hinder inter-groups communication and processes coordination leading to relation conflict which would be detrimental to their performance. These mixed results show that social category diversity influence on the process of implementation of projects or the performance of a work-force is contextual dependent. Therefore, previous research findings cannot be generalized to work-forces in all settings. This study seeks to determine how social category diversity affects the implementation of building construction projects in a developing country setting as moderated by interpersonal conflict.

2.6. Value Diversity and Implementation of Building Construction Projects

Values refer to a set of principles that direct the behaviour of an individual (Jehn, 1994). The understanding of values of individuals in key is getting to know their motivation and attitudes towards work. According to Hackman (1990), similarity in values of workers enhances the relationship among them, which in turn leads to a reduction in relationship conflict thus increasing the chances of the project implementation process being successful. These assertions are supported by Li et al (2009) who claims that convergence in values of members of a project team brings about a conducive working environment which may aid in making the project implementation process a success. Dose and Klimoski (1999) supplement the argument by arguing that when people share similar values, they tend to have confidence in each other and good interaction when they work towards attainment of some objective.

Despite the role played by deep-level diversity factors on performance of teams towards attainment of set objectives, little research has been down to determine their impact on project implementation process (Bell, 2007). The few studies that have been done on the association between project performance/implementation and value diversity have had diversity in values conceptualized in several distinct ways as well as giving mixed findings. Some of the formative studies on value diversity were done by Fisher et al (1996) to determine the association that exists between performance of teams and value diversity. They computed the Kendall's coefficient of concordance; they found a coefficient of 0.64 which is indicated some greater degree of agreement among the raters of the importance of

value diversity to performance of teams, they however, did not establish the direction of influence of diversity in values on performance of teams. Similarly, Muller and Copper (1994) conducted a study on the connection between group cohesiveness and performance of members of the team. Cohesiveness in terms of values was one of the study variables, the researchers established that group members who had similar values seemed to work better together and end up achieving the desired objectives as compared to team members who had divergent values. It was particularly determined that a higher degree of diversity in values led to greater relationship conflict which worked negatively towards the attainment of the desired organisational objectives.

A non-significant association between diversity in values and performance of teams was established by Woehr, Arciniega, and Poling (2013). Using a sample of 306 respondents gotten from 60 teams that were involved in doing very complex assignments that required cooperation between teams, they established that in general value diversity had no significant influence on team effectiveness, but certain components of value diversity were found to influence some team processes. Beugelsdijk, Klasing, and Milionis (2017) conducted a research to determine how value diversity influence economic development with focus on the European region. The researchers considered several cultural values and generally established that the values correlate with the regional economic performance. In particular, the researchers concluded that when greater diversity in values exists then the rate of economic development will be low due to the relationship conflict that may occur among the workers with different values. In as much as this study shows a negative association between the two variables, it is not in the building construction sector, hence the findings may not be generalized. This study sought to fill this research gap.

According to a study done by Kirkman and Shapiro (2015), members of team who have distinctively divergent values tend to have dissimilar assumptions and expectations of work hence making it difficult for them to work together harmoniously towards the achievement of a set objective. Wu, Zhao, Zuo, and Zillante (2019) in their study on the association between project performance and team value diversity in the construction sector established that there existed a positive association between the two variables. They however noted that increased levels of diversity in values resulted in conflict which ends up affecting negatively the performance of projects. Researches done on the association between value diversity and project performance have yielded mixed findings. Some have posted positive associations

of different degrees with moderate levels of value diversity, other have shown no association between the two variables, while some have indicated negative association. Diversity in values brings about conflicts which ends up influencing the association between project performance and value diversity. Based on these mixed findings, generalization of findings cannot be done. This study sought to determine the strength and nature of association between value diversity and implementation of building construction projects in Kajiado County.

2.7. Project Team Diversity and Implementation of Building Construction Projects

The last few decades have witnessed several researchers looking at the relationship between project team diversity and the process of project implementation in the construction sector. Some studies such as the one done by Yi et al., (2017) have shown the existence of a positive relationship between project team diversity and performance of teams in the construction setting. The positive associated is attributed to the fact that diverse teams introduce new knowledge which can help in making the project implementation process both efficient and effective. On the flipside, Lovelace et al., (2001) did show the existence of a negative association between project team diversity and implementation of construction projects. This was attributed to the fact that, diversity in teams can lead to conflicts which can be detrimental to the project implementation process. There are other studies, such as the one done by Jetten et al., (1998) which indicated that diversity in teams influence the process of project implementation in an inverse – U shaped manner.

Building construction projects, just like any other construction project are made up of teams that are diverse in many perspectives all working together with the main goal of achieving the set project objectives. In building construction projects, teams are heterogenous in culture, knowledge, values, religion, and so many other attributes. Wu et al., (2019) did a study on the influence of team diversity on the performance of construction projects, using a sample of 246 professionals, and the structural modelling technique to analyze the research data, the researchers found that project team diversity had a positive influence on the performance of construction projects when measured directly, but upon introduction of interpersonal conflict, the influence level was slightly reduced. Vicentini and Boccardelli (2016) studied the relationship between career diversity and performance of projects. They used a sample of 1736 respondents who had worked in the industry between 1996 and 2010. Career diversity was defined as the past experience that an employee brings to the new

project, their findings indicated the existence of an inverse – U shaped relationship between career diversity and performance of projects. Liang, Liu, Lin, and Lin (2007) did a study in the software industry to determine the strength association and nature of association between diversity in teams and software projects performance. They operationalized diversity in members of the project team in terms of values and knowledge differences. The reported that diversity in knowledge among team members increases the level of task conflict which positively affects project team's performance, while diversity in team members values led to an increase in relationship conflict which was found to have a negative influence on project team's performance.

Pelled (1996) looked at the association between team diversity in project teams and performance of project teams. The study operationalized diversity in terms of those related to the job and those associated with the level of visibility. They found that job related diversity aspects had a positive influence on the performance of teams, while diversity issues related to level of visibility were found to be negatively associated with team outcome. Sanan (2016) studied the influence of diversity in team's gender on the performance (financial) of listed firms in India, using a random sample of one hundred and forty-eight (148) firms that were listed across several industries over a five-year period, they established that gender diversity positively influenced the financial performance of the firms. Dimas (2012) sought to determine the influence of diversity on the effectiveness of teams, using a multiple regression technique and a non-experimental research design, team diversity was operationalized in terms of functional and team tenure diversity, the study established that diversity had a positive but less significant effect on the effectiveness of team units. Webber and Donahue (2001) did a meta-analysis of 24 studies and found that there existed no association between diversity in teams in terms of job-related issues and performance of teams. They reported that the relationship between less job-related diversity and high job-related diversity has been unnecessarily overstated, these sentiments were echoed by a study done by Pharmer and Salas (2000). A study by Lourenco, Dimas, and Rebelo (2014) found that there existed a marginal positive relationship between diversity in teams and effectiveness. They operationalized diversity in terms of function tenure and team tenure diversity.

In the Kenyan context several scholars have conducted studies to ascertain the influence on diversity on the performance of teams. For instance, Hjort (2014) looked at how dissimilarity

in ethnicity among flower workers influenced their productivity. He established that differences in ethnicity among flower workers resulted in ethnic conflicts which lowered the productivity of the workers, hence lowering the overall performance. These findings contradict the findings of other studies such as Lyons (2017), Hoogendoorn et al. (2014), and Hoogendoorn and van Praag (2012) who reported that the performance of homogeneous teams was better than that of heterogenous teams. Marx, Poni, and Suri (2021) did a study on the effect on diversity on the performance of a not-for0profit organisation in Kenya. They looked at ethnic diversity in three perspectives; horizontal, vertical, and external. Horizontal diversity was defined as diversity in ethnicity that existed between same-level workmates, it was found to have a negative effect on team productivity due to inefficiencies caused by ethnic conflicts. Vertical diversity was defined as diversity between a team player and their immediate supervisor, it was established that ethnically homogeneous worker and supervisor had a positive influence on performance, though this finding was contradicted by Bandiera, Barankay, and Rasul (2009) who argued that it could lead to favourism which negatively impacted performance. Lastly, external diversity was defined as the differences between the organisation workers and the clients, the study found no effect of ethnic diversity on performance. Studies on the relationship between team diversity and performance of both organisations and teams have given divergent results, this study looked at the influence of project team diversity on the implementation process of building construction projects as moderated by interpersonal conflicts.

2.8. Interpersonal Conflict and Implementation of Building Construction Projects

Conflicts are a common occurrence in human life, especially when people are dissimilar. In work place conflicts can either be due to relationships differences between the individuals or caused by the nature of the task. It can be defined as the realization by an individual or a group that their perceived rights are being violated. In building construction projects, the implementation process is done by several people with diverse capabilities, it is considered to be naturally political arena due to the existence of competing interests among the project workers. Interpersonal conflict is the conflict that occur among individuals, research shows that it is made up of three aspects, that is, there must be some incompatibility due to values or perception differences, interaction, and interdependence among individuals (Barki & Hartwick, 2004). Interpersonal conflicts at work place are considered one of the main

stressors and it works negatively towards the achievement of project objectives, since it awakens negative emotions and deviant behaviors among project workers.

There has been a lot of research done on the relationship between interpersonal conflicts and performance of projects. For instance, Senaratne and Udawatta (2012) looked at how to manage intragroup conflicts in construction projects, they operationalized intragroup conflicts into relationship, task, and process conflicts. Using six construction projects in Sri Lanka as case studies, they established that lower levels of task conflicts are beneficial to team's performance in construction projects while relationship and process conflicts had a negative effect on the performance of the construction project teams. Kassab, Hipel, and Hegazy (2006) observed in their study that interpersonal conflicts experience in construction projects often lead to escalation in cost of the project, time overruns, and reduced productivity in building construction projects. These findings were supported by Yiu and Cheung (2006) who further categorized the cost overrun due to conflicts in terms of direct costs such as delay in project completion and indirect costs such as lack of trust among team members. Increased levels of conflicts in a construction project can result in claims which may in turn lead to disputes (Acharya, Lee & Im, 2006). Conflicts among the project participants is the leading cause of dismal performance in construction projects (Ellis and Baiden, 2008). In a control situation where conflict does not exist, the project workers were very creative in coming up with solutions to arising problems as well as being flexible in their thinking. It is generally concluded that the existence of interpersonal conflicts among project team workers has a negative effect on the performance of construction projects.

On the contrary, De Dreu and Weingart (2003) argue that low levels of interpersonal conflicts can have a positive effect of construction projects performance since when conflicts exist, project team members tend to creative and learn to tackle issues as they arise. Carnevale and Probst (1998) using a control case without interpersonal conflict observed that team members were more creative and flexible in thinking, hence solving problems in the workplace with ease, this therefore indicates that interpersonal conflict has a negative influence on the performance of teams. On the contrary, Leung, Ng, and Cheung (2002) argue that a complete lack of conflict among team members may results in the individual workers not realizing existing inefficiencies among them. De Dreu & Weingart, (2003) further add that project implementation process is likely to suffer negatively from escalated conflicts since the conflicts may result in cognitive system shut down in some workers which

impedes information processing. Leung et al. (2002) claim in their study that higher level of conflicts among construction workers hinders the effective operation of the workers. Simons and Peterson (2000) in trying to understand the link between interpersonal conflict and performance of construction projects observed that antagonism and tension which are aspects of negative emotion are produced due to interpersonal conflicts among team members and they end up distracting the working capabilities of the team members hence affecting the project implementation process.

Although several researchers have indicated that the relationship between interpersonal conflicts and performance in negative, Lau and Cobbs (2010) argue that, the relationship in not a direct one, rather it is moderated by the existence of trust among workmates. They developed a conceptual model that shows how exchange and trust moderate the relationship between project performance and interpersonal conflicts. They mainly focused on relationship conflict as an aspect of interpersonal conflict and showed that the existence of relationship conflict among teammates negatively affects trust, pushing teammates to rely on calculus-based trust at the expense of relationship-based trust. This, in turn, has an effect on the king of exchange that exists between coworkers making them to opt for negotiated exchange instead of reciprocal exchange. This type of exchange eventually affects the performance level of teams. In building construction projects, conflicts are bound to occur due to the diverse nature of the teams employed to execute the process of project implementation. This study therefore seeks to first establish the nature of association between interpersonal conflicts and the process of implementation in a building construction project context and secondly, to determine the moderation effect of interpersonal conflict on the relationship between project team diversity and implementation of building construction projects.

2.9. Theoretical Framework

This research is anchored on constructs and concepts that touch on two theories. They are; the Ecosystem theory and the Social-Identity theory.

2.9.1. Ecosystem Theory

Ecosystem theory was first coined by a British ecologist Sir Arthur George Tansley in 1935. Based on the biological ecosystem, the theory assumes that the evolution process and the entire ecosystem can be understood better at the complex ecosystem level. The application

of the ecosystem theory in the organizational studies was pioneered by Odum (1953). Simultaneously, researchers in anthropology such as Steward (1955) and Bennett (1976) pioneered the use of ecosystem theory as a tool for fieldwork organisation. According to the theory, in an ecosystem there exist symbiotic web in which the members are mutually dependent, are diverse, have constraints, and there exist survival and development laws. Cooperation and competition among the species found in an ecosystem are important since they help maintain sustainable development in addition to promoting innovation and evolution. In the context of building construction projects, the process of implementation involves workers who are diverse in so many aspects, hence the ecosystem theory will be used to describe the associations that exists among the different stakeholders in the project implementation process.

The members of a project team form an ecosystem of humans with several diversities such as values, knowledge, and social-categories. The project team members work as a team towards a common goal which is successful implementation of the building construction projects. These working relationships between the team members generate a social order subsystem. According to Machlis, Force, and Burch JR. (1997), a human ecosystem is defined as a logical structure of biophysical and social factors with the capability of adapting and sustaining itself over time. The human ecosystem is made up of three subsystems, the first one is the social institutions, referring to collective solutions to universal social challenges, the second one is social cycles, which are temporal patterns for allocating activities to individuals, and lastly social order is a set of patterns that are used for organizing the interactions between individuals and groups, it incorporates three fundamental mechanisms, that is, personal identities, norms and hierarchies.

In building construction projects, the personal identities such as age, gender, clan, caste, and class, play a key role in the interactions between the project team members. Competition and cooperation among the team members always arise due to their dissimilarities either in terms of knowledge, values, or social-categories, and these are important since if well managed they help make the process of building construction projects implementation successful. The adaptation of project team members to the human ecosystem they work within as a project team is important in determining the success of the project. This theory supports the objectives of our study as the main focus of the study is to assess how different forms of team diversities affect the implementation of the construction projects. The study's

objectives are to assess the effects of social, knowledge, value diversities on the implementation of construction projects.

2.9.2. Social Identity Theory

Social Identity Theory (SIT) uses psychology processes regarding social identity to explain large social groups relationships. Its origin can be traced to the early 1970s from researches that were using the minimal group paradigm (Tajfel, Billig, Bundy, & Flament, 1971). These studies showed that people characterize others based on shared similarities and for the sake of their group's superiority over other groups, they can sacrifice enormous rewards. Tajfel and Turner (1979) argued that people tend to classify themselves based on attributed shared between them, they in turn develop in-groups and out-groups and tend to gravitate towards people who belong to their groups. Looking for positive uniqueness for one's group becomes a reason as to why people hold negative attitudes and beliefs about people who do not belong to their groups, and hence end up discriminating them.

Social Identity theory works in tandem with motivations. There must exists a motive for an individual to want to belong to a certain group, the motive can either be intrinsic or extrinsic. According to Dwivedula and Bredillet (2010), intrinsic motivation is mainly about satisfaction of personal needs while working within a group. While extrinsic motivation looks at the factors within the group that motivate an individual to work towards attainment of the group objectives, these can include belonging to the tribe as groupmates, sharing the sane culture, being agemates, and so on. Individuals within a building construction project setting are bound to gravitate towards groups in which individuals share the same values as them, since they believe in such groups they are going to be accepted and the chances of conflicts are going to be minimal, this is considered to be an aspect of self-determination theory which considered a subset of the social identity theory.

Tajfel and Turner (1979) argue that the major cause of distinctions between groups in a work environment such as the building construction setting is the categorization that happens between team members based on aspects such as age, race, gender, education level, and so on. These categorizations lead to team members developing inter-group bias (van Knippenberg et al., 2004) whereby they prefer to work with members of an in-group rather than with out-group members. From a social identity theory perspective, workers who do not share the major group characteristics are bound to be isolated or even excluded from

group activities by members who share majority of traits in a group (Foley et al., 2005). These can have negative repercussions on the ultimate project goal which is successful implementation.

Intergroup behavior and intergroup communication may be explained using the social identity theory (SIT) because of the intrinsic importance people put on social group memberships and their desire to perceive their unique social groupings in a good way. Prejudice and conflict between groups might result from this desire. Therefore, this theory is very significant to this study intergroup behaviors determine the team success.

2.9.3. Schema Theory

Schema theory is a branch of cognitive science that looks at how knowledge is structured by the human brain (Pankin, 2013). A schema is defined as a behavioral or thought pattern that organizes the information categories and the relationships that exist between them. People normally develop schemas for all facets of life. According to schema theory, individuals create pockets in their brains where they store information regarding the different attributes of people and then try to relate those attributes to their own with a view of either joining their groups or staying away from them. The information stored in the schemas about individuals are basically used for categorization. As a result, when meeting new people, an evaluation is done and a decision made based on their interactions.

In a building construction project environment, project workers develop schemas about other employees based on several aspects such as culture, education level, race, age, gender, values, and many other diversity constructs. These schemas that are formed can either have a negative or positive influence on the implementation process of the building construction projects since it determines how employees interact with one another. For example, if it is fixed in one's schema that individuals from a certain race are lazy, then an employee might perceive a fellow employee as being lazy based on stereotyping and this will make it difficult for them to work together, hence having a negative effect on the implementation of the building construction project they are involved in. Using schemas may help us make sense of the massive amounts of information that we encounter in our daily lives. Mental frameworks, on the other hand, lead to the exclusion of relevant information in favor of just that which confirms our own thoughts and views. Therefore, the theory is significant in

analyzing how human behaviors and values affects team work in the implementation of the construction projects.

Drawing from these theories, this study seeks to understand the influence of project team diversity on implementation of building construction projects as moderated by interpersonal conflict based on ecosystem theory, social identity theory and schema theory.

2.10. Conceptual framework

Figure 1 gives the conceptual framework that diagrammatically illustrates the relationship that exists between the variables considered in the study.

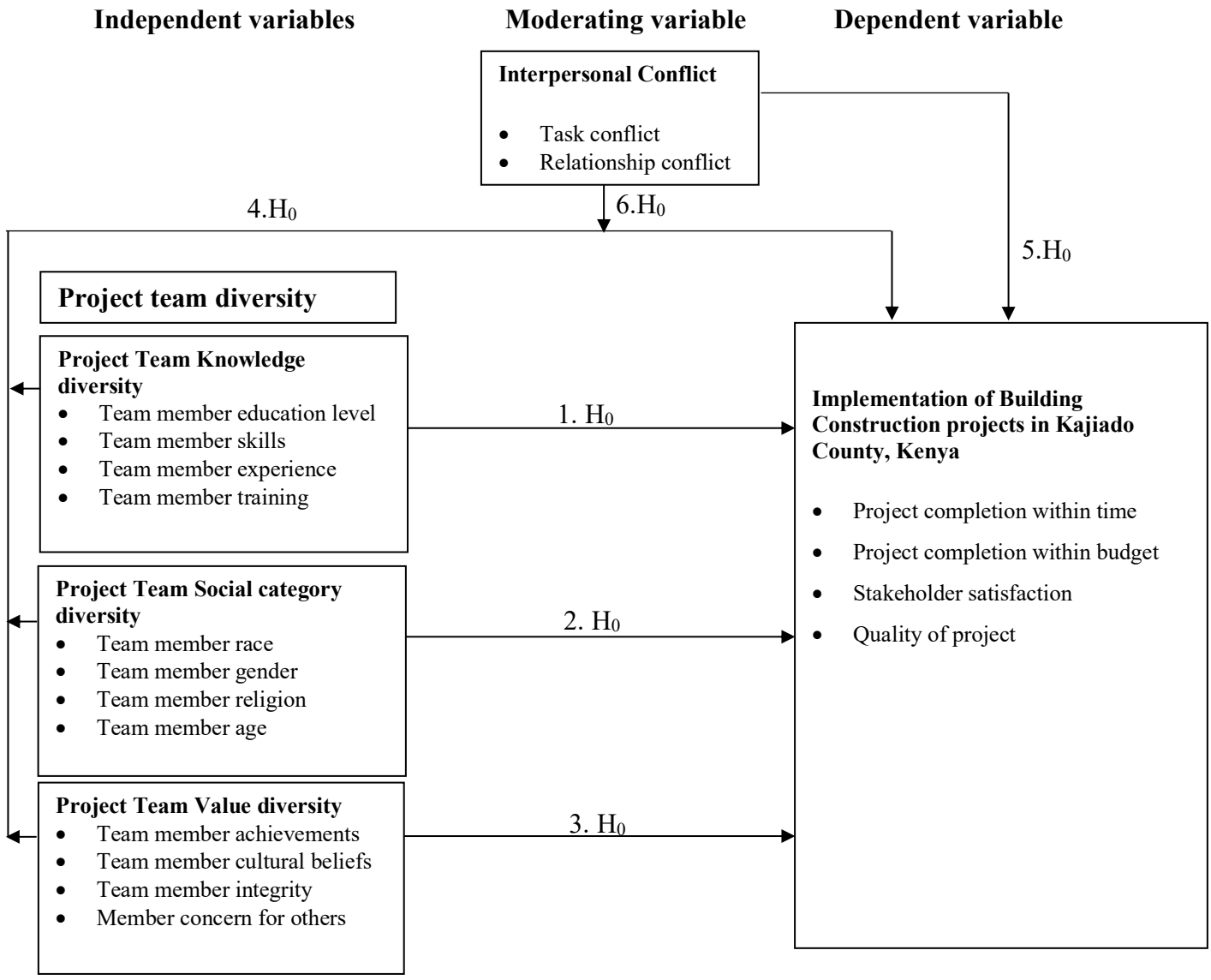

Figure 1: Conceptual Framework of Project Team Diversity and Implementation of building construction projects

The conceptual framework shows the assumed relationship that exists among the variables in the study. The dependent variable is implementation of building construction projects, its indicators are; project completion within time, project completion within budget, satisfaction of project stakeholders, and project meeting the quality specification. These measurement indicators were based on a host of studies in project implementation such as Barclay and Osei-Bryson (2010) and Wi and Jung (2010) who proposed measurement of project implementation using time, cost, and quality as the key indicators, and Shapiro et al (2007) included satisfaction of stakeholder of the iron-triangle constructs.

The independent variable is project team diversity, it is assumed to have an influence on the process of building construction projects implementation. In this study, it is constructed in terms of project team knowledge diversity, project team social category diversity, and project team value diversity. The constructs are borrowed from a study done by Gellert and Schalk (2012) who posited that diversity in knowledge, demographic attributes, experience, and professional background can influence the process of building construction projects implementation.

The moderating variable in the study is interpersonal conflict. According to Brockman (2014), interpersonal conflict which is defined as the conflict that exist in a work place between project team members that can either be attributed to the task at hand or the personal relationships. The study indicated that interpersonal conflict affects the way individuals interact in a work place. It is based on the work of Brockman's (2014) that interpersonal conflict was picked as a moderator for the relationship between project team diversity and implementation of building construction projects.

2.11. Summary of Literature Review

This chapter covers a review of the literature related to the study variables, the theories on which the study has been anchored, and a conceptual framework showing the relationship that exist between the variables in the study. The reviewed empirical literature included literature on; implementation of building construction projects, project team knowledge diversity, project team social category diversity, project team value diversity and, combined project team diversity, interpersonal conflict, relationship conflict and lastly task conflict.

Project team knowledge diversity was found to give mixed results with regard to its relationship with implementation of construction projects. According to Kotur and Anbazhagan (2014) the project team knowledge diversity aspects of level of education and work experience influenced the performance levels of the workers in projects, it was found out that workers with medium diversities performed better compared to those with extreme diversities. Majority of the reviewed literature generally give mixed outcomes with regard to the link between knowledge diversity and the process of implementing projects. The mixed outcomes show that contextual factors are a factor to consider while making conclusion. Consequently, the outcomes of the previous studies cannot be generalized to all projects in all sectors.

Social category diversity among project team member is looked at in terms of age, gender, religion, and political affiliations. Reviewed literature indicated different influences of the different indicators of social category diversity, for instance Hoogendoorn et.al., (2013) found out that teams with equal gender mix performed better than male dominated teams while Khalid and Aroosh (2014) found no impact of gender diversity on performance of project teams. In terms of age, studies indicated no relationship between age diversity and performance (Peterson and Spiker, 2005). Generally, the relationship between the indicators and implementation is dependant on the type of indicator and the study setting.

Project team value diversity is measured in terms of differences in cultural beliefs, achievements, integrity, and honesty among team members. Jehn (1997) observed that value congruence was related to perceived performance via a negative correlation with relationship conflict. Basically, little research has been done on the relationship between value diversity and performance of projects, among the few relevant existing studies, there is substantial variability with respect to both the conceptual and operational definitions of values as well as the outcomes examined.

Finally, the theories on which this study is premised are; ecosystem theory, social identity theory and the schema theory. Ecosystem theory was chosen since project team member in a building construction setting are synonymous to the species found in a natural biological ecosystem in the sense that they share a similar fate in the group irrespective of their individual diversities and hence they have to live in harmony (Iansiti and Levien, 2004). Social identity theory was chosen since project team members are diverse in nature in terms

of knowledge, social categories, and values, and the motivation by an individual to join a group is based on the shared attributes. Finally, the schema theory was chosen since individuals develop schemas based on the attributes they have and categorize others as per the schemas, this motivates them to either join a group or not. The conceptual framework illustrating the relationships of the variables is also explained.

2.12. Knowledge Gaps

Table 2.1: Summary of Knowledge Gaps

Variable	Author (Year)	Title of the Study	Methodology	Findings	Knowledge Gaps	Focus of the Current Study
Project Team Knowledge Diversity	Dulaimi (2005)	Influence of education on performance of projects	Survey research design	Education is key to the performance of projects, in particular, technical skill and expertise are fundamental in performance of projects.	The influence of project team knowledge diversity on the process of implementation of building construction projects was not established	This study focuses on influence of project team knowledge diversity on implementation of building construction projects
	Myaskovsky et al., (2005)	Gender diversity and small group performance	Mixed research design.	Mixed gender groups trained together were less efficient in radio assembly as compared to workers trained differently	It is necessary to establish the effect of the factors in a construction project setting, so as to arrive at a generalization.	This study focuses on influence of project team knowledge diversity on implementation of building construction projects
	Kotur and Anbazhagan (2014)	Investigated factors of education and work experience and how they influence the performance levels of the workers in the Chittoor Sugar factory located at the Chittoor town of South India.	Survey research design	It was established that the two variables under investigation had direct effect on the performance of the workers to varying degree where by workers in the medium range on educational qualification perform better compared those in the extremes and the same holds good in the case of work experience as well	It is necessary to establish the effect of the factors in a construction project setting, so as to arrive at a generalization.	This study focuses on influence of project team knowledge diversity on implementation of building construction projects

Variable	Author (Year)	Title of the Study	Methodology	Findings	Knowledge Gaps	Focus of the Current Study
Project Team Social Category Diversity	Gellert and Schalk (2012)	The study examined the influence of age and age-related attitudes on relationship factors and work performance.	Correlational research design	Results showed that age-related attitudes (intergenerational cooperation and the perception of older employees' capabilities) are important factors influencing the perceived quality level of in-group cooperation. Also, relationship factors influence perceived employee performance, and job satisfaction.	The study findings were key however they need to be re-tested in a different set up to confirm their generalization.	The influence of project team social category diversity on implementation of building construction project in Kenya.
	Powell (2012)	Intersection of sex, gender, and leadership.	Survey research design	The managerial playing field continues to be tilted in favor of men and behaviors associated with the masculine gender stereotype, a phenomenon that occurs despite what leadership theories and field evidence would suggest.	The study emphasis was on sex and gender however other factors such as ethnicity and religion were not considered	The influence of project team social category diversity on implementation of building construction project in Kenya.
	Khalid and Aroosh (2014)	Outcomes of gender discrimination	Mixed methods research design	The results revealed that gender discrimination did not have as such an impact on employee performance and organizational commitment	There is need to ascertain the study findings in a different sector.	The influence of project team social category diversity on implementation of building construction project in Kenya.

Variable	Author (Year)	Title of the Study	Methodology	Findings	Knowledge Gaps	Focus of the Current Study
Project Team Value Diversity	Barinaga (2007)	Cultural diversity at work: National culture as a discourse organizing an international project group	Survey research design	The key finding indicated how members used discourses on national culture and cultural diversity to address confusion and misunderstanding and to justify decisions and to give the group reasons for being.	The study did not establish the influence of individual beliefs, team organizations and team commitment.	This study focuses on influence of project team value diversity on implementation of building construction projects.
	Mäkikangas, Aunola, Seppälä, & Hakanen, J. (2016)	Focused on whether individual and team work engagement are associated with team members' perceived performance.	Survey research design	Results revealed that both individual and team work engagement were associated with high levels of perceived team performance	There was need to assess the same study in a different sector.	This study focuses on influence of project team value diversity on implementation of building construction projects.
	Bakker, Gierveld and Van Rijkswijk (2006)	Study on engagement and performance.	Mixed methods research design	The results of their study showed significant and positive associations between school principals' work engagements cores and teacher- ratings of performance and leadership.	The context of the study was different from the current study	This study focuses on influence of project team value diversity on the implementation of building construction projects

Variable	Author (Year)	Title of the Study	Methodology	Findings	Knowledge Gaps	Focus of the Current Study
Project Team Diversity	Nguyen, L. H., & Watanabe, T. (2017).	The impact of project organizational culture on the performance of construction projects.	Survey research design	There was a significant difference in the construction diversity among construction professionals' perception of construction site management practices in the construction industry.	The study based their target population on the senior management practitioners and left out the views of the lower cadre of workers. Did not also establish the combined diversity influence on performance of projects.	This study focuses on the influence of project team diversity on implementation of building construction projects.
	Ali et.al., (2014)	Combination of age and gender and how it influences performance (employee productivity and return on assets)	Mixed methods research design	The results indicated a positive linear relationship between gender diversity and employee productivity, a negative linear relationship between age diversity and return on assets.	The study did not establish the combined influences on project team diversity on performance.	This study focuses on the influence of project team diversity on implementation of building construction projects.

Variable	Author (Year)	Title of the Study	Methodology	Findings	Knowledge Gaps	Focus of the Current Study
Interpersonal Conflicts	De Church, Mesmer-Magnus, & Doty, (2013).	The study investigated the effect of task conflict on group performance	Survey research design	They showed that task conflict and group performance correlated at -0.01and -0.24 with team member satisfaction	The study did not look at how task conflict moderates the relationship between project team diversity and performance of projects	This study focuses on the moderating influence of task conflict on the relationship between project team diversity on implementation of building construction projects.
	Puck and Pregernig, (2014).	The effect of task conflict and cooperation on performance of teams: Are the results similar for different task types?	Mixed methods research design	The results indicated that task conflict could be beneficial in moderate forms and in non-routine task situations.	The study did not look at the moderating influence of task conflict.	This study focuses on the moderating influence of task conflict on the relationship between project team diversity on implementation of building construction projects.
	De Dreu and Weingart (2003)	Task versus relationship conflict, team performance and team member satisfaction	Survey research design	Found that relationship conflict tends to generate a destructive climate, which often fosters negative affections that may lead to unsuccessful team performance.	They did not look at the mediating role of relationship conflict on the relationship between project team diversity and implementation of projects	This study focuses on the mediating influence of task conflict on the relationship between project team diversity on implementation of building construction

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This chapter describes the research methodology that was used to conduct the study. This includes: research paradigm, research design, target population, sample size and sampling procedures, research instruments, data collection procedures, data analysis techniques, ethical considerations, and operationalization of the study variables.

3.2.Research Paradigm

For this study, pragmatism paradigm was used. According to Morgan (2014), the paradigm of pragmatism has its philosophical foundations rooted in pragmatism philosophy and therefore appreciates the use of several methods. It is premised on the proposition that research should be based on methodological and philosophical approaches that best suit a particular research problem (Tashakkori et.al., 1998). According to Creswell et al (2011), pragmatism paradigm goes hand in hand with mixed research methods, since it focusses on the research consequences rather than the method. Pragmatism paradigm breaks down the order that characterizes both the positivists and constructivist approaches in research with a view of extracting the useful aspects of both (Biesta, 2010).

A philosophy in research is defined as a means of describing a global outlook that is a result of philosophical assumptions regarding social realities nature, knowing ways, and ethics (Patton, 2002). Salkind (2010) define a research philosophy as a theory that directs the way research is conducted in terms of the design of the research, the strategy to be used in the research, sampling procedures, as well as the designing of research instruments. Saunders et al (2009) adds that a research philosophy is a key aspect in research since it provides a clear road map of how the research will be carried out. A research paradigm on the other hand, provides a researcher a direction in which to carry out the research by giving methodologies and frameworks (Yvonne, 2010).

The advantage of pragmatism is that it allows for the investigation of how social interaction shapes individual experience, knowledge, and behavior. Thus, the purpose of pragmatic inquiry is to evaluate and modify characteristics of real-world psychological, social, and

educational events. Pragmatists' consequent broad grasp of experience and science may point to approaches to provide an objective foundation for criticizing organizations and actions. The study adopts the pragmatism because it advocates for triangulation which is the use of numerous methodologies or data sources to get a full knowledge of phenomena.

3.2.1. Unit of Observation and Analysis

The unit of observation is the unit at or for which data is collected, and for this study, it was building construction projects in Kajiado county, whereas the unit of analysis is the "who" or "what" that you are analysing for your study, and for this study, the unit of analysis was the various construction project managers and staff distributed in the sub-counties of Kajiado county.

3.2.2. Research Design

Descriptive research design was adopted for this research. In descriptive research design, the researcher seeks to describe the study sample as it is in terms of the study variables (Bhattacherjee, 2012). This was used in this study to describe the characteristics of the sample selected with respect to the study variables which are knowledge diversity, social-category diversity, value diversity, interpersonal conflicts, and implementation of building construction projects. According to Glass and Hopkins (1984), descriptive research design involves collecting data that is used in describing events and then organizing, tabulating, presenting, and describing the results of data collection. The summary of the data collection results is usually done in terms of visual aids such as frequency tables or by reporting the measures of central tendency and the correlations between the study variables. Borg and Gall (1989) claim that descriptive research design involves the collection of both quantitative and qualitative data, where the quantitative data is either tabulated in numerical form or describes categorical data. They further add that a descriptive research design can use methods that aid in the analysis of correlations between several variables by including tests like the Pearson's correlation, simple and multiple regression analysis. Descriptive research design was chosen for this study since the study sought to provide a description of the variables with respect to the study sample as well as finding the strength of relationship between the project team diversity and implementation of building construction projects via multiple regression.

3.3. Target Population

According to a task force report from the county government of Kajiado (2018), the recently completed and ongoing building construction projects during the period of study are 28 projects (12 completed and 16 ongoing). The target population of this study consisted of County projects manager, County projects engineer, 657 project staff (County Government of Kajiado, 2018) from the 16 on-going building construction projects being implemented in the various wards of Kajiado County. This gives a total of 659 from which a sample can be drawn.

Table 3. 1: Target Population

Category	Size
County Projects Manager	1
County Projects Engineer	1
Project Staff	657
Total	**659**

Source: Kajiado County Government Report (2018)

3.4. Sample Size and Sampling Procedures

This section explains how the sample size for the study was determined as well as the sampling procedure used in the study. Kothari (2004) describes a sample as a collection of all the elements that have been extracted from the target population for the sake of being used in research, while sample size refers to the number of elements in the selected sample. Sampling procedure on the other hand refers to the technique that the researcher uses in selection of the elements to belong to the study sample. These are further explained as follows:

3.4.1. Sample Size

The sample size of this study is 251 (=249+1+1) drawn from a target population of 659 using Yamane (1967) formula.

$$\text{Sample Size (n)} = \frac{N}{1+Ne^2}$$

Where:

n = Number of samples

N = Population size

e = Marginal error (0.05)

Calculating the sample size,

$$\text{Sample Size for project workers (n)} = \frac{657}{1+(657*0.05^2)} = 248.6 \cong 249.$$

3.4.2. Sampling Procedures

The sampling unit for the study was the building construction projects. The sampling process was a combination of proportionate stratified sampling to obtain the sample size from each project; simple random sampling was then used to sample the respondents from each project (stratum) who are to be administered with the questionnaire. Purposive sampling was used to identify key informant interviewees who in this case were the site agents/engineers and project managers.

In the current study, in each of the 16 on-going projects, staff to participate from each project were proportionately stratified. A nominal list of employees was obtained from the companies involved in implementation of the building construction in Kajiado County. Based on the number that was proportionately sampled from the project to take part in the study, the start point was determined through simple random sampling. For proper simple random sampling, random numbers were put in a pot and the project workers asked to pick, then the ones with the odd numbers were the ones selected to participate in the study, the process was done in all the strata.

According Sekaran (2016), simple random sampling helps in the reduction sampling error and gives representative sample size. Creswell (2011) claims that purpose sampling particularly in situations where the respondent is a key respondent who assumed to have

sufficient information about the study variables is important since it enables the researcher in understanding the better the research problem. This argument is also supported by Merriam (1998) who argues that purposive sampling is premised on the fact that the researcher seeks to get insights regarding the research variables and hence must select an appropriate sample. The sample size and procedure are shown in Table 3.2.

Table 3. 2: Sampling Procedure

Category of Respondents	**Project Name**	**Target population**	**Sample Size**	**Sampling Method**
Project Workers	Rongai market rehabilitation	54	21	Simple Random
	Lemong'o Cultural Center	62	24	Simple Random
	Njukini Dispensary	48	18	Simple Random
	ECDE Center in Keekonyokie	30	11	Simple Random
	Kiserian Health Center	41	16	Simple Random
	Kitengela Public Toilet	19	7	Simple Random
	Dining Hall at Oloontulugum	31	12	Simple Random
	Staff Houses in Iloodokilani	46	17	Simple Random
	Saiken Dispensary	39	15	Simple Random
	Social Hall in Kware	26	9	Simple Random
	Oloolua Market	51	19	Simple Random
	Social Hall at Kudu Hills	28	10	Simple Random
	Ngong Sports Complex Phase II	66	26	Simple Random
	Kitengela Market Phase II	46	17	Simple Random
	Marteninty Block at Mile 46 Dispensary	34	13	Simple Random
	Marteninty Block at Oletepesi Dispensary	36	14	Simple Random
County Projects Engineer		1	1	Census
County Projects Manager		1	1	Census
Total		**659**	**251**	

3.5. Research Instruments

The study utilized semi-structured questionnaires and interview guides in data collection. Trobia (2011) defines a questionnaire as a research tool that contains a set of items in the form of questions, which follow a particular scheme that aim at collecting data regarding a single or multiple variables. Questionnaires are usually open-ended or closed-ended, where the open-ended questionnaires provide the respondent the liberty of self-expression while closed-ended give the researcher ease time while doing the analysis due to uniformity in the nature of responses. They are usually administered in a standard way to the study respondents. Interview guides are used to direct the interviewer on the type of questions to ask the respondents so as to elicit the responses that are useful to the research.

3.5.1. Questionnaire for Project Staff

Semi-structured questionnaires were used for data collection in this research. A questionnaire according to Bhattacherjee (2012) is a tool for research that contains items regarding the research variables aimed at capturing responses from the study's respondents in a standardized manner. The use of questionnaires was preferred for this research since the study sample was large and it also provides the respondents with the chance to appreciate the study because it touched on the project team diversity, interpersonal conflict and implementation of building construction projects, an area in which they actively took part as construction workers and as beneficiaries, either directly or indirectly of the project.

The questionnaire was structured in the form of sections as follows; Section 1: The respondents give their demographic information, regarding to age, gender, education level, job type and experience level. This helps in checking for any relationship with implementation of building construction project. Section 2, captures information on implementation of building construction projects. Section 3, covers interpersonal conflict, Section 4, covers project team knowledge diversity, Section 5, covers project team social category diversity, and Section 6, covers project team value diversity.

3.5.2. Interview Guide for Site Engineers and Project Managers

The use of interview guides was restricted to the site engineers and project managers who were considered as key informant in this research. According to Bhattacherjee (2012), interviews are usually conducted by trained personnel since they are a more personalized

mode of data collection as compared to questionnaires but they follow some standardized protocols just like the way questions in a questionnaire are usually standardized. In addition, while using the interview method of data collection, the interview has the liberty of seeking clarification in issues that have not been well articulated and even go further and ask follow-up questions just to beef-up information regarding the research variables. In this study, the site engineers and the project managers, were asked to provide information on project team diversity, interpersonal conflict and implementation of building construction projects.

3.5.3. Pilot testing of the Research Instruments

The research instruments were pilot tested in two county funded building construction projects in Nairobi County. According to Rutterford et.al. (2015), a pilot study sample size should be 10% of the projected study sample size. A total of 25 questionnaires were administered to the different categories of respondents in Nairobi County. This pilot test was to ensure clarity of the research instruments to the respondents. Nairobi County was purposively selected due to its proximity and the respondents having the same characteristics as those in Kajiado County.

3.5.4. Validity of the Research Instruments

Research instruments validity was checked to ascertain that the instrument items measure the planned constructs. The aspects of validity looked at in this research were construct and content validity. Content validity relates to the level to which the instrument used for data collection in research completely measures the constructs that the researcher is interested in (Mugenda and Mugenda, 2012). The development of a questionnaire whose items meet the required content validity threshold was attained by exposing the items to scrutiny by a team of experts in the research area who in this case were the research supervisors from the university. They particularly, looked at all the items in the questionnaire with particular emphasis on ease of reading, clarity, and comprehensiveness with regard to the objectives of the study.

Construct validity on the other hand, is defined as the degree to which a research instrument measures the theoretical construct or trait or that it is supposed to measure (DeVon et.al., 2007). It utilizes a hypothetical comparison construct since it does not have a criterion for comparison. In this research, construct validity was attained by doing a comparison of the

research instrument items with items contained in similar tests, by checking the correlation levels. Construct validity basically measures the practicality of a research instrument.

3.5.5. Reliability of the Research Instruments

Carmines and Zeller (1979) define research instrument reliability as the degree to which a research instrument provides stable results across time. It looks at the aspect of repeatability of results. To check for reliability in this research the test-retest method was used where data obtained from the pilot study was entered into SPSS v27 for a principal component analysis, to check correlations between the components then a reliability analysis was done to generate a Cronbach alpha value, which was the basis for the conclusion on reliability of the questionnaire. A Cronbach alpha value of 0.88 was obtained, indicating that the research instruments in the study were highly reliable as per the recommendations of Taherdoost (2016).

Testing for research instrument's reliability is significant in research since it looks at consistency through the parts of a measurement instrument. According to Huck (2005), an instrument to be highly reliable if the scale items "hang together" and measure a similar construct. The most appropriate reliability measure applicable to Likert scale items in a research instrument is the use of the Cronbach Alpha coefficient. In a pilot study, Taherdoost (2016) argues that a research instrument returning a Cronbach alpha coefficient of 0.60 and above is considered to be reliable. Hinton et al. (2004) recommended the following four reliability intervals, a research instrument giving a Cronbach alpha coefficient that is above 0.90 is said to be excellent, high reliability corresponds to a coefficient lying in the interval (0.70 – 0.90), moderate reliability in when one gets the coefficient in the interval (0.50 – 0.70), and finally any instrument that gives a coefficient that is less than or equal to 0.50 is said to have low reliability.

3.6. Data Collection Procedures

To initiate the data collection process, the research sort approvals from the relevant bodies. First and foremost, the researcher obtained an introduction letter from the University of Nairobi, indicating that he is a student in the university currently doing research and intended to collect data, this letter was used to apply for a research permit from the National Commission for Science, Technology and Innovation (NACOSTI). Once the permit was granted, the researcher sort authorization from the County government of Kajiado to carry

out research on subjects working in their building construction projects. The County government gave the permit and the contacts of the project managers and engineers involved in implementation of the projects. Appointments were made with those in charge of the various project so as to make sure the respondents were available during data collection.

Using trained research assistants, significance of the study was explained to the project workers and then consent to participate in the study sought. Thereafter, the workers in the projects were given numbers which were written on small pieces of paper, the research assistants then mixed the paper pieces in a pot and selected the respondents randomly so as to collect data from them by use of the semi-structured questionnaires and interviews were also carried out on the site engineers and project managers who had been purposively selected. During the data collection exercise, the research assistants clarified any concerns on the items in the questionnaires in-situ to help improve the questionnaires return rate.

3.7. Data Analysis Techniques

This section provides an explanation of how data obtained was analyzed.

3.7.1. Quantitative Data Analysis

Quantitative data collected from the semi-structured questionnaires was cleaned then coded into SPSS v27 for both inferential and descriptive analysis. Descriptive analysis involved computation of the frequencies, percentages, means, and standard deviations for the different variables under study. Inferential statistics involved computing the Pearson's product moment correlation coefficients in addition to generating the linear and multiple regression equations so as to measure the strength and nature of relationship between the independent and dependent.

3.7.2. Qualitative Data Analysis

Qualitative data was collected from the unstructured questions in the questionnaires as well as the interview guides. This information was considered important since the respondents were given the leeway to respond to questions in their own way. Data collected was first arranged systematically by converting all data into text format and then organised based on the theories from research questions. It was then coded by categories and assigning properties and patterns so as to aid in deriving theories from them.

3.7.3. Inferential Analysis

Inferential analysis is an aspect of data analysis that seeks to establish the associations that exists among the variables in research. A correlation coefficient was obtained using the Pearson's Product Moment method and both single and multiple regressions were also carried out. The strength of the relationships that existed between the dependent variable, implementation of building construction projects, and the various constructs of project team diversity, which was the independent variable were computed based on the Pearson's Product Moment correlation technique. This was informed by an assertion by Bell (2007) who argued that the most convenient means of measuring the strength correlation between variables in social science is by the use of the Pearson's Product Moment Correlation Coefficient (r).

Several regression analyses were carried out. To check for the influence of the individual aspects of the independent variables on the dependent variable, the simple linear regression techniques were applied while the multiple linear regression was applied in checking the combined influence of project team diversity on the implementation of building construction projects. Interpretation of the coefficient was based on the recommendations of Brenneman (2005) who claimed that a weak correlation exists between the variables if the value of "r" ranges from 0.10 to 0.29; it is considered to be a moderate correlation if "r" lies in the interval 0.30 - 0.49; while it is a strong correlation if "r" ranges from 0.5 to 1.0. The use of multiple regression technique was based on studies by other construction management researchers who used Multiple Linear Regression for Likert scale measures (Pinto et al., 2014; Doloi, 2013).

In doing the regression analysis, the researcher implemented the conceptual and statistical models for simple moderation as suggested by Baron and Kenny (1986) who defined a moderator as a qualitative (for example sex, race, class) or quantitative (for example level of reward) variable that influences the direction and/or strength of the relation between an independent and dependent variable.

They depicted both the conceptual and statistical models as shown in Figure 2:

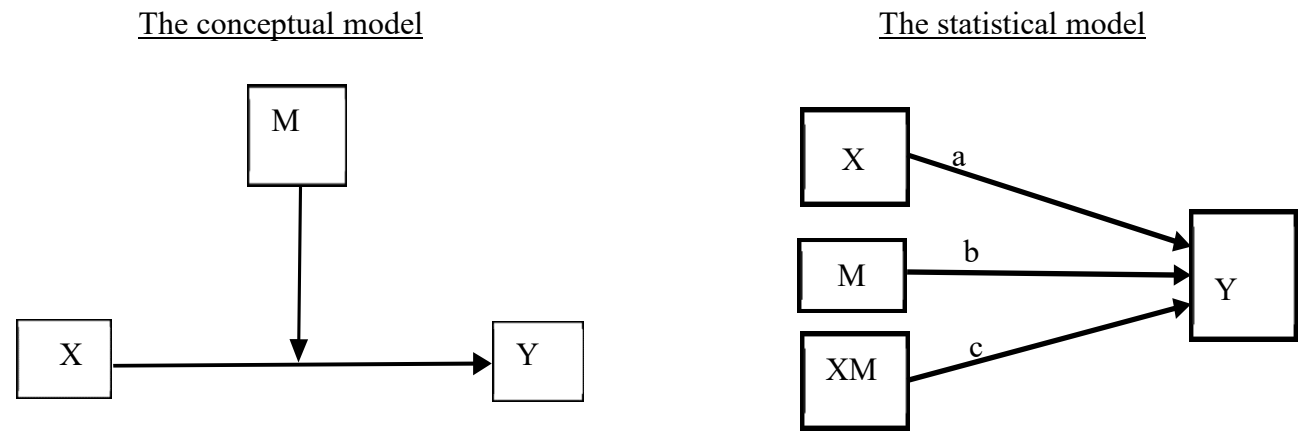

Figure 2: Conceptual and Statistical Models for Regression

The proposed study's conceptual model that will be used to test the influence of the moderating variable on the relationship between the independent variable and the dependent variable is shown in Figure 2 it also gives the statistical model indicating the regressions to be carried out in that '*path a'* as the predictor influencing on Y, '*path b'* as the moderator influencing on Y while '*path c'* as the interaction term influencing on Y. The moderator hypothesis is supported when the interaction (*path c*) is significant.

The variables in the study are denoted as follows:

Dependent variables:

Y	-	Implementation of building projects

Independent variables:

X_1	-	knowledge diversity
X_2	-	social category diversity
X_3	-	value diversity

Mediating variable:

X_4	-	Interpersonal conflict
β_0	-	Constant term
$\beta_1\beta_2, \ldots, \beta_n$	-	Weight of the independent variable
ϵ	-	Error term

Regression Model for Objective One

Objective One is simple linear, therefore data analysis was guided by the following regression model;

Model 1

Knowledge diversity does not significantly influence implementation of building projects in Kajiado County, Kenya.

Implementation of building projects = f (knowledge diversity)

$$Y = f(X_1, \epsilon)$$
$$Y = \beta_0 + \beta_1 X_1 + \epsilon$$

Regression Model for Objective Two

Objective Two is simple linear, therefore data analysis was guided by the following regression model;

Model 2

Social category diversity does not significantly influence implementation of building projects in Kajiado County, Kenya.

Implementation of building projects = f (social category diversity)

$$Y = f(X_2, \epsilon)$$
$$Y = \beta_0 + \beta_2 X_2 + \epsilon$$

Regression Model for Objective Three

Objective Three is simple linear, therefore data analysis was guided by the following regression model;

Model 3

Value diversity does not significantly influence implementation of building projects in Kajiado County, Kenya.

Implementation of building projects = f (value diversity)

$$Y = f(X_3, \epsilon)$$
$$Y = \beta_0 + \beta_3 X_3 + \epsilon$$

Regression Model for Objective Four

Objective Four is multiple linear, therefore data analysis was guided by the following regression model;

Model 4

Combined team diversity does not significantly influence implementation of building projects in Kajiado County, Kenya.

Implementation of building projects = f (knowledge diversity + social category diversity + value diversity)

$$Y = f(X_1, X_2, X_3, \epsilon)$$
$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Regression Model for Objective Five

Objective Four is linear, therefore data analysis was guided by the following regression model;

Model 5

Interpersonal conflict does not significantly influence implementation of building projects in Kajiado County, Kenya.

Implementation of building projects = f (Interpersonal Conflict)

$$Y = f(X_4, \epsilon)$$
$$Y = \beta_0 + \beta_4 X_4 + \epsilon$$

Regression Model for Objective Six

Objective Six is non-linear, therefore data analysis was guided by the following regression model;

Model 6

The association between team diversity and building construction projects implementation is not mediated by relationship conflict.

Implementation of building projects = f (Interpersonal conflict (team diversity)).

$$Y = f(X_4(X_1, X_2, X_3, \epsilon))$$

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_4 X_1 X_2 X_3 + \epsilon$$

3.8. Ethical Consideration

The basic principles regarding ethics in research were adhered to during the entire research process. A letter of introduction was obtained from the University of Nairobi, then used to apply for a research permit from the National Council. After getting the permit, a letter was written to the County government of Kajiado to seek authority from the relevant office to conduct research on the building construction projects they were implementing. Once the authorization was granted, the researcher wrote a letter of transmittal of data which explained to the respondents the importance of the research and the importance of their fully participation. They were assured of their anonymity and their right to terminate their participation from the study at any given point if they felt uncomfortable. Before the process of filling the questionnaires began, the respondents were required to give their participation consent by signing a consent form. Creswell (2011) argues that the researcher has an obligation to respect the rights, needs, values and desires of the informants. During data cleaning, analysis and reporting, the researcher practiced the acceptable analytical methods and reporting.

3.9. Summary of Hypothesis

This section descries the hypothesis and the rejection threshold

Table 3. 3: Summary of Hypothesis

Objective	Hypothesis	Model	When to reject or fail to reject H_0
To establish the extent to which knowledge diversity influences implementation of building projects in Kajiado County, Kenya	There is no significant relationship between knowledge diversity and implementation of building projects in Kajiado County, Kenya.	$Y = \beta_0 + \beta_1 X_1 + \epsilon$	Reject if $p \leq 0.05$ Fail to reject $p > 0.05$
To determine the extent to which social-category diversity influences implementation of building projects in Kajiado County, Kenya	There is no significant relationship between social-category diversity and implementation of building projects in Kajiado County, Kenya.	$Y = \beta_0 + \beta_2 X_2 + \epsilon$	Reject if $p \leq 0.05$ Fail to reject $p > 0.05$
To establish the extent to which value diversity influences implementation of building projects in Kajiado County, Kenya	There is no significant relationship between value diversity and implementation of building projects in Kajiado County, Kenya.	$Y = \beta_0 + \beta_3 X_3 + \epsilon$	Reject if $p \leq 0.05$ Fail to reject $p > 0.05$
To assess the extent to which team diversity influences implementation of building projects in Kajiado County, Kenya	There is no significant relationship between team diversity and implementation of building projects in Kajiado County, Kenya.	$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$	Reject if $p \leq 0.05$ Fail to reject $p > 0.05$
To determine the extent to which interpersonal conflicts influences implementation of building projects in Kajiado County, Kenya	There is no significant relationship between interpersonal conflict and implementation of building projects in Kajiado County, Kenya.	$Y = \beta_0 + \beta_4 X_4 + \epsilon$	Reject if $p \leq 0.05$ Fail to reject $p > 0.05$
To establish the moderation of interpersonal conflict on the relationship between team diversity and implementation of building projects in Kajiado County, Kenya.	There is no significant moderating influence of interpersonal conflict on the relationship between team diversity and implementation of building projects in Kajiado County, Kenya.	$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_4 X_1 X_2 X_3 + \epsilon$	Reject if $p \leq 0.05$ Fail to reject $p > 0.05$

3.10. Operationalization of the Variables

This section gives a description of the way the variables being studied have been operationalized as they have been depicted in the conceptual framework in Figure 1. The dependent variable was implementation of building projects measured by; project completion of within planned time, project completion of within planned budget, project meeting the desired quality, and satisfaction of the stakeholder. The independent variable was team diversity, measured in terms of knowledge, social-category, and value diversity. The moderating variable was interpersonal conflict.

Table 3.4 shows the operationalized variables.

Table 3. 4: Operationalization of Variables

Objective	Variables	Indicators	Measuring Scale	Statistical analysis	Tools of analysis
	Dependent variable Implementation of building projects	• Timely project implementation • Project implementation within budget • Stakeholder satisfaction • Quality of final project	Ordinal	Parametric	• Mean • Standard deviation • Percent • Frequency
To determine the extent to which knowledge diversity influences implementation of building projects in Kajiado County, Kenya	**Independent variable** knowledge diversity	• Education level diversity • Diversity in Experience. • Training diversity. • Skills diversity • Specialty diversity	Ordinal	Parametric	• Pearson's Correlation and Linear regression analysis • Mean • Standard deviation • Percent • Frequency
To determine the extent to which social-category diversity influences implementation of building projects in Kajiado County, Kenya	**Independent variable:** social category diversity	• Difference in Age • Gender difference • Difference in Ethnicity • Religious differences • Political affiliation diversity	Ordinal	Parametric	• Pearson's Correlation and Linear regression analysis • Mean • Standard deviation • Percent • Frequency
To determine the extent to which team value diversity influences implementation of building projects in Kajiado County, Kenya	**Independent variable:** value diversity	• Cultural belief diversity • Honesty diversity • Integrity diversity	Ordinal	Parametric	• Pearson's Correlation and Linear regression analysis • Mean • Standard deviation • Percent • Frequency

Objective	Variables	Indicators	Measuring Scale	Statistical analysis	Tools of analysis
To assess how combined team diversities influence the implementation of building projects in Kajiado County, Kenya.	**Independent variables:** team diversity	• knowledge diversity • social category diversity • value diversity	Ordinal	Parametric	• Multiple linear regression • ANOVA • Mean and Standard deviation • Percent • Frequency
To determine the extent to which interpersonal conflict influences the implementation of building projects in Kajiado County, Kenya.	**Independent variables:** Interpersonal Conflict	• Relationship conflict • Task conflict	Ordinal	Parametric	• Pearson's Correlation and Linear regression analysis • Mean • Standard deviation • Percent • Frequency
To establish the moderation effect interpersonal conflict moderates the relationship between team diversity and implementation of building projects in Kajiado County, Kenya	**Moderating Variable** Interpersonal conflict	• Relationship conflict • Task conflict	Ordinal	Parametric	• Pearson's Correlation and Multiple Linear (Stepwise) regression analysis • Mean • Standard deviation • Percent • Frequency

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1. Introduction

In this chapter the outcome of the analyzed data is presented, interpreted, and discussed according to the objectives of the research study in thematic and sub-thematic areas, which include: questionnaire return rate, demographic profiles of respondents, tests of statistical assumptions and analysis of Likert-type data, implementation of building projects, knowledge diversity and implementation of building projects, social-category diversity and implementation of building projects, value diversity and implementation of building projects, interpersonal conflict and implementation of building projects, team diversity and implementation of building projects and team diversity, interpersonal conflict, and implementation of building projects.

4.2. Questionnaire Return Rate

A total of two hundred and fifty one (251) questionnaire were distributed in person and by the help of research assistants to the sampled project workers who were spread across the expansive Kajiado County in building construction sites. Out of 251 questionnaires for workers, 235 questionnaires were filled by the study respondents and returned. However, 14 questionnaires were found to have a lot of missing information and were therefore not usable for analysis. The returned and useable questionnaires returned represented 88.04% of the total questionnaires administered. This was considered a good return rate for statistical generalizations, and hence the study proceeded. Saunders et al (2003) claim that a rate of response that lies in the range of 30% - 50% is good enough for generalization of the sample findings to the population. Mugenda and Mugenda (2012) advice that a 50% response rate is considered adequate, 60%-69% is good, and anything above 70% is considered to be an excellent response rate for analysis, reporting, and subsequent generalization to the target population.

4.3. Demographic Profiles of the Respondents

In this sector, the profile of the sampled research respondents is presented. Understanding the demographics of the participants in the study was important and therefore, the information sought was with regard to respondents' gender, respondents' age, highest level of education that had been attained by the respondents, and total period that the respondent had worked in projects in the building construction industry. These are discussed in detail in the following sub-sections:

4.3.1. Distribution of Respondents by Gender

The research study wanted to ascertain the gender distribution of the study respondents. The research respondents were required to tick a box in the questionnaire that corresponds to their gender. This was done so as to determine the dominant gender in the construction projects and also check if they meet the requirements of the Kenyan constitution on one gender not being more than two-thirds in a work setting. The results are presented in Table 4.1.

Table 4. 1: Distribution of Respondents by Gender

Gender	Frequency	Cumulative Frequency	Percent
Male	192	192	86.9
Female	29	221	13.1
Total	**221**		**100**

The results on Table 4.1, show that out of the 221 respondents processed questionnaires 192(86.9%) were from the male respondents while 29(13.1 %) were from the female respondents. The results show that the building construction domain in Kajiado county is male dominated, which goes against the CoK 2010 constitutional requirement of one third gender rule. This attributable to the fact that majority of activities done in projects of construction nature are usually manual hence requiring the use of quite a lot of energy. Additionally, majority of the inhabitants of Kajiado County are from the Maasai community which is patriarchal, hence women are discouraged from venturing into activities such as getting involved in building construction projects.

4.3.2. Distribution of Respondents by Age

The study sought to ascertain the age distribution the study respondents. Respondents were required to tick a box in the questionnaire where their age lies. The results are shown in Table 4.2.

Table 4. 2: Distribution of Respondents by Age

Age Bracket	Frequency	Cumulative Frequency	Percent
18-25	13	13	5.9
26-30	118	131	53.4
31-35	42	173	19
36-40	26	199	11.8
41-45	13	212	5.9
Over 45	9	221	4.1
Total	**221**		**100**

The results in Table 4.2 indicate that among the 221 study respondents; 5.9% (13) respondents were in the age interval 18 – 25 years, those in the age interval 26 – 30 years were 53.4% (118), the respondents in the age interval 31 – 35 years were 19% (42), those aged between 36 – 40 years were 11.8% (26), the age group 41 – 45 years had 5.9% (13) individuals, while the respondents that were aged more than 45 years were 4.1 % (9). It is generally observed that the biggest proportion of individuals who were involved in the implementation of the building construction projects in Kajiado County were aged 18 – 35 years, which represents the youthful group that are energetic and can handle the menial and energy sapping demands of construction projects.

4.3.3. Distribution of Respondents by Highest Level of Education

The study sought to ascertain the uppermost education level that had been. attained by the research respondents. This was regarded as being vital to the research since it had implications on how the respondents understood the items in the research instruments and how they responded to them. The study respondents were needed to mark one of the boxes that corresponds to the highest education level they had attained. The outcome is given in Table 4.3.

Table 4. 3: Distribution of Respondents by Highest Level of Education

Highest level of education	Frequency	Cumulative Frequency	Percent
Primary	45	45	20.4
Secondary	100	145	45.2
Certificate in Building	48	193	21.7
Diploma	28	221	12.7
Total	**221**		**100**

Table 4.3 shows that of the 221 study respondents 20.4% (45) had attained primary level education as their highest education level, those who had their highest education as secondary school were 45.2% (100), those with a building certificate from a tertiary institution on were 21.7% (48), the last group was that that had a diploma and they were 12.7% (28). Cumulatively, 79.6% (176) respondents had attained secondary school education and above, this shows that they were capable of understanding the needs of the research and therefore provide reasonable responses that would be relevant to the study.

4.3.4. Distribution of Respondents by Period Worked in the Construction Company

The study needed to determine the cumulative duration in terms of years that a respondent had spent working in the construction industry. The study respondents were needed to mark a box that corresponds to the period worked in the construction industry. The period worked in the construction industry and in particular building projects was necessary since it would show the level of experience in construction projects implementation. The outcome of the analysis is given in table 4.4.

Table 4. 4: Distribution of Respondents by Period Worked in the Construction Company

Period worked	Frequency	Cumulative Frequency	Percent
Less than 5 years	63	63	28.5
5-10 years	105	168	47.5
10-15 years	36	204	16.3
15-20 years	13	217	5.9
Over 20 years	4	221	1.8
Total	**221**		**100.0**

The results in Table 4.4 show that 63 (28.5%) of the research respondents had been involved in the building industry for at most 5 years, those with experience ranging between 5 – 10 years were 105 (47.5%), the 10 – 15 years bracket contained 36 (16.3%) respondents. The respondents whose experience was 15 – 20 years were 13 (5.9%) and lastly respondents who had over 20 years of working experience in the building industry were 4 (1.8%). These findings give the impression that majority of the study respondents, that is 158 (71.5%), had been in the building construction industry for more than 5 years. Therefore, it was assumed that they had a wealth of information regarding the process of building projects implementation to adequately respond to the items in the research instruments. Additionally, with vast experience in the implementation of building projects in the construction sector, the respondents are expected to be more efficient and effective in provision of services as they implement the building projects in Kajiado County.

4.4. Tests for Statistical Assumptions and Analysis of Likert Type of Data

In this part, an explanation is given on how normality, multicollinearity, heteroscedasticity, and homoscedasticity tests were done. Additionally, a justification for the use of the Likert-type items in the research instruments and subsequent analysis is given. These are further discussed in subsequent subthemes:

4.4.1. Tests for Normality

Normality assumptions are key when running parametric tests in a data set, violating the assumptions can lead to arriving at inaccurate inferential assumptions. Normality is checked either visually using density plots or by testing a hypothesis based on either the Kolmogorov-Smirnov (KS-test) or Shapiro-Wilk's test (SW-test) (Ghasemi & Zahediasl, 2012). In this research, tests of normality were done based on the K-S and S-W tests, the outcome of the test is shown in Table 4.5.

Table 4. 5: Test for Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
Implementation	0.190	221	0.200*	0.978	221	0.843
Knowledge Diversity	0.140	221	0.200*	0.983	221	0.814
Social Category Diversity	0.227	221	0.200*	0.980	221	0.901
Value Diversity	0.170	221	0.200*	0.913	221	0.818
Interpersonal Conflict	0.167	221	0.200*	0.927	221	0.817

a. Lilliefors Significance Correction

* This is a lower bound of the true significance

According to the results in table 4.5 the p-value for the Kolmogorov-Smirnov test for all the five variables is 0.200 which is a below the minimum of the true significance and greater than the standard critical value of 0.05, this implies that the variables are all normally distributed. Based on the Shapiro-Wilks test, it was concluded that all the five variables were normally distributed since their p-values were greater than 0.05, hence the null hypotheses that the variables are approximately normally distributed were not rejected for all the variables. Additionally, according to Bonini et.al. (1997) if a value of the test statistic for the Shapiro-Wilks is closer to or equal to one, then the data is assumed to be approximately normally distribute. Since all the statistic values for the variables were closer to one, the variables were assumed to be normally distributed and analysis using parametric test were carried out.

4.4.2. Tests for Multicollinearity

Multicollinearity refers to the aspect of strong correlation between the indicators of independent variable, in this case; knowledge diversity, social-category diversity and value diversity. Variance Inflation Factor (VIF) test was done to test for multicollinearity and the values for the test indicated in table 4.6.

Table 4. 6: Test for Multicollinearity

Coefficients[a]

	Collinearity Statistics	
Variables	**Tolerance**	**VIF**
Knowledge diversity	0.892	1.122
Social-category diversity	0.842	1.188
Value diversity	0.937	1.067

The outcome in table 4.6 shows that the VIF values for knowledge diversity was 1.122, social category diversity was 1.188 and value diversity was 1.067. According to Hair Jr, Hult, Ringle and Sarstedt (2016), VIF values greater than 5 indicate multicollinearity in the variable. Since all the three variables had VIF values that were not more than 5, it was concluded that there was no existence of multicollinearity among the study variables.

4.4.3. Tests for Homoscedasticity and Heteroscedasticity

One of the major assumptions when carrying out an analysis of variance in research is that the standard deviation for within-group is usually the same, that is they exhibit homoscedasticity since if they exhibit heteroscedasticity, that is having different standard deviations, then the chances of obtaining a false positive result with a true null hypothesis are usually higher than the desired alpha level, that is committing a type I error (Wiedermann et.al., 2017). To check for homoscedasticity, plots of standardized residuals were generated on SPSS v27, and visually examined. The residuals were found to be scattered randomly around the line $y = 0$, which is the horizontal line indicating a relatively even distribution.

4.4.4. Analysis of Likert Type Data

Likert scale type of items were applied to five sections of the questionnaire. The scale was made up of 5 – point Likert items defined as; 5 = strongly agree, 4 = agree, 3 = Neutral, 2 = disagree and 1 = strongly disagree. The items in each section ranged from 8 to 13 items. According to Carifio and Rocco (2007) when analysis Likert-type items, the following intervals are supposed to be used as guiding principles when making conclusions; Strongly Agree (SA) lies in the interval 4.2 – 5.0, Agree (A) is in the interval 3.4 – 4.2, Neutral (N) lies in the interval 2.6 – 3.4, Disagree (D) lies in the interval 1.8 – 2.6; and Strongly Disagree (SD) ranges between 1 and 1.8, thus giving an equal distance of 0.8. This condition was

followed through the analysis stage as well as when interpreting outcomes of the Likert type data.

4.5. Implementation of Building Construction Projects

In this research, implementation of building construction projects was the dependent variable. Questionnaires and interview guides were used for data collections. In the semi-structured questionnaires, respondents were required to indicate by ticking an appropriate box that indicates their level of agreement with several statements regarding building construction project implementation. The statements were based on the constructs of implementation of building construction project which were, projects being completed within the planned time, projects being completed within the planned budget, projects meeting the quality specification, and stakeholder being satisfied with the final project outcome. The measurement of the level of agreement was centered on a Likert scale made up of 5 – points ranging that were defined as 5 = Strongly Agree (SA), 4 = Agree (A), 3 = Neutral (N), 2 = Disagree (D) and 1 = Strongly Disagree (SD). The mean and standard deviation of the statements were computed in addition to the composite mean and standard deviation were computed and the results presented in Table 4.7.

Table 4. 7: Implementation of Building Construction Projects

	Statements	SA	A	N	D	SD	Mean	Std. Dev
1	We complete tasks within time schedule	64 29.0%	132 59.7%	10 4.5%	6 2.7%	9 4.1%	4.07	0.90
2	We have few change requests by the client during construction	44 19.9%	161 72.9%	0 0.0%	4 1.8%	12 5.4%	4.00	0.87
3	We experience project delays during construction	35 15.8%	87 39.4%	16 7.2%	38 17.2%	45 20.4%	3.13	1.42
4	Tasks are completed within budget	16 7.2%	134 60.6%	41 18.6%	30 13.6%	0 0.0%	3.62	0.81
5	Minimal project variation orders are received	21 9.5%	164 74.2%	17 7.7%	12 5.4%	7 3.2%	3.81	0.80
6	We have minimal rework on the tasks already completed	34 15.4%	62 28.1%	26 11.7%	63 28.5%	36 16.3%	2.98	1.36
7	We meet quality specifications on construction projects	73 33.0%	131 59.3%	0 0.0%	6 2.7%	11 5.0%	4.13	0.94
8	Quality checks of materials is carried out	80 36.2%	120 54.3%	6 2.7%	9 4.1%	6 2.7%	4.17	0.88
9	County government is satisfied with our work performance	72 32.6%	134 60.6%	4 1.8%	5 2.3%	6 2.7%	4.18	0.81
10	We meet the client requirements/needs	109 49.3%	100 45.3%	0 0.0%	6 2.7%	6 2.7%	4.36	0.85
11	I am satisfied with the management of this project	96 43.4%	113 51.2%	2 0.9%	4 1.8%	6 2.7%	4.31	0.82
	Composite Mean and Std. Dev.						**3.89**	**0.46**

Table 4.7 provides feedback from respondents on their agreement level with items that measure the building projects implementation process in Kajiado County. These results are described item-wise as follows;

Item one was, timely completion of scheduled tasks. Of the 221 study respondents, 29% (64) were in strong agreement with the item, those in general agreement were, 59.7% (132), those indifferent, that is they neither agreed nor disagree were 4.5% (10), those who were in disagreement with the item were 6 (2.7%), while the those were in strong disagreement were 4.1% (9). The line item average response was found to be 4.07 with a corresponding deviation of 0.90. This demonstrates that the study respondents generally were in agreement with the statement, indicating that project in the building sector are usually implemented within the defined time duration.

Item two was, we have few change requests from the client during implementation. Among the 221 study respondents, those who were in strong agreement were 19.9% (44), those who generally agreed were 72.9% (161), none of the respondents neither agreed nor disagreed, those who disagreed were 1.8% (4), while those who were in strong disagreement with the statement were 5.4% (12). The average mean response for the line item was found to be 4.00 a corresponding deviation of 0.87. This indicates that the study respondents in general agreed with item two. Hence indicating that there were few requests for changes are usually brought when the implementation process has already started.

Item three was, we experience project delays during construction. Among the 221 study respondents, those who were in strong agreement were 15.8% (35), those who were in agreement were 39.4% (87), those who were neither in agreement or disagreement were 7.2% (16), those in general disagreement were 17.2% (38), while those that were in strong disagreement with the line item were 20.4% (45). The average response for the item was 3.13 with a corresponding deviation of 1.42, this shows that the study respondents were neither in agreement or disagreement with the item. The value of the standard deviation in the line statement being high with respect to the line item average shows that there was high divergence in opinions of the study respondents.

Item four was, tasks are completed within budget. From the 221 study respondents, 7.2% (16) were in strong agreement with the item, 60.6% (134) were in agreement with the line item, those who were neutral were 18.6% (41), those who generally disagreed with the line item were 13.6% (30), while none of the respondents was in strong disagreement with the item. The average response for the statement was 3.62 a corresponding deviation of 0.81. The value of the average response shows that the respondents were neither in agreement or disagreement with the item. The value of the standard deviation in the line statement being high with respect to the line item average shows that there was high divergence in opinions of the study respondents.

Item five was, minimal project variation orders were received. Among the 221 study respondents, 9.5% (21) were in strong agreement with the item, 74.2% (164) were in general agreement with the item, those were neither in agreement nor disagreement were 7.7% (17), those who generally disagreed were 5.4% (12), and those who were in strong disagreement with the item were 3.2% (7). The average response for the item was 3.89 with a corresponding deviation of 0.80. This average indicates that the people involved in the implementation of

construction projects in Kajiado County encountered minimal variations in the project implementation phase. The high value of the standard deviation indicates that the respondents had divergent views regarding the statement.

Item six was, we have minimal reworks on the tasks already completed. Among the 221 survey respondents, 15.4% (34) were in strong agreement with the item, 28.1% (62) were in general agreement, 11.8% (26) did not agree or disagree with the item, 28.5% (63) were generally in disagreement, while the remaining 16.3% (36) were in strong disagreement with the item. The computed line item average was 2.98 with a corresponding deviation of 1.36. The average response indicates that the bulk of the respondents were neither in agreement nor disagreement with the line item. The standard deviation of 1.36 is high indicating that there was a high divergence in responses to the line item.

Item seven was, we meet quality specification on construction projects. Among the 221 surveyed respondents, 33% (73) were in strong agreement with the item, 59.3% (131) were in agreement with the item, none of the respondents were neither in agreement nor disagreement, 2.7% (6) were in disagreement with the item, while the remaining 5% (11) were in strong disagreement with the item. The line item average was 4.13 with a corresponding deviation of 0.94, this indicates that the survey respondents were in agreement with the item in general and the standard deviation of 0.94 being greater than the composite standard deviation of 0.46 implies that the respondents generally had divergent views.

Item eight was, quality check of materials is usually carried out. Of the 221 surveyed respondents, those who were in strong agreement with the statement were 36.2% (80), those who were generally in agreement were 54.3% (120), those who were neither in agreement nor disagreement were 2.7% (6), those who were in general disagreement with the item were 4.1% (9), and the remaining 2.7% (6) were in strong disagreement with the statement. The line item average response is 4.17 with a corresponding deviation of 0.88, this shows that the respondents were generally in agreement with the line item, this shows that generally, the quality of materials used in implementation of construction projects in Kajiado County is usually checked. Though with slightly divergent views due to the line standard deviation being higher than the composite standard deviation.

Item nine was, county government is satisfied with our job. Among the 221 study respondents 32.6% (72) were in strong agreement with the item, 60.6% (134) were in general agreement

with the item, those who were neither in agreement nor disagreement were 1.8% (4), those who were in disagreement with the item were 2.3% (5), while the remaining 2.7% (6) were in strength disagreement with the item. The average line item response was 4.18 with a corresponding deviation of 0.81, showing that the respondents were in general agreement with the line item, showing that projects of the building construction nature in Kajiado County met the requirements of the County government. The composite standard deviation of 0.46 being less than the line item standard deviation indicates that the respondents had divergent opinions.

Item ten was, we meet the clients' requirements. Of the 221 surveyed respondents, 49.3% (109) were in strong agreement with the item, 45.2% (100) were in general agreement with the item, none of the respondents was neither in agreement nor disagreement with the item, 2.7% (6) were in general disagreement with the statement, while the remaining 2.7% (6) were in strong disagreement with the item. The average response for the item was 4.36 with a corresponding deviation of 0.85. This indicates that the study respondents were strongly in agreement with the item, showing that construction projects in Kajiado County were meeting the requirements of the clients. The standard deviation of the item 0.85 being greater than the composite standard deviation shows that the respondents had some divergence in their opinions.

Item eleven was, I am satisfied with the management of this project. Out of the 221 study respondents, 43.4% (96) were in strong agreement with the item, 51.1% (113) were in general agreement with the statement, 0.9% (2) were neither in agreement nor disagreement with the item, 1.8% (4) were in disagreement with the item, while the remaining 2.7% (6) were in strong disagreement with the item. The average response for the item was 4.31 with a corresponding deviation of 0.82, showing that the respondents were strongly in agreement with the item. This indicates that the project workers who in this case were the survey respondents were very satisfied with the management of the projects in Kajiado County.

Interviews were also carried out with the aim of determining the process of implementation of construction projects of building nature in Kajiado County. The first question sought to determine from the site-engineers and projects managers if projects were being implemented within the scheduled time. Their feedback was captured and presented as follows;

"I try as much as I can to make sure that the projects I oversee, are

implemented within the required time. I work closely with the project supervisor to identify any causes of delay and then address them immediately." (Engineer 1)

Another interview respondent added,

"I always provide my workers with a schedule, indicating clearly how long each stage in the building implementation process should take. Then we discuss as a team if there are any adjustment they feel we should make, such that when we start working we know what is expected of everyone and this helps in us implementing our project on schedule" (Engineer 3)

There were however, some respondents who claimed that the project implementation phase went on past the schedule time. One of them said;

"The project implemented in this county usually go beyond the scheduled time. The County government is usually slow in releasing funds to the contractors, making it difficult for the contractors to run the implementation process seamlessly. I wish the people at the county could be told to improve on how they relate with the contractors" (Project Manager 2)

Another interview respondent affirmed the response by Project Manager 2, by claiming that;

"Bureaucracies in the County government offices are too many, making release of funds and even simple approvals take too long, this in turn results in projects taking too long." (Engineer 4)

Pertaining to projects being completed within the planned budget. Data collected from the interviews pointed towards the projects not being completed within the planned budget. One site engineer said;

"*I believe this hospital will be not completed as planned within the agreed time and budget, since the county government takes a lot of time to do approvals and pay as agreed which in turn affects the rate at which we implement this project." (Engineer 1)*

Another site engineer working on another project when interviewed indicated that they had come up with ways of ensuring checks on cost are implemented. He said;

> *"We always have weekly meeting with our staff in the implementation of this dormitory project to discuss the progress of the project, the challenges faced, and then we organize meeting with the county government officials in charge of the projects to discuss the progress and challenges as well, this really helps in dealing with any emerging issues, and it enables us meet the budgetary allocation for the project." (Engineer 5)*

On client satisfaction. One of the interview respondents said;

> *"I have worked as a contractor with the county government and our name is good there due the good service we offer. My company usually works within the budget unless there are changes necessitated by the client, and the county government has always been satisfied with the final product I hand-over to them. We cannot compromise on client satisfaction, client is boss." (Engineer 3).*

On satisfaction of project workers, this is what one of the interview respondents said;

> *"I can conclude that most of my workers are normally contented with the working environment, the renumeration, and the progress of the project, apart from of course a few who will complain in any setting." (Engineer 4)*

The site engineers indicated efforts were put in place to ensure satisfaction, thus,

> *"When the project progress is about 50%, we usually do an evaluation of the work done by each employee and reward those who have done well by either increasing their wages or promoting them, this encourages them to work harder which is beneficial to the project implementation process." (Engineer 3)*

These results are similar to the findings of a research done by Wi and Jung (2010) in their study on modelling and analysis of project performance factors used time, quality, and budget as the main measurement metrics. Durdyev et al (2017) also looked at measurement

of project implementation and argued that the main cause of delays in implementation of projects is the delayed payment contractors by the project owners. Regarding owner satisfaction, it was established that the owner of the projects being implemented, who in this case is Kajiado County Government, were satisfied with the projects that were handed-over to them upon completion. This is in agreement with the findings of a research conducted by Liu and Walker (1998) who in their study on projects outcome evaluation in the construction industry claimed that satisfaction of participants in the entire process of implementation is a key measure of success in the measurement of success in project implementation. The key measures of project implementation identified in this study were, time, cost, quality, and budget performance. These are in agreement with the findings of a study by Takim and Akintoye (2002) who did a study on indicators for successful project performance in the construction industry, they used measures such as predictability of the project in terms of cost and time, profitability, and satisfaction of the clients with the final product offered. The findings of these study are also corroborated by the findings of Pinto and Slevan (994) who argued that a project implementation process is only considered to be successful if the intended user is satisfied with the final product.

4.6. Project Team Knowledge Diversity and Implementation of Building Construction Projects.

The first objective of the study was determination of how diversity of project team members in terms of knowledge influence the process of implementing projects of building construction nature in Kajiado County. The sampled study respondents were requested to indicate the level at which they agreed with items measuring knowledge diversity based on a 1 – 5 point Likert-scale format where; 5 – Strongly Agree, 4 – Agree, 3 – Neutral, 2 – Disagree, and 1 – Strongly Disagree. The results are shown in Table 4.8.

Table 4. 8: Project Team Knowledge Diversity and Implementation of Building Construction Projects

	Statements	SA	A	N	D	SD	Mean	Std. Dev.
1	Recruitment of workers into the project is based on their education level	42	152	9	14	4	3.97	0.81
		19.0%	68.8%	4.1%	6.3%	1.8%		
2	I have had challenges working with people from different education levels	18	46	11	97	49	2.49	1.27
		8.1%	20.8%	5.0%	43.9%	22.2%		
3	Equal opportunities for job advancement exist for workers with both most and least education levels	38	153	13	11	6	3.93	0.82
		17.2%	69.2%	5.9%	5.0%	2.7%		
4	Differences in education levels of workers is a source of conflict at the workplace	10	25	16	112	58	2.17	1.08
		4.5%	11.3%	7.3%	50.7%	26.2%		
5	Jobs are allocated depending on skills of an individual	126	84	3	6	2	4.48	0.74
		57.0%	38.0%	1.4%	2.7%	0.9%		
6	Payment is made based on skills possessed	122	85	3	11	0	4.44	0.76
		55.2%	38.4%	1.4%	5.0%	0.0%		
7	At work, I experience lack of confidence due to my level of skills	34	21	15	128	23	2.62	1.25
		15.4%	9.5%	6.8%	57.9%	10.4%		
8	Learning more skills through training, would improve my work performance	76	123	5	14	3	4.15	0.85
		34.4%	55.7%	2.3%	6.3%	1.3%		
9	The team leader includes members of different training backgrounds in decision making process	58	144	5	14	0	4.11	0.73
		26.2%	65.2%	2.3%	6.3%	0.0%		
10	Mentoring of workers in acquiring jobs skills in latest technologies is highly practiced in this company	31	144	11	30	5	3.75	0.94
		14.0%	65.2%	5.0%	13.5%	2.3%		
	Composite Mean and Std. Deviation						**3.61**	**0.37**

The descriptive results in Table 4.8 relate to the responses of the sampled respondents on knowledge diversity. These results are described item-wise as follows;

Item one was, education was key in recruitment of project worker. Among the 221 respondents, those who were in strong agreement were 19% (42), those in agreement were 68.8% (152), those who were neither in agreement nor disagreement were 4.1% (9), those who were in general disagreement were 6.3% (14), and those who were in strong disagreement were 1.8% (4). The mean response of the item was 3.97 with a corresponding deviation of 0.81. This indicates that the respondents were in general agreement with the item, showing that the education plays a key role in the recruitment of workers into the project. The high value of the standard deviation shows that there is high diversity in responses.

Item two was, workers having difficulty working with people from different education level. Among the 221 study respondents, those who were in agreement strongly with the item were 8.1% (18), those who were generally in agreement were 20.8% (46), those who were neither in agreement nor disagreement were 5% (11), those in general disagreement were 43.9% (97), and those who were in strong disagreement were 22.2% (49). The computed average response was 2.49 with a corresponding deviation of 1.27. The value of the computed average of 2.49 indicates that the respondents in general disagreement with the item, showing that the respondents did not have difficulty working with people having different education levels. The high value of the standard deviation shows that there was high divergence in responses. Hence, the project workers had very different opinions with regard to the item.

Item three was, workers are provided with equal job advancement opportunities. Among the 221 responses received, 17.2% (38) were in strong agreement with the item, those who were in general agreement were 69.2% (153), those who were neither in agreement nor disagreement were 5.9% (13), those who were in general disagreement were 5% (11), while those who were in strong disagreement were 2.7% (6). The computed average response was 3.93 with a corresponding deviation of 0.82. The item average shows that the respondents were generally in agreement with the statement, showing that in Kajiado County, workers are provided with equal job advancement opportunities. The standard deviation being high shows that the respondents had divergent values.

Item four was, education level differences causes conflicts. Of the 221 study respondents, those in strong disagreement were 4.5% (10), those in general agreement were 11.3% (25), those who were neither in agreement nor disagreement were 7.2% (16), those in general

disagreement were 50.7% (112), while the remaining 26.2% (58) were in strong disagreement with the item. The item's average response was 2.17 with a corresponding deviation of 1.08. This average shows that the respondents were in general disagreement with the statement showing that differences in education level among the respondents was never a cause of conflict. The high level of standard deviation indicates that the respondents had divergent views regarding the statement.

Item five was, allocation of jobs is based on the skills of workers. Among the 221 respondents, 57% (126) were in strong agreement with the item, 38% (84) were generally in agreement with the item, 1.4% (3) were neither in agreement nor disagreement with the item, 2.7% (6) were in general disagreement with the item, while the remaining 0.9% (2) were in strong disagreement with the item. The average response for the item was 4.48 with a corresponding deviation of 0.74. This indicates that the respondents were in strong agreement with the item, showing that in Kajiado County, the county government allocated jobs to the workers in the project based on the skills the workers had. There was however some divergence in opinions as shown by a standard deviation of 0.74 which is greater than the composite standard deviation of 0.37.

Item six was, renumeration of workers is done based on the level of skills they possess. Among the 221 sampled respondents, it was established that those who were in strong agreement with the statement were 55.2% (122), those who were generally in agreement were 38.5% (85), those who were neither in agreement nor disagreement were 1.4% (3), those who were generally in disagreement with the item were 5% (11), while none of the respondents were in strong disagreement with the item. The computed average item's response was 4.44 with a corresponding deviation of 0.76. This implies that the respondents were generally in strong agreement with the item, hence the renumeration of projects workers was based on the skills they have. The standard deviation of 0.76 being higher than the combined standard deviation of 0.37 shows that the respondents had divergent opinions.

Item seven sought to determine if the project workers lacked confidence due to lack of skills. Among the 221 respondents, 15.4% (34) were in strong agreement with the item, 9.5% (21) were in general agreement with the item, those who were neither in agreement nor disagreement were 6.8% (15), those who were in general disagreement were 57.9% (128), and the remaining 10.4% (23) were in strong disagreement with the item. The item's average response was 2.62 with a corresponding deviation of 1.25, this indicates that the respondents

were generally in disagreement with the statement, hence showing that they did not lack confidence at their workplace due to being inferior in terms of skills. They high level of the computed standard deviation relative to the item mean, means that there was great divergence in the responses.

Item eight sought to establish if the work performance of the workers would improve by them learning more skill through training. Among the 221 survey respondents, those who were in strong agreement with the statement were 34.4% (76), those who were in general agreement with the statement were 55.7% (123), those who were neither in agreement nor disagreement with the statement were 2.3% (5), those who were in general disagreement with the statement were 6.3% (14), and the remaining 1.4% (3) were in disagreement strongly with the statement. The item's average was found to be 4.15 with a corresponding deviation of 0.85. This indicates that in general the respondents were in agreement with the item, implying that project workers believed that training would sharpen their skills and hence help improve their performance at work which would in turn result in successful implementation of projects. The value of the standard deviation (0.85) being higher than the composite standard deviation (0.37) shows that there was divergence in opinions of the respondents regarding the item though on a small scale due to the high value of the average response.

Item nine sought to determine if the respondents if members of different backgrounds in training were included in decision-making regarding projects being implemented by the team leaders. It was established that among the 221 responses received, 26.2% (58) were in strong agreement with the statement, 65.2% (144) were in agreement with the statement, those who were neither in agreement nor disagreement with the statement were 2.3% (5), those in disagreement generally were 6.3% (14), while none of the respondents was in strong disagreement with the statement. The average response for the item was found to be 4.11 with a corresponding deviation of 0.73. This shows that the respondents were in agreement with the statement implying that their opinions were incorporated in decision making by the team leaders.

Item ten was on whether the project workers were motivated to seek skills in latest technology in their places of work. Among the 221 respondents, those who were in strong agreement with the item were 14% (31), those who were in agreement with the statement were 65.2% (144), those who were neither in agreement nor disagreement were 5% (11),

those who were in disagreement with the statement were 13.6% (30), while the remaining 2.3% (5) were in strong disagreement with the item. The computed line item average was found to be 3.75 with a corresponding deviation of 0.94. This shows that the respondents were generally in agreement with the statement, hence in Kajiado county, project workers were encouraged to acquired new skills that would enable them be efficient and effective in provision of services to the building construction projects during the implementation process.

Site engineers and project managers on the role that knowledge diversity plays in the process of implementation of the projects they are in charge of. Majority agreed that having a group of workers with diverse knowledge and experience in the building construction sector aids in making the implementation process move faster and thus enabling the project meets its objectives. Some of their sentiments are as follows;

> *"I enjoy working with individuals who are well trained in the realm of construction. They already know what is expected of them and you do not waste time supervising what they do. All you need to do is provide them with the necessary support and everything will be done as expected." (Project Manager 2)*

Another project manager also said;

> *"When you have individuals with diverse knowledge it makes your work easy since everyone brings in what they learnt and that enriches the project. It only becomes a challenge when they cannot agree on the way forward due but once you understand how to deal with that, then everything moves." (Project Manager 3)*

With regard to making of decisions on issues that deal with the project, one site engineer said;

> *"We usually meet every day after work to take stock of what we have done as a project team, the challenges we have encountered, and also planning for the next day. Any decision being made with regard to the project is usually discussed during these evening meetings so that everyone feels they are part of the project, not just employees. This makes*

them own the project and hence work hard towards making it a reality."

(Engineer 4)

4.6.1. Correlational Analysis of Project Team Knowledge Diversity and Implementation of Building Construction Projects.

To determine the strength of association between project team knowledge diversity and implementation of building construction projects further analysis was carried out using the inferential technique. A correlational analysis using the Karl Pearson method was done and the results presented in Table 4.9.

Table 4. 9: Correlation between Project Team Knowledge Diversity and Implementation of Building Construction Projects.

Variable		Project Team Knowledge Diversity
Implementation of Building Construction Projects	Pearson Correlation	0.323*
	Sig. (2-tailed)	0.000
	n	221

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

The results in table 4.9 indicate that the correlation between knowledge diversity and implementation of building projects was moderate positive (0.323). Since the p-value is $0.000 < 0.05$, it means that the value of the coefficient is significant. It can therefore be concluded that an increment in knowledge diversity leads to an improvement in the implementation process.

4.6.2. Regression Analysis of Project Team Knowledge Diversity on Implementation of Building Construction Projects.

To measure what contribution project team knowledge diversity makes in implementation of building projects, a regression analysis was run and the results presented in various sub-themes as follows:

4.6.2.1. Model Summary of Regression of Project Team Knowledge Diversity and Implementation of Building Construction Projects.

The model summary is used to explain how significantly knowledge diversity as a predictor variable predicts the process of implementation of building projects. The regression model summary is presented in Table 4.10.

Table 4. 10: Model Summary of Project Team Knowledge Diversity

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	0.323[a]	0.104	0.100	0.52424	0.104	25.522	1	219	0.000

a. Predictors: (Constant), Project Team Knowledge Diversity

According to the results in table 4.10, the amount of variation in the process of implementation of building projects that is explained by knowledge diversity only is 10.4%. The value is considered significant since the reported p-value of 0.000 is less that the standard level of significance of 0.05. The remaining 89.6% is explained by other variables.

4.6.2.2. ANOVA of the Regression of Project Team Knowledge Diversity and Implementation of Building Construction Projects.

In this section, the research seeks to determine if knowledge diversity is the best match for prediction of implementation of building projects. Regression analysis was done and the results presented in table 4.11.

Table 4. 11: ANOVA of the Regression of Project Team Knowledge Diversity and Implementation of Building Construction Projects.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.014	1	7.014	25.522	0.000[b]
	Residual	60.187	219	0.275		
	Total	67.201	220			

a. Dependent Variable: Implementation of Building Construction Projects

b. Predictors: (Constant), Project Team Knowledge Diversity

According to the ANOVA outcome presented in table 4.11, the value of the F statistic is 25.522, with a p-value of $0.000 < 0.05$. This indicates that the F-statistic value is significant, hence the coefficient of the predictor variable, which in this case is knowledge diversity, is significant and different from zero. This led to rejection of the null hypothesis which was stated as, H_{01}: There is no significant relationship between project team knowledge diversity and implementation of building construction projects, and thus acceptance of the alternative hypothesis, which stated that, a significant difference existed between team knowledge diversity and building construction projects implementation. It is

therefore concluded that knowledge diversity significantly influences the implementation process in building projects. These findings are in tandem with those of other researchers such as Shin et al (2012) who in their research argued that diversity in knowledge enables members of the project team to borrow brilliant ideas, skills, expertise from their colleagues and come up with their own unique and creative ideas in a situation that needs it which in turn improves their performance hence making the project implementation process a success. The findings are also in tandem with those of Gong et al (2013) who claims that diversity in knowledge among workers increases their level of understanding of each other, making them get motivated towards learning new skills from colleagues which is a crucial ingredient for successful implementation of projects.

It also agrees with Turner (2009) who looked at how the education attainment of an employee affected performance in tasks given to them. The research found that a worker with high education attainment was at better position to understand instructions at work and work towards achievement of the organisational objectives. Kristinsson et al. (2016) in their study on the connection between diversity in knowledge and performance of teams, also agreed with this study findings by establishing that teams that are diverse in terms of knowledge and working on a similar project in a work place usually complete each other with regard to generation of new idea which are usually out into development of new products or services. Another study done by Kotur and Anbazhagan (2014) looked at how the experience level and education attainment of workers influenced the performance of the organisation. They concluded that higher and lower education attainments were detrimental individually to the performance but when a pool of workers is made up of diverse education attainments then the organisation benefits since the workers complement each other. The same conclusion was arrived at with regard to experience, where a mixture of workers with different experience levels was the most ideal for optimal organisational performance. The findings are however contradicting those of Ogubazghi and Muturi (2014) who in their research found out that diversity in knowledge among members of a project team may bring out both task and relationship conflicts, which if not well managed may have detrimental effects on the project implementation process.

4.6.2.3. Regression Coefficient of Project Team Knowledge Diversity and Implementation of Building Construction Projects.

This research sought to determine if knowledge diversity influence the process of building projects implementation. The regression coefficient results are given in Table 4.12.

Table 4. 12: Regression Coefficient of Project Team Knowledge Diversity on Implementation of Building Construction Projects.

coefficient

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	2.193	0.337		6.508	0.000
	Project Team Knowledge Diversity	0.471	0.093	0.323	5.052	0.000

a. Dependent Variable: Implementation of Building Construction Projects

The results of the simple linear regression carried out are shown in table 4.12 and they indicate that knowledge diversity significantly influences the process of building project implementation. The constant term is ($\beta_0 = 2.193, p = 0.000 < 0.05$) which is significant indicates that without diversity in knowledge among members of the project team, it is expected that there will be a change of 2.193 in the implementation process. The coefficient of knowledge diversity is ($\beta_1 = 0.471, p = 0.000 < 0.05$) which is significant shows that a change of one unit in knowledge diversity results in a change of 0.471 in the implementation process. The resultant linear equation governing the connection between knowledge diversity and the process of implementing building projects is given by;

$$Y = 2.193 + 0.471X_1$$

Where Y represents Implementation of building construction projects while X_1 denotes knowledge diversity.

4.7. Project Team Social Category Diversity and Implementation of Building Construction Projects.

The second research objective aimed at establishing the effect of social category diversity on implementation of building projects in Kajiado County. To achieve this, research respondents were required to tick appropriately on the box that best described their agreement level with regard to items touching on aspects on social category diversity. Data was collected and analyzed for both descriptive and inferential statistics. Respondents were required to respond to items asking them the indicate their agreement levels with regard to statements touching on social-category diversity. A five-point Likert scale was applied, such that; 5 – Strongly Agree, 4 – Agree, 3 – Neutral, 2 – Disagree, and 1 – Strongly Disagree. The results are shown in Table 4.13.

Table 4. 13: Project Team Social Category Diversity and Implementation of Building Construction Projects

	Statements	SA	A	N	D	SD	Mean	Std. Dev
1	Team benefits from the involvement of people from both genders	76	141	4	0	0	4.33	0.51
		34.4%	63.8%	1.8%	0.0%	0.0%		
2	A good mix of group members gender helps doing the task well	58	155	8	0	0	4.23	0.50
		26.3%	70.1%	3.6%	0.0%	0.0%		
3	Both genders are usually included in decision making process	38	151	6	21	5	3.89	0.88
		17.2%	68.3%	2.7%	9.5%	2.3%		
4	My age identity is a barrier to my career advancement	6	4	8	149	54	1.91	0.77
		2.7%	1.8%	3.7%	67.4%	24.4%		
5	I have not experienced conflicts within the team due to status difference between young and old workers	15	133	28	36	9	3.49	0.98
		6.8%	60.2%	12.6%	16.3%	4.1%		
6	This project provides equal development opportunities to all regardless of age	70	145	2	0	4	4.25	0.65
		31.7%	65.6%	0.9%	0.0%	1.8%		
7	Decision making teams include members of both the young and the old	86	131	0	0	4	4.33	0.67
		38.9%	59.3%	0.0%	0.0%	1.8%		
8	I am aware of the ethnic demographics of other employees in the project	25	118	9	65	4	3.44	1.09
		11.3%	53.4%	4.1%	29.4%	1.8%		
9	The ethnic diversity does not affect professional relationship within the team	37	141	10	4	29	3.69	1.17
		16.8%	63.8%	4.5%	1.8%	13.1%		
10	Ethnic diversity promotes healthy competition in team in achieving targets	38	116	58	4	5	3.81	0.82
		17.2%	52.5%	26.2%	1.8%	2.3%		
11	My religion influences my colleagues' attitudes towards me at work	15	7	11	108	80	1.95	1.07
		6.8%	3.2%	5.0%	48.9%	36.3%		
12	Religious diversity is a cause of conflict among employees in the project	0	0	13	119	89	1.66	0.59
		0.0%	0.0%	5.9%	53.8%	40.3%		
13	Religious discrimination usually undermines people's performance	40	17	20	97	47	2.57	1.39
		18.1%	7.7%	9.0%	43.9%	21.3%		
	Composite Mean and Std. Deviation						**3.35**	**0.28**

Item one sought to determine if involvement of both genders was beneficial to the team during the implementation process. Out of the 221 responses received, 34.4% (76) were in strong agreement with the item, 63.8% (141) were in agreement with the item, while the remaining1.8% (4) were neither in agreement nor disagreement with the line item. The average response for the line item was computed and found to be 4.33 and the corresponding deviation was 0.51 indicating that the respondents were in agreement with the item. This implies that involving both genders in the implementation of projects helps making the process successful.

Item two sought to establish if mixing genders in the workplace improves tasks doing. Among the 221 responses received, 26.2% (58) were in strong agreement with the item, 70.1% (155) were in agreement with the item, while the remaining 3.6% (8) were neither in agreement nor disagreement with the line item. The average response for the line item was computed and found to be 4.23 and the corresponding deviation was 0.50 indicating that the respondents were in agreement with the item. This implies that with a balanced gender mix tasks are well accomplished in construction projects being implemented in Kajiado County.

Item three sought to determine if decision making involves both genders. Out of the 221 responses received, 17.2% (38) were in strong agreement with the item, 68.3% (151) were in agreement with the item, 2.7% (6) were neither in agreement nor disagreement with the line item, 9.5% (21) were in disagreement with the item, while the remaining 2.3% (5) were in strong disagreement with the item. The average response for the line item was computed and found to be 3.89 and the corresponding deviation was 0.88 indicating that the respondents were in agreement with the item. This implies that decision making involved both genders in construction projects being implemented in Kajiado County.

Item four sought to establish if age was a barrier to carrier progression for individuals working in the construction projects in Kajiado County. Among the 221 responses received, 2.7% (6) were in strong agreement with the item, 1.8% (4) were in agreement with the item, 3.6% (8) were neither in agreement nor disagreement with the item, 67.4% (149) were in disagreement with the item, while the remaining 24.4% (54) were in strong disagreement with the line item. The average response for the line item was computed and found to be 1.91 and the corresponding deviation was 0.77 indicating that the respondents were in strong disagreement with the item. This implies that age was not barrier to carrier progression for individuals in construction projects being implemented in Kajiado County.

Item five sought to determine if there were no conflicts in construction workplaces arising from age differences in Kajiado County. Among the 221 responses received, 6.8% (15) were in strong agreement with the item, 60.2% (133) were in agreement with the item, 12.7% (28) were neither in agreement nor disagreement with the item, 16.3% (36) were in disagreement with the item, while the remaining 4.1% (9) were in strong disagreement with the line item. The average response for the line item was computed and found to be 3.49 and the corresponding deviation was 0.98 indicating that the respondents were neither in agreement nor disagreement with the item. This implies that no conflicts were caused by age differences among the construction workers in Kajiado County.

Item six sought to establish if opportunities for development were provided to all workers irrespective of age in Kajiado County. Out of the 221 responses received, 31.7% (70) were in strong agreement with the item, 65.6% (145) were in agreement with the item, 0.9% (2) were neither in agreement nor disagreement with the item, while the remaining 1.8% (4) were in strong disagreement with the line item. The average response for the line item was computed and found to be 4.25 and the corresponding deviation was 0.85 indicating that the respondents were in agreement with the item. This implies that opportunities for development were provided to all workers irrespective of age in the construction workers in Kajiado County.

Item seven sought to determine if decision making involved all workers irrespective of their age. Among the 221 responses received, 38.9% (86) were in strong agreement with the item, 59.3% (131) were in agreement with the item, while the remaining 1.8% (4) were in strong disagreement with the line item. The average response for the line item was computed and found to be 4.33 and the corresponding deviation was 0.61 indicating that the respondents were in agreement with the item. This implies that decision making involved all workers irrespective of their age in the construction workers in Kajiado County.

Item eight sought to establish if ethnic dissimilarities exist among workers in the construction industry in Kajiado County. Among the 221 responses received, 11.3% (25) were in strong agreement with the item, 53.4% (118) were in agreement with the item, 1.8% (4) were neither in agreement nor disagreement with the item, 29.4% (65) were in disagreement with the line item, while the remaining 1.8% (4) were in strong disagreement with the line item. The average response for the line item was computed and found to be 3.44 and the corresponding deviation was 1.09 indicating that the respondents were neither

in agreement nor disagreement with the item. This implies that ethnic differences exist among workers in the construction workers in Kajiado County.

Item nine sought to establish if ethnic difference did not affect professional relationships among workers in the project. Among the 221 survey respondents, those who were in strong agreement with the statement were 16.7% (37), those who were in agreement with the statement were 63.8% (141), those who were neither in agreement nor disagreement were 4.5% (10), those who were in disagreement with the statement were 1.8% (4), while the remaining 13.1% (29) were in strong disagreement with the statement. The average response was 3.69 with the corresponding deviation being 1.17, indicating that the respondents were in agreement with the line item. The high value of the standard deviation relative to the line average shows that there were high differences in the opinions of the respondents. It is therefore concluded that professional relationships existing among respondents was not affected by differences in ethnicity.

Item ten sought to determine if differences in ethnicity promote healthy competitions that are geared towards achievement of project goals. It was established that out of the 221 survey respondents, those who were in strong agreement with the statement were 17.2% (38), those who were in agreement were 52.5% (116), those who were neither in agreement nor disagreement were 26.2% (58), those who were in disagreement were 1.8% (4), while the remaining 2.3% (5) were in strong disagreement with the statement. The average response score for the statement was 3.81 while the corresponding deviation was 0.82, indicating that the respondents were in agreement with the statement though with some slight differences. It is therefore concluded that the differences in ethnicity was used well by the project management to enhance attainment of project goals.

Item eleven sought to establish the level of agreement of the respondents with the statement that sought to determine if religion influences the attitude of members of a project towards each other. Among the 221 respondents, those were in strong agreement with the statement were 6.8% (15), those who were just in agreement but not strongly were 3.2% (7), those who were neither in agreement nor disagreement with the item were 5% (11), those who were in disagreement with the statement were 48.9% (108), while the remaining 36.2% (80) were those who were in strong disagreement with the statement. The average statement response was 1.95 and the corresponding deviation was 1.07, indicating that the respondents disagreed with the statement but the high value for standard deviation shows a high degree of diversity

in responses. It is therefore concluded that in general that religion never influenced the attitudes of project workers towards one another.

Item twelve sought to determine if religion differences that exists among team members causes conflicts. Out of the 221 responses received, 5.9% (13) were in strong agreement with the item, 53.8% (119) were in agreement with the item, while the remaining 40.3% were in strong disagreement with the line item. The average response for the line item was computed and found to be 1.66 and the corresponding deviation was 0.59 indicating that the respondents were in strong disagreement with the item. This implies that there were no conflicts in construction projects being implemented in Kajiado County that were as a result of religion differences.

Item thirteen sought to determine if the performance of workers in the project was affected by discrimination along religious lines. Out of the 221 respondents, 18.1% (40) were in strong agreement with the item, 7.7% (17) were in agreement with the statement in general, 9% (20) were neither in agreement nor disagreement, 43.9% (97) were in disagreement with the statement, while the remaining 21.3% (47) were in strong disagreement with the statement. The average response for the line item was computed and found to be 2.57 and the corresponding deviation was 1.39 indicating that the respondents were neither in agreement nor disagreement with the item. This implies that workers in Kajiado County were not affected by discrimination along religious lines.

The researcher also carried out some interviews with key respondents who were believed to have crucial information regarding the project, with a view of getting to know how diversity in social categories of workers influences the process of implementation. Some of their responses are as follows;

One site engineer said:

> *"I like working with people of different age groups, the young adults bring in the energy and latest innovations, while the old folks provide the much-required experience. So ideally, the project environment is good when you have a mix of all ages." (Engineer 3)*

Another site engineer talked about the ethnic differences, he said:

"I have workers from about six different tribes in my site. I like the mix, since different cultures have different ways of doing things, when all are put together towards you easily achieve the project objective." (Engineer 1)

The statements of the two site engineers were in tandem with the findings from the quantitative data analyzed.

4.7.1. Correlational Analysis of Project Team Social Category Diversity and Implementation of Building Construction Projects.

Further analysis was carried out on quantitative data collected to establish the direction and magnitude of relationship between project team social category diversity and implementation of building construction projects. A correlation coefficient was computed using the Pearson method and the findings presented in Table 4.14.

Table 4. 14: Correlation between Project Team Social Category Diversity and Implementation of Building Construction Projects.

Variable		Project Team Social Category Diversity
Implementation of Building Construction Projects	Pearson Correlation	0.240*
	Sig. (2-tailed)	0.000
	n	221

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

The Pearson correlation coefficient of 0.240 in table 4.14 which is flagged significant at 5% significance level $(p - value = 0.000 < 0.05)$ shows that there exists a weak positive correlation between project team social category diversity and implementation of building construction projects. This indicates that there is a significant relationship between project team social category diversity and implementation of building construction projects, leading to rejection of the null hypothesis ($2H_0$: There is no significant relationship between project team social category diversity and implementation of building construction projects) and acceptance of the alternative hypothesis, and therefore, the study concluded that there was a significant relationship between project team social category diversity and implementation of building construction projects. This is in agreement with a study by Baumeister and Bushman (2020) that the differences between members of a team should be merged to improve project productivity. The findings are divergent to those of Loosemore and

Andonakis (2006) that certain groups are likely to be problematic due to their cultural orientation hence slowing the project progress.

4.7.2. Regression Analysis of Project Team Social Category Diversity and Implementation of Building Construction Projects.

A regression model was developed to generate an equation that governs the relationship between project team social category diversity and implementation of building construction projects. These are further discussed in the subsequent sub-themes.

4.7.2.1. Model Summary of Regression of Project Team Social Category Diversity and Implementation of Building Construction Projects.

The model summary sought to establish how project team social category diversity as predictor significantly or insignificantly predicted implementation of building construction projects. The regression model summary is presented in Table 4.15.

Table 4. 15: Model Summary of Project Team Social Category Diversity and Implementation of Building Construction Projects

Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	0.240[a]	0.058	0.053	0.53777	0.058	13.369	1	219	0.000

a. Predictors: (Constant), Project Team Social Category Diversity

Table 4.15 of the model summary shows that there was a positive correlation (R = 0.240) between project team social category diversity and implementation of building construction projects with those predicted by the regression model. In addition, 5.8% of the variation in the implementation of building construction projects was explained by project team social category diversity while the remaining 94.2% is explained by other variables not in the model.

4.7.2.2. ANOVA of Regression of Project team Social Category Diversity and Implementation of Building Construction Projects.

The study aimed at determining if the regression model was best match for predicting implementation of building construction projects after employing project team social category diversity. The results of the regression coefficient are presented in Table 4.16.

Table 4. 16: ANOVA of Regression of project Team Social Category Diversity and Implementation of Building Construction Projects.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.866	1	3.866	13.369	0.000[b]
	Residual	63.335	219	0.289		
	Total	67.201	220			

a. Dependent Variable: Implementation of Building Construction Projects

b. Predictors: (Constant), Project Team Social Category Diversity

The ANOVA results on Table 4.16 point out that F-statistic (1,219) = 13.369 is significant at p – value 0.000 < 0.05 indicating that the predictor coefficient was at least not equal to zero and hence the regression model results were better prediction of implementation of building construction projects after use of project team social category diversity. These results are in agreement with the conclusion of a study done by Gellert and Schalk (2012), who concluded that having a workforce that is diverse in terms of experience, age, education level, and gender was key in improving the performance of the employees hence facilitating the project implementation process. The results also agree with those of Baumeister and Bushman (2010) whom in their research claimed that for higher performance from the team members, there should be a convergence of interests between those of the group and those of the individual team members. Wegge et al (2008) in their study on the association that existed between gender and age diversity and the performance of groups, they found that age diverse and gender diverse team performed better than teams that were homogeneous in terms of age and gender. They recommended that better performance in project implementation if age and gender heterogeneity are considered when setting up teams to implement the projects. Several other studies such Richard (2000) and Elsaid (2012), all established that having a team that is diverse in terms of social aspects is key in enhancing project implementation success.

4.7.2.3. Regression Coefficient of Project Team Social Category Diversity and Implementation of Building Construction Projects.

The study sought to establish whether there was influence of project team social category diversity on implementation of building construction projects. The regression coefficient results are presented in Table 4.17.

Table 4. 17: Regression Analysis of Project Team Social Category Diversity and Implementation of Building Construction Projects.

Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.659	0.338		7.878	0.000
	Project Team Social Category Diversity	0.365	0.100	0.240	3.656	0.000

a. Dependent Variable: Implementation of Building Construction Projects

The simple linear regression results in Table 4.17 suggest that there was an influence of project team social category diversity on implementation of building construction projects. The coefficient constant terms ($\beta_0 = 2.659, p < 0.05$) and project team social category diversity $\beta_1 = 0.365, p < 0.05$) were statistically significant. The regression model for implementation of building construction projects on project team knowledge diversity was $Y = 2.659 + 0.365X_2$ indicating that for each unit of project team social category diversity, implementation of building construction projects is marginally transformed by 0.365 units. It was therefore, concluded that project team social category diversity and implementation of building construction projects are positively and linearly related.

4.8. Project Team Value Diversity and Implementation of Building Construction Projects.

This section seeks to determine if there exists a significant association between project team value diversity and implementation process of building projects in Kajiado County, which is the third objective of the study. Respondents were requested to respond to Likert type questions by ticking a value that best describes their agreement level with the stated statements. The measurement ranged from 1 – 5 with 5 – Agree Strongly, 4 – Agree, 3 – Neutral, 2 – Disagree and 1 – Disagree Strongly. The results are shown in table 4.18.

Table 4. 18: Project Team Value Diversity and Implementation of Building Construction Projects.

	Statement	SA	A	N	D	SD	Mean	Std. Dev.
1	Achievement is rewarded	81	21	37	78	4	3.44	1.34
		36.7%	9.5%	16.7%	35.3%	1.8%		
2	Diverse personality exists	33	153	8	0	27	3.75	1.11
		14.9%	69.2%	3.7%	0.0%	12.2%		
3	Different cultures are accommodated	92	117	8	4	0	4.34	0.64
		41.6%	52.9%	3.7%	1.8%	0.0%		
4	Project members are true to their values	98	119	4	0	0	4.43	0.53
		44.4%	53.8%	1.8%	0.0%	0.0%		
5	I always keep my promises	116	99	4	2	0	4.49	0.59
		52.6%	44.8%	1.8%	0.9%	0.0%		
6	I believe honesty is the basis for trust	93	120	0	4	4	4.33	0.74
		42.1%	54.3%	0.0%	1.8%	1.8%		
7	There is good teamwork and cooperation in the project	64	127	20	10	0	4.11	0.74
		29.0%	57.5%	9.0%	4.5%	0.0%		
8	Project members motivate each other to come up with efficient ways of doing work	71	98	4	48	0	3.87	1.09
		32.1%	44.4%	1.8%	21.7%	0.0%		
9	Project members encourage each other at work	44	169	4	4	0	4.14	0.52
		19.9%	76.5%	1.8%	1.8%	0.0%		
10	We engage in team building activities in this project	88	120	9	4	0	4.32	0.64
		39.8%	54.3%	4.1%	1.8%	0.0%		
11	Project members listen to each other	53	157	7	4	0	4.17	0.56
		24.0%	71.0%	3.2%	1.8%	0.0%		
12	All individual differences are respected in the project	103	109	5	4	0	4.41	0.63
		46.6%	49.3%	2.3%	1.8%	0.0%		
	Composite Mean and Std. Dev.						**4.15**	**0.43**

Table 4.18 provides feedback from respondents on their agreement level with items that measure the project team value diversity in building construction projects in Kajiado County. These results are described item-wise as follows;

Item one sought to determine if achievement was rewarded. Among the 221 respondents, those who were in strong agreement with the statement were 36.7% (81), those who were in agreement were 9.5% (21), those who were neither in agreement nor disagreement were

16.7% (37), those who were in disagreement were 35.3% (78), while the remaining 1.8% (4) were in strong disagreement with the statement. The average score for the item was 3.44 with a corresponding deviation of 1.34. This shows that the respondents were neither in agreement nor disagreement with the statement. The high value of the standard deviation on the other hand, shows that the variance in the responses was high. It is concluded that, achievement is not always rewarded in Kajiado County. There is need for the management of projects to reward the achievers so as to motivate others.

Item two sought to establish if there was the existence of people with diverse personalities among the project team. Out of the 221 respondents, 14.9% (33) were in strong agreement, those in agreement were 69.2% (153), those who were neither in agreement nor disagreement were 3.6% (8), while those who were in disagreement strongly with the statement were 12.2% (27). The average response score for the item was 3.75 with a corresponding deviation of 1.11. This shows that the respondents were in agreement with the statement. The high value of the standard deviation on the other hand, shows that the variance in the responses was high. It is concluded that, the project team was made up of people with personalities that are diverse in Kajiado County.

Item three sought to determine if different cultures are accommodated. Among the 221 respondents, 41.6% (92) were strongly in agreement with the item, 52.9% (117) were in general agreement, 3.6% (8) were neither in agreement nor disagreement, while the remaining 1.8% (4) were generally in disagreement. It is noted that none of the respondents were in strong disagreement with the item. The average response for the item was 4.34 with a corresponding deviation of 0.64. This indicates that the respondents were in strong agreement with the item showing that the respondents. The standard deviation was low relative to the mean depicting a low divergence in values. It is concluded that divergent cultures are accommodated in the building sector in Kajiado County.

Item four sought to determine if the members of the project team stuck to their values. Among the 221 respondents, 44.3% (98) were strongly in agreement with the item, 53.8% (119) were in agreement with the item, those who were neither in agreement nor disagreement with the item were 1.8% (4). There were no respondents who were in disagreement and strongly disagreement with the item. The average response for the item was 4.43 with a corresponding deviation of 0.53. This shows that the respondents were in

strong agreement with the item. The low standard deviation was shows convergence in responses. It is therefore concluded that project members were true to their values.

Item five sought to determine if the members of the project team kept their promises. Among the 221 responses received, 52.5% (116) were in strong agreement with the item, 44.8% (99) were in agreement with the item, 1.8% (4) were neither in agreement nor disagreement with the item, those who were in disagreement with the item were 0.9% (2), while the remaining 1.8% (4) were in strong disagreement with the item. The average response score is 4.49 with a corresponding deviation of 0.59. This shows that the respondents were in strong agreement with the item. The low deviation indicates convergence in responses. It is concluded that the members of the project team in Kajiado county always kept their promises.

Item six sought to determine if honesty was the basis for trust among members of the project team. Those who were in strong agreement with the item were 42.1% (93), those who were in general agreement were 54.3% (120), those who were in disagreement with the item were 1.8% (4), and the remaining 1.8% (4) were in strong disagreement. The average score for the item is 4.33 with a corresponding deviation of 0.74. This indicates that the respondents were in agreement with the statement. The high deviation value indicates that there was divergence in opinions regarding honesty. It is concluded that honesty was the basis for trust among members of the project.

Item seven sought to establish if teamwork and cooperation existed among members of the project team. Among the 221 project respondents, 29% (64) were in strong agreement with the statement, 57.5% (127) were in general agreement with the statement, those who were neither in agreement nor disagreement with the statement were 9% (20), while the remaining 4.5% (10) were in general disagreement with the item. The average score for the item was 4.11 with a corresponding deviation of 0.74. This indicates that the respondents were generally in agreement with the statement. The implication of this is that among team members in the projects in Kajiado county, teamwork and cooperation existed. In as much as majority of the respondents agreed with the statement, the high value of the standard deviation indicates a slight divergence in responses.

Item eight sought to determine if project members motivated each other to come up with efficient and effective ways of working. Out of the 221respondents, it was established that 32.1% (71) were in strong agreement with the statement, 44.3% (98) were in agreement

generally, those who were neither in agreement nor disagreement with the statement were 1.8% (4), while the remaining 21.7% (48) were in disagreement with the statement. There were however no individuals who were in strong disagreement with the statement. The average response score was 3.87 with a corresponding deviation of 1.09. This indicates that the respondents were in agreement with the statement though the high value of the standard deviation shows that there was great divergence in responses. It is concluded in general that members of the project teams motivated each other while working to come up with efficient ways of working.

Item nine sought to determine if members encouraged each other while working. Among the 221 responses received, it was established that 19.9% (44) were in strong agreement with the statement, 76.5% (169) were in agreement with the statement, those who were neither in agreement nor disagreement were 1.8% (4), while those who were in disagreement were 1.8% (4). There were no individuals who were in strong disagreement with the statement. The average score response is 4.14 with a corresponding deviation of 0.52. This shows that the respondents were in agreement with the statement and the low deviation level indicates the respondents had convergent views. It is concluded that members encouraged each other in their places of work in Kajiado County.

Item ten sought to determine if team building was encouraged within the project setting. Among the 221 survey respondents, it was established that 39.8% (88) of the respondents were in strong agreement with the item, 54.3% (120) were in agreement, 4.1% (9) were neither in agreement nor disagreement with the statement, the respondents who were in disagreement with the statement were 1.8% (4), while none of the respondents were in strong disagreement with the statement. The average response rate is 4.32 with a corresponding deviation of 0.64, showing that the survey respondents agreed generally with the item. The low value of the standard deviation indicates that the response were convergent. It is therefore concluded that the project managers in Kajiado county encouraged team building.

Item eleven sought to determine if members of the project team considered each other's opinions. Among the 221 study respondents, 24% (53) were in strong agreement with the statement, 71% (157) were in agreement with the statement, those who were neither in agreement nor disagreement were 3.2% (7), while the remaining 1.8% (4) were in strongly disagreement with the statement. The average score for the item was 4.17 with a corresponding deviation of 0.56, showing that the survey respondents agreed generally with

the item. The low value of the standard deviation indicates that there was convergence in respondents' opinions. It is concluded that members of project team considered each other's opinions.

Item twelve sought to determine if individual team members differences are respected in the project implementation process. Among the 221 survey respondents, those who were in strong agreement with the statement were 46.6% (103), those who were generally in agreement with the statement were 49.3% (109), those who were neither in agreement nor disagreement with the statement were 2.3% (5), while the remaining 1.8% (4) were in general disagreement with the statement. None of the respondents were in strong disagreement with the statement. The average response for the statement is 4.41 with the corresponding deviation of 0.63. The value the average score indicates that the respondents were in strong agreement with the item showing that the differences that exist among members of a project team are usually respected. The value of the deviation is a bit low showing that the respondents had convergent responses.

Interviews were also carried out with a view of getting in-depth information on the association between diversity in values of project team workers and the process of implementation of building projects in Kajiado county. Some of the responses received are presented as follows;

> *"I like working with people who have the same work values as mine since this makes us gel and work harmoniously towards attainment of the objectives of the project." (Engineer 3)*

Another respondent who was the project managers said;

> *"While looking for people to employ in the project to make part of the team, I always ask them tell me their work ideologies, what their views of workmates are, and what they believed in. In doing so, I get to know the kind of people I employ and I also know how to deal with them when working on the project implementation." (Project Manager 2)*

4.8.1. Correlational Analysis of Project Team Value Diversity and Implementation of Building Construction Projects.

Using the method of coefficient correlation espoused by Pearson, this study sought to determine the direction and strength of association that exists between diversity in values of project workers and the process of implementation of building projects. The outcome of the analysis are presented in table 4.19.

Table 4. 19: Correlation between Project Team Value Diversity and Implementation of Building Construction Projects.

Variable		Project Team Value Diversity
Implementation of Building Construction Projects	Pearson Correlation	0.401*
	Sig. (2-tailed)	0.000
	n	221

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

According to the results in table 4.19, it was established that there was a moderate and positive association between the two variables, that is, value diversity and project implementation. This is indicated by the significant correlation coefficient computed using the Pearson's method which was 0.401, and the $p - value = 0.000 < 0.05$. The positive value of the coefficient of correlation shows that the two variables move in the same direction, meaning an increase in value diversity leads to an increase in efficiency and effectiveness of project implementation. In the context of Kajiado county, it is inferred that when there is increased value diversity then the process of implementation of building construction projects will be better.

4.8.2. Regression Analysis of Project Team Value Diversity on Implementation of Building Construction Projects.

A regression analysis was carried out with a view of generating a regression equation that connects implementation of building projects in the construction sector with value diversity. The procedure followed is described in the following parts.

4.8.2.1. Model Summary of Regression of Project Team Value Diversity and Implementation of Building Construction Projects.

The aim of the summary of the model is to determine if value diversity is a significant or insignificant predictor of implementation of building projects in the construction sector. The

outcome is presented in Table 4.20.

Table 4. 20: Model Summary of Project Team Value Diversity and Implementation of Building Construction Projects

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	0.401[a]	0.161	0.157	0.5075	0.161	41.877	1	219	0.000

a. Predictors: (Constant), Project Team Value Diversity

According to results in table 4.20, approximately 16.1% of the changes in implementation of construction projects in the building sector are attributable to value diversity. This is indicated by the value of R squared which is 0.161, this contribution is significant since the p-value corresponding to it is 0.000 which is not greater than the level of significance of 0.05 adapted by this research study.

4.8.2.2. ANOVA of Regression of Project team Value Diversity and Implementation of Building Construction Projects.

To determine if the regression model was best at predicting the association between value diversity and implementation of construction projects of building nature as well as testing the third null hypothesis which stated that project team value diversity has no significant influence on the implementation of building construction projects in Kajiado county, an analysis of variance (ANOVA) was carried out and the results presented in table 4.21.

Table 4. 21: ANOVA of Regression of Project Team Category Value and Implementation of Building Construction Projects.

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.787	1	10.787	41.877	0.000[b]
	Residual	56.413	219	.258		
	Total	67.201	220			

a. Dependent Variable: Implementation of Building Construction Projects

b. Predictors: (Constant), Project Team Value Diversity

Based on the F-statistic in table 4.21 having ANOVA results, which indicates that the value of the beta coefficient for value diversity was different from zero, it is concluded that project team value diversity is a significant predictor of implementation of building construction projects ($F(1,219) = 41.877$, p-value $= 0.000 < 0.05$). This in turn led to the rejection of the third null hypothesis which stated, project team value diversity has no significant influence on implementation of building construction projects and hence acceptance of the alternative hypothesis at the 5% level of significance. Therefore, the study concludes that value diversity among members of a building construction project team influence the process of implementation of projects. The findings on value diversity among project team members are in tandem with studies such the one done by Chou et al. (2008). They observed that if team members share the same values, then the chances of having conflicts as a result of the relationships among them are very slim, they also enjoy higher levels of social integration, in addition to better identification within the groups, this is turn has a positive influence on the implementation of projects. The findings are also in line with those of Liang et al (2012) who claimed in their research that when team members share values that are related to work, then they experience low to no task conflicts while implementing projects, this enables them work together as a team and they end up achieving the project goals as planned. Liang et al (2007) also argue that when work values among team members are different, friction and tension are usually high which end up negatively affecting the process of implementing the projects.

4.8.2.3. Regression Coefficient of Project Team Value Diversity and Implementation of Building Construction Projects.

This section seeks to determine the contribution of project team diversity towards the implementation of building construction projects. The regression coefficient results are presented in Table 4.22.

Table 4. 22: Regression Analysis of Project Team Value and Implementation of Building Construction Projects.

Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.748	0.332		5.260	0.000
	Project Team Value Diversity	0.515	0.080	0.401	6.471	0.000

a. Dependent Variable: Implementation of Building Construction Projects

The results in table 4.22 show that value diversity among workers in a building construction project influences its implementation. The coefficient of the constant term was found to be $(\beta_0 = 1.748, p = 0.000 < 0.05)$ and that of project team value diversity was found to be $(\beta_1 = 0.515, p = 0.000 < 0.05)$ and both were statistically significant based on the comparison of the p-values generated from the analysis and the 0.05 standard value for the acceptable level of significance that was adapted by this research study. The resultant regression model that governs the relationship that exists between the two variables was therefore given as;

$$Y = 1.748 + 0.515X_3$$

This shows that when value diversity increases by a single unit, it leads to a marginal increase of 0.515 in the process of implementation of building construction projects.

4.9. Combined Project Team Diversity and Implementation of Building Construction Projects

The fourth research objective was to establish the influence of Combined Project Team Diversity on the implementation of Building Construction Projects. Project Team Diversity was conceptualized using Knowledge Diversity, Social Category Diversity and Value Diversity. Data was collected on the three indicators of combined project team diversity then a Pearson correlation coefficient computed to determine the direction as well as the strength of association between the composite team diversity and building construction projects

implementation. Multiple linear regression analysis was done and finally a hypothesis was tested. The results are discussed further in the subsequent sub themes:

Table 4. 23: Combined Project Team Diversity and Implementation of Building Construction Projects.

Variable	n	Mean	Std. Dev.
Knowledge Diversity	221	3.61	0.37
Social Category Diversity	221	3.35	0.28
Value Diversity	221	4.15	0.43
Composite Mean and Standard Deviation		**3.73**	**0.33**

Table 4.23 shows that knowledge diversity had a mean of 3.61 which is less that the composite mean of 3.73, this implies that knowledge diversity had less influence on the implementation of building construction projects. The standard deviation for knowledge diversity was however higher than the composite standard deviation, this shows variability in views. Social category diversity had a mean of 3.35 which is less than the composite mean of 3.73, this shows that the variable did have less influence on the implementation of building construction projects. However, the standard deviation for social category diversity of 0.28 was less than the composite standard deviation of 0.33, this shows convergence of views of the respondents. The results further show that value diversity had a mean of 4.15, this was higher than the composite mean indicating that value diversity had greater influence on the implementation of building construction projects. The standard deviation of 0.433 is higher than the composite standard deviation of 0.33 showing divergent opinion among the respondents.

4.9.1. Correlation Analysis of Combined Project Team Diversity and Implementation of Building Construction Projects.

Data collected on the three indicators, that is, knowledge diversity, social category diversity and value diversity was used to compute the mean and standard deviation of the variables. A bivariate correlation analysis was conducted to check for the nature, direction, and magnitude of association between building construction projects implementation and the predictor variable which was team diversity. The results are in Table 4.24.

Table 4. 24: Correlation between Combined Project Team Diversity and Implementation of Building Construction Projects

Variable		Project Team Knowledge Diversity	Project Team Social Category Diversity	Project Team Value Diversity	Combined Project Team Diversity
Implementation of Building Construction Projects	Pearson Correlation	0.323*	0.240*	0.401*	0.309*
	Sig. (2 -tailed)	0.000	0.000	0.000	0.000
	n	221	221	221	221

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

According to the outcome in table 4.24, there exists a significant association between team knowledge diversity and the process of implementation of construction projects of building nature that is moderately positive as shown by $r = 0.323, p = 0.000$. The table also indicates the existence of a significant nexus between social-category diversity and the process of implementation of construction projects of building nature that is weak positive as shown by $r = 0.240, p = 0.000$. In addition, a significant relationship that is moderately positive exists between value diversity and the process of implementation of construction projects of building nature that is moderately positive as shown by $r = 0.401, p = 0.000$. Lastly, as a composite of the three diversities, that is knowledge, social-category, and value, there is a significant association between team diversity and the process of implementation of construction projects of building nature that is moderately positive as shown by $r = 0.309, p = 0.000$.

4.9.2. Regression Analysis of Project Team Diversity and Implementation of Building Construction Projects.

Further inferential analysis was done to develop a regression model that governs the relationship between project team diversity and implementation of building construction projects. These are further discussed in the following sub-themes.

4.9.2.1. Model Summary of Regression of Combined Project Team Diversity and Implementation of Building Construction Projects.

The model summary sought to establish how combined project team diversity as predictor

variable, either significantly or insignificantly predicted building construction projects implementation process. The regression model summary results are presented in Table 4.25.

Table 4. 25: Model Summary of Project Team Diversity and Implementation of Building Construction Projects

Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	0.506[a]	0.256	0246	0.47987	0.256	24.942	3	217	0.000

a. Predictors: (Constant), Project Team Knowledge Diversity, Project Team Social Category Diversity, Project Team Value Diversity

Table 4.25 gives the summary of the regression model. It indicates that the strength of association between the combined diversities (knowledge, social-category, and value) and the process of implementation of construction projects of building nature that is strong positive as shown by $r = 0.506$. Additionally, the table shows that the amount of changes in the process of implementation of construction projects of building nature that is explained by the team diversity is approximately 25.6%, the remaining 74.4% of the changes are explained by others factors that were not considered in this study. The values are also significant as shown by $p - value = 0.0000 < 0.05$. This outcome in in line with that of Wu et al (2019) who reported a significant positive nexus between diversity in team and construction project performance.

4.9.2.2. ANOVA of Regression of Project Team Diversity and Implementation of Building Construction Projects.

The study aimed at establishing if the regression model was best fit for predicting implementation of building construction projects after employing project team diversity. The results of the regression coefficient are presented in Table 4.26.

Table 4. 26: ANOVA of Regression of Project Team Diversity and Implementation of Building Construction Projects.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.231	3	5.744	24.942	0.000[b]
	Residual	49.970	217	0.230		
	Total	67.201	220			

a. Dependent Variable: Performance

b. Predictors: (Constant), Value, Knowledge, Social

Table 4.26 shows that there exists a significant relationship between project team diversity and implementation of building construction projects as shown by $F = 24.942$ and a $p - value = 0.000$ which is less than 0.05. This implies that the regression model developed is significantly a better predictor of implementation of building construction projects. These findings are in line with findings of other researchers such as; Jehn et al., (1999), Sargent and Sue-Chan (2001), who showed that the diversity of project teams has a significant positive influence on building construction projects implementation. The results are also in agreement with the results of a study done by Baumeister and Bushman, (2010) who claimed that a convergence of personal interests with project goals leads to improved productivity in workers hence leading to successful project implementation.

4.9.2.3. Regression Coefficient of Combined Project Team Diversity and Implementation of Building Construction Projects.

The study sought to establish whether there was influence of combined project team diversity on implementation of building construction projects. Multiple linear regression was used and the results are presented in Table 4.27.

Table 4. 27: Regression Coefficient of Combined Project Team and Implementation of Building Construction Projects.

Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	0.069	0.456		0.151	0.880
	Project Team Knowledge	0.412	0.089	0.283	4.610	0.000
	Project Team Social Category	0.108	0.096	0.071	1.132	0.259
	Project Team Value	0.475	0.077	0.369	6.141	0.000

a. Dependent Variable: Implementation of Building Construction Projects

Table 4.27 shows that all the coefficients of the indicators of project team diversity were significant. Knowledge diversity gives a contribution of 0.412 ($p = 0.000 < 0.05$), Project team social category diversity gives a contribution of 0.108 ($p = 0.259 < 0.05$), showing that the contribution is not statistically significant and lastly, Project team value diversity contributing 0.475 ($p = 0.000 < 0.05$), all to Implementation of Building Construction Projects. Hence, project team knowledge diversity and project team value diversity had a significant contribution on implementation of building construction projects and a better predictor than project team knowledge diversity whereas project team social category diversity does not have a significant contribution. The findings also showed that in the absence of all the three indicators for project team diversity, implementation of building construction projects would still increase by 0.069 units. The results in Table 4.27 led to the development of the following model. $Y = 0.069 + 0.412X_1 + 0.108X_2 + 0.475X_3$.

4.10. Interpersonal Conflict and Implementation of Building Construction Projects

The fifth objective for the research was to establish the influence of interpersonal conflict between project team members on implementation of building construction projects. Data was collected from respondents on their level of agreement or disagreement with statements regarding interpersonal conflict in their places of work. The items were based on a Likert scale of 1 – 5 where; 5 – Strongly Agree, 4 – Agree, 3 – Neutral, 2 – Disagree and 1 – Strongly Disagree. The findings are presented in Table 4.28.

Table 4. 28: Interpersonal Conflict and Implementation of Building Construction Projects

	Statement	SA	A	N	D	SD	Mean	Std. Dev
1	We do tasks in harmony	64	153	4	0	0	4.27	0.48
		29.0%	69.2%	1.8%	0.0%	0.0%		
2	There exist opinion differences between project team members	23	117	16	32	33	3.29	1.27
		10.5%	52.9%	7.2%	14.5%	14.9%		
3	We have conflicts about ideas generation in our work place	32	10	16	125	38	2.43	1.25
		14.5%	4.5%	7.2%	56.6%	17.2%		
4	Team members dislike each other	32	116	24	18	31	3.45	1.24
		14.5%	52.5%	10.9%	8.1%	14.0%		
5	Personality conflicts are evident in our work unit	0	4	25	159	33	2.00	0.58
		0.0%	1.8%	11.4%	71.9%	14.9%		
6	There's tension among team members	0	2	5	117	97	1.60	0.58
		0.0%	0.9%	2.3%	52.9%	43.9%		
7	Emotional conflict is there among members in your work unit	13	9	2	82	115	1.75	1.08
		5.9%	4.1%	0.9%	37.1%	52.0%		
	Composite Mean and Std. Deviation						**2.68**	**0.47**

The results in Table 4.28 show the responses with regard to interpersonal conflict. Statement 1 that project team members do tasks in harmony, the results show that 64 (29%) of the respondents strongly agreed, 153(69.2%) agreed, while 4(1.8%) were not sure. The mean score was 4.27 and a standard deviation of 0.48 indicating strong agreement. This shows that the study respondents strongly agreed with the statement that they do tasks in harmony. This is in line with line item mean of 4.27 which is higher than the composite mean of 2.68, implying this influences implementation of building construction projects positively. The standard deviation shows convergence in opinions since it is almost equal to the composite standard deviation.

Statement 2 that opinion differences exist, based on this, 23(10.4%) of the respondents strongly agreed, 117(52.9%) agreed, 16(7.2%) were not sure, 32(14.5%) disagreed, and 33(14.9%) strongly disagreed with the item. The mean score was 3.29 and a standard deviation of 1.27, showing that the respondents were not sure. This is evidenced by line item mean of 3.29 which is higher than the composite mean of 2.68. A higher standard deviation of the line item implies variability of opinions.

On statement 3 that we have conflicts about ideas generation in work place, 32(14.5%) respondents strongly agreed, 10(4.5%) agreed, 16(7.2%) were not sure, 125(56.6%) disagreed while 38(17.2%) strongly disagreed with the statement. The mean score was 2.43 with a standard deviation of 1.25, this shows the respondents disagreed with the statement. This implies that this statement does not affect implementation of building construction projects. The high line standard deviation indicates variability in opinions.

Statement 4, that team members disliked each other, the results indicated that 32(14.5%) strongly agreed, 116(52.5%) agreed, 24(10.9%) were not sure, 18(8.1%) disagreed and 31(14%) strongly disagreed with the statement. The mean score was 3.45 with a standard deviation of 1.24, showing agreement with the statement. This implies that the respondents agree that project team members disliked each other. This implies that the implementation of building construction may be influenced by the statement. The higher line item standard deviation of 1.24 compared to the composite standard deviation of 0.47 indicates greater variability in the opinions of the respondents.

Statement 5 that personality conflicts exist. Based on this, 4(1.8%) agreed, 25(11.3%) were not sure, 159(71.9%) disagreed while 33(14.9%) strongly disagreed. The mean score was 2.00 with a standard deviation of 0.58, indicating disagreement with the statement. The findings show that the respondents believed personality conflicts did not exist in building construction projects. This implies that the implementation of building construction projects may not be affected due to a low mean of 2.00 compared to the composite mean of 2.68. The line item standard deviation indicates slight divergence in the respondents' opinions.

On statement 6 that tension existed between project team members. Based on this, 2(0.9%) respondents agreed, 5(2.3%) were not sure, 117(52.9%) disagreed and 97(43.9%) strongly disagreed. The mean score was 1.60 with a standard deviation of 0.58, showing strong agreement with the statement. It was therefore concluded that respondents believed tensioned did not exist between project team members in building construction projects in Kajiado County. This is not expected to influence implementation of building construction projects.

Statement 7 that emotional conflicts exists among project team members. The study indicated that 13(5.9%) respondents strongly agreed, 9(4.1%) agreed, 2(0.9%) were not sure, 82(37.1%) disagreed and 115(52%) strongly disagreed. The mean score was 1.75 and a standard deviation of 1.08, showing strong disagreement. This indicates that the respondents strongly disagreed with the statement that emotional conflict exist in the building construction projects in Kajiado County. This indicated that emotional conflicts did not exist among project team members in Kajiado County and hence is not expected to affect implementation of building construction projects.

On the open-ended questions in the questionnaire the respondents were asked to indicate some of the conflicts they encountered while working in this project. Respondents indicated that the major conflict they encountered was due to task allocation, they felt that the project supervisor was allocating tasks depending on how close they were with the project workers, this in turn led to the workers not working together as a team. The other source of conflict was younger project team workers not respecting the older workers in the project site. Respondents were also asked to suggest actions that can be undertaken to reduce interpersonal conflicts among project team members. They indicated that the project team leader should not be biased during tasks allocation and speaking in vernacular languages should be discouraged while people are at work, since this makes some people feel out of place and less motivated to work.

Results from in depth interviews with project site engineers showed that interpersonal conflict did not exist in the project site. One engineer said;

> *"I have never seen these workers fight here or quarrel due to the work they are given. They complain sometimes due to the nature of the work allocated to them but rarely make it a very big issue" (Engineer 5)*

4.10.1. Correlational Analysis of Interpersonal Conflict and Implementation of Building Construction Projects.

The study sought to determine the nature, strength and direction of relationship between interpersonal conflict and implementation of building construction projects. A bivariate correlation was done based on Pearson's method and the findings presented in Table 4.29.

Table 4.29: Correlation between Interpersonal Conflict and Implementation of Building Construction Projects.

Variable		Interpersonal Conflict
Implementation of Building Construction Projects	Pearson Correlation	0.145*
	Sig. (2-tailed)	0.032
	n	221

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

The findings on Table 4.29 indicate a weak positive association exists between interpersonal conflict and implementation of building construction projects ($r = 0.145$). This is significant statistically since it had a $p - value = 0.032$ which is less than 0.05 the standard significance level. This led to the null hypothesis rejection ($4H_0$: There is no significant relationship between interpersonal conflict and implementation of building construction projects) and subsequent taking of the alternative hypothesis, and therefore, the study concluded that a statistically significant association existed between interpersonal conflict and implementation of building construction projects. This agrees with the findings of a research by Brockman's (2014) who claimed that interpersonal conflict influenced the performance of projects.

4.10.2. Regression Analysis of Interpersonal Conflict on Implementation of Building Construction Projects.

To establish the contribution of interpersonal conflict on the implementation of building construction projects, a simple linear regression analysis was done and these are further discussed in the following sub-thematic areas.

4.10.2.1. Model Summary of Regression of Interpersonal Conflict and Implementation of Building Construction Projects.

The model summary sought to establish how interpersonal conflict as predictor significantly or insignificantly predicted implementation of building construction projects. The rationale was to find out if interpersonal conflict best predicted implementation of building construction projects. The regression model summary results are presented in Table 4.30.

Table 4. 30: Model Summary of Interpersonal Conflict and Implementation of Building Construction Projects

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	0.145[a]	.021	0.016	0.54812	0.021	4.679	1	219	0.032

a. Predictors: (Constant), Interpersonal

Table 4.30 gives the summary of the regression model. It indicates that the strength of association between interpersonal conflicts and the process of implementation of construction projects of building nature is weak positive as shown by $r = 0.145$. Additionally, the table shows that the quantity of changes in the process of implementation of construction projects of building nature that is explained by interpersonal conflicts is approximately 2.1%, the remaining 97.9% of the changes are explained by others factors that were not considered in the model. The values are also significant as shown by $p - value = 0.032 < 0.05$. This outcome is in contrast to that of Jiang et al., (2013) who claimed that interpersonal conflict is negatively correlated with the implementation of projects.

4.10.2.2. ANOVA of Regression of Interpersonal Conflict and Implementation of Building Construction Projects.

The study aimed at establishing if the regression model was best fit for predicting implementation of building construction projects after employing interpersonal conflict. The results of the regression coefficient are presented in Table 4.31.

Table 4. 31: ANOVA of Regression of Interpersonal Conflict and Implementation of Building Construction Projects

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.406	1	1.406	4.679	0.032[b]
	Residual	65.795	219	0.300		
	Total	67.201	220			

a. Dependent Variable: Performance

b. Predictors: (Constant), Interpersonal

Table 4.31 shows that there exists a significant relationship between interpersonal conflict and implementation of building construction projects as shown by F = 4.679 and a p-value of 0.032 which is less than 0.05. This implies that the regression model is significantly a better predictor of implementation of building construction projects.

4.10.2.3. Regression Coefficient of Interpersonal Conflict and Implementation of Building Construction Projects.

The study sought to determine if there was influence of interpersonal conflict on implementation of building construction projects. The regression results are presented in Table 4.32.

Table 4. 32: Regression Coefficient of Interpersonal Conflict and Implementation of Building Construction Projects

Coefficient						
		Unstandardized Coefficients		Standardized Coefficients		
Model		**B**	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	3.427	0.216		15.900	0.000
	Interpersonal	0.171	0.079	0.145	2.163	0.032

a. Dependent Variable: Performance

The simple linear regression results in Table 4.32 suggest that there was an influence of interpersonal conflict on implementation of building construction projects. The coefficient constant terms ($\beta_0 = 3.427, p < 0.05$) and project team value diversity $\beta_1 = 0.171, p < 0.05$) were statistically significant. The regression model for implementation of building construction projects on interpersonal conflict was $Y = 3.427 + 0.171X_4$ indicating that for each unit change in interpersonal conflict, implementation of building construction projects is marginally transformed by 0.365 units. It was therefore, concluded that interpersonal conflict and implementation of building construction projects are positively and linearly related. The results are not in line with the findings of a study done by Aboaoga and Ab (2018), they found that interpersonal conflict among workers in the hotel sector did not have an influence on the performance of the workers, hence that in turn never influenced the performance of the hotel. Additionally, regression analysis findings on the association

between interpersonal conflict and performance of the hotels returned a small negative r value indicating that the influence was negligible. However, the results are in tandem with the findings of a study done by Mukolwe (2014) who claimed that when interpersonal conflict that emanate in a work place is well handled, and the parties involved reconciled, then the chances of the project performing well are usually high. He therefore, advices that the project managers should also look for cases of conflict among team members and make sure they are solved so that they do not affect the performance of projects.

4.11. Moderating Influence of Interpersonal Conflict on the Relationship between Project Team Diversity and Implementation of Building Construction Projects.

The last research objective was to establish the moderating influence of interpersonal conflict on the relationship between project team diversity and implementation of building construction projects. Composite indices for the mean and standard deviation were computed and used in testing the hypothesis. These are further explained and discussed in the following sub-thematic areas:

4.11.1. Correlation Analysis of the Moderating Influence of Interpersonal Conflict on the Relationship between Project Team Diversity and Implementation of Building Construction Projects.

Correlation analysis was conducted to ascertain the moderation effect of interpersonal conflict on the association between team diversity and implementation of building construction projects. Pearson's product moment correlation coefficient was used in order to establish if interpersonal conflict moderates the relationship between project team diversity and implementation of building construction projects. The correlation output is presented in Table 4.33.

Table 4. 33: Correlation Analysis of the Moderating Influence of Interpersonal Conflict on the Relationship between Project Team Diversity and Implementation of Building Construction Projects.

Variable		Implementation of Building Construction Projects
Project Team Knowledge Diversity	Pearson Correlation	0.323*
	Sig. (2-tailed)	0.000
	N	221
Project Team Social Category Diversity	Pearson Correlation	0.240*
	Sig. (2-tailed)	0.000
	N	221
Project Team Value Diversity	Pearson Correlation	0.401*
	Sig. (2-tailed)	0.000
	N	221
Interpersonal Conflict	Pearson Correlation	0.145*
	Sig. (2-tailed)	0.032
	N	221
Combined Project Team Diversity (Pre-moderation)	Pearson Correlation	0.506*
	Sig. (2-tailed)	0.000
	N	221
Combined Project Team Diversity (Post-moderation)	Pearson Correlation	0.526*
	Sig. (2-tailed)	0.000
	N	221

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

Table 4.33 gives a Pearson correlation coefficient of 0.526, with a p-value of 0.000 < 0.05 after introducing the moderator which is interpersonal conflict into the relationship between combined project team diversity and implementation of building construction projects. This indicates a slight increase in the correlation coefficient. The coefficient shows a strong positive correlation between project team diversity and implementation of building construction projects as moderated by interpersonal conflict. These results indicate that the moderation effect of interpersonal conflict on the association between team diversity and implementation of building construction projects is statistically significant, hence leading to rejection of the null hypothesis ($6H_0$: There is no significant moderation influence of

interpersonal conflict on the relationship between project team diversity and implementation of building construction projects) and acceptance of the alternative hypothesis, and therefore, the study concluded that there was a significant moderation influence of interpersonal conflict on the relationship between project team diversity and implementation of building construction projects.

4.11.2. Regression Analysis of the Moderating Influence of Interpersonal Conflict on the Relationship between Project Team Diversity and Implementation of Building Construction Projects.

Multiple linear regression was adopted to investigate how interpersonal conflict moderates the relationship between project team diversity and implementation of building construction projects. The rationale of using regression analysis model was to establish how each predictor upon moderation effect of interpersonal conflict significantly or insignificantly predicted implementation of building construction projects. Secondly, to find out which, of the predictors after moderation effect best predicted implementation of the building construction projects and finally, to confirm if the multiple linear regression model was a best fit for predicting implementation of building construction projects. These are further discussed in the subsequent sub-themes:

4.11.2.1. Model Summary of Moderating Influence of Interpersonal Conflict on the relationship between Project Team Diversity and Implementation of Building Construction Projects.

The model summary sought to establish how interpersonal conflict as a moderator predicts significantly or insignificantly the association between team diversity and implementation of building construction projects. The regression model summary results are presented in Table 4.34.

Table 4. 34: Model Summary of Moderating Influence of Interpersonal Conflict on the relationship between Project Team Diversity and Implementation of Building Construction Projects.

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	0.526[a]	0.277	0.263	0.47437	0.277	20.657	4	216	0.000

a. Predictors: (Constant), Interpersonal, Value, Knowledge, Social

Table 4.34 of the model summary suggests that there was a positive multiple correlation (R = 0.526) between moderating influence of interpersonal conflict on the relationship between project team diversity and implementation of building construction projects with those predicted by the regression model. In addition, model 1 without the moderation influence of interpersonal conflict predicted up-to 25.6% of the variation in the implementation of building construction projects whereas model 2 with the moderation influence of interpersonal conflict predicted up-to 27.7% of the variation in the implementation of building construction projects which was statistically significant at p – value 0.000 < 0.05. The R^2 change in model 2 is 0.277, showing an additional effect of 27.7% to the model due to the moderating influence of interpersonal conflict which was statistically significant at p – value 0.000 < 0.05. These results are in tandem with the results of a study carried out Kumah (2018) who argued that in most projects when conflicts associated to the relations between employees are not solved as quickly as possible, they may result in the project having both time and cost overruns. Brockman's (2014) adds that occurrence of conflict among project workers usually results in negative emotions such as stress, anger, and frustrations in team members which negatively affects the project implementation process.

4.11.2.2. ANOVA of Moderating Influence of Interpersonal Conflict on the relationship between Project Team Diversity and Implementation of Building Construction Projects.

This section sought to establish if the model that governs the association between interpersonal conflict and project implementation in the building construction sector was best for fitting the association between the two variables. The outcome of the regression analysis is given in Table 4.35.

Table 4. 35: ANOVA of Moderating Influence of Interpersonal Conflict on the relationship between Project Team Diversity and Implementation of Building Construction Projects

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.832	4	5.458	25.990	0.000[b]
	Residual	45.369	216	0.210		
	Total	67.201	220			

a. Dependent Variable: Implementation

b. Predictors: (Constant), Interpersonal, Value, Knowledge, Social

The ANOVA results in Table 4.35 indicated that F = 25.990 and a p-value of 0.000 which is less than 0.05. This shows that the regression model obtained is significantly a better predictor of project implementation in the building construction sector.

4.11.2.3. Regression Coefficient of Moderating Influence of Interpersonal Conflict on the relationship between Project Team Diversity and Implementation of Building Construction Projects.

The study sought to determine whether interpersonal conflicts moderates the association between team diversity and project implementation in the building construction sector. Multiple linear regression technique was applied on the data collected and the analysis outcome presented in Table 4.36.

Table 4. 36: Regression Coefficient of Moderating Influence of Interpersonal Conflict on the relationship between Project Team Diversity and Implementation of Building Construction Projects

Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	0.057	0.311		0.103	0.619
	Knowledge diversity	0.391	0.102	0.249	3.192	0.000
	Social Category diversity	0.086	0.062	0.051	0.892	0.336
	Value diversity	0.411	0.098	0.377	5.917	0.000
	Interpersonal Conflict	0.109	0.071	0.083	2.332	0.041

a. Dependent Variable: Implementation of Building Construction Projects

Based on the multiple linear regression results presented in table 4.36 it is concluded that diversity in knowledge among project workers was linearly related to project implementation in the building construction sector as shown by $(\beta_1 = 0.391)$ and $(t = 3.192, p = 0.000)$. The test of $(\beta_2 = 0.086)$ statistic revealed that there was sufficient evidence that project team social category diversity was not linearly related to project implementation in the building construction sector $(t = 0.892, p = 0.336)$. The test of $(\beta_3 = 0.411)$ statistic

revealed that there was sufficient evidence that project team value diversity was linearly related to project implementation in the building construction sector ($t = 5.917, p = 0.000$). The test of ($\beta_4 = 0.109$) statistic revealed that there was satisfactory evidence that interpersonal conflict was linearly related to project implementation in the building construction sector ($t = 2.332, p = 0.041$). The proceeding multiple regression model was

$$Y = 0.057 + 0.391X_1 + 0.086X_2 + 0.411X_3 + 0.109X_4$$

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the study's findings summary, its conclusion, and the recommendations made based on the findings. The results on acceptance or rejection of the research's six hypothesis are presented in the summary of findings sub-section. The conclusion made is based on the results that were determined as per the objectives of the study, and the contribution of the study findings to the project management body of knowledge are also presented. Lastly, recommendations with respect to policy, practice, and methodology are also presented in addition to further research suggestions.

5.2 Summary of Findings

The study aimed at establishing the association between diversity in team and the implementation process of construction projects in the building sector. In addition, the moderating influence of interpersonal factors on the nexus between diversity in teams and the implementation process was also sought. The attainment of the study purpose was pursued through the development of six research objectives and corresponding research hypothesis that were independently tested. Collection of data was done by use of semi-structured questionnaires, interviews were as conducted, and observation was done as well. Hypotheses were tested using simple, multiple and step-wise regression techniques. For single variables such as knowledge diversity, social-category diversity, value diversity, and interpersonal conflicts, linear regression (simple) was used to test whether they had any significant influence on the implementation process of construction projects in the building sector. To test whether the combined diversities have a significant influence on the implementation process of construction projects in the building sector, multiple linear regression technique was used, and lastly, the moderation influence of interpersonal conflicts on the nexus between combined diversities and the implementation process of construction projects in the building sector was done using the step-wise regression technique.

5.2.1. Knowledge Diversity and Implementation of Building Construction Projects

The first objective that the study sought to achieve was determination of how diversities in knowledge influence the process of executing/implementing construction projects of

building nature in Kajiado County. A null hypothesis that sought to check if diversity in knowledge of workers significantly influences the process of implementing/executing construction projects of building nature in Kajiado County was tested. The outcome of the analysis indicated that a significant association existed between knowledge diversities and implementation of construction projects, by returning a coefficient of $r = 0.323$, which is weak and significant since $p\ value = 0.000 < 0.05$. Regarding the quantity of contribution in the implementation process of construction projects in the building sector in Kajiado County that is explained by the knowledge diversities, the analysis returned a value $R^2 = 0.104$ which shows that only 10.4% of transformations in implementation process of construction projects in the building sector in Kajiado County are explained by knowledge diversities in workers. To test the hypothesis at the 5% significance level, an analysis of variance (ANOVA) was conducted and the resultant outcome gave $F(1,219) = 25.522, p = 0.000 < 0.05$ which led to the rejection of the stated null hypothesis. Hence acceptance of the alternate hypothesis which stated that knowledge diversities significantly influences the process of executing/implementing construction projects of building nature in Kajiado County, Kenya.

5.2.2. Project Team Social Category Diversity and Implementation of Building Construction Projects

The second objective that the study sought to achieve was determination of how social-category diversities influence the process of executing/implementing construction projects of building nature in Kajiado County. A null hypothesis that sought to check if diversity in social-categories of workers significantly influences the process of implementing/executing construction projects of building nature in Kajiado County was tested. The outcome of the analysis indicated that a significant association existed between social-category diversities and implementation of construction projects, by returning a coefficient of $r = 0.240$, which is moderate and significant since $p\ value = 0.000 < 0.05$. Regarding the quantity of contribution in the implementation process of construction projects in the building sector that is explained by the social-category diversities, the analysis returned a value $R^2 = 0.058$ which shows that only 5.8% of the changes in the response variable, that is, implementation of construction projects are explained by social-category diversities in workers. To test the hypothesis at the 5% significance level, an analysis of variance (ANOVA) was conducted and the resultant outcome gave $F(1,219) = 13.369, p = 0.000 < 0.05$ which led to the rejection of the stated null hypothesis. Hence acceptance of the alternate hypothesis which

stated that social-category diversities significantly influences the process of executing/implementing construction projects of building nature in Kajiado County, Kenya.

5.2.3. Project Team Value Diversity and Implementation of Building Construction Projects

The third objective that the study sought to achieve was determination of how diversities in values influence the process of executing/implementing construction projects of building nature in Kajiado County. A null hypothesis that sought to check if diversity in values of workers significantly influences the process of implementing/executing construction projects of building nature in Kajiado County was tested. The outcome of the analysis indicated that a significant association existed between value diversities and implementation of construction projects, by returning a coefficient of $r = 0.401$, which is moderate and significant since $p\ value = 0.000 < 0.05$. Regarding the quantity of contribution in the implementation process of construction projects in the building sector that is explained by the value diversities, the analysis returned a value of $R^2 = 0.161$ which shows that only 16.1% of the variations in the response variable, that is, implementation process of construction projects are explained by value diversities in workers. To test the hypothesis at the 5% significance level, an analysis of variance (ANOVA) was conducted and the resultant outcome gave $F(1,219) = 41.877, p = 0.000 < 0.05$ which led to the rejection of the stated null hypothesis. Hence acceptance of the alternate hypothesis which stated that value diversities significantly influences the process of executing/implementing construction projects of building nature in Kajiado County, Kenya.

5.2.4. Project Team Diversity and Implementation of Building Construction Projects

The fourth objective that the study sought to achieve was determination of how combined diversities influence the process of executing/implementing construction projects of building nature in Kajiado County. A null hypothesis that sought to check if diversity in workers significantly influences the process of implementing/executing construction projects of building nature in Kajiado County was tested. The outcome of the analysis indicated that a significant association existed between combined diversities and implementation of construction projects, by returning a coefficient of $r = 0.506$, which is strong and significant since $p\ value = 0.000 < 0.05$. Regarding the quantity of contribution in the implementation of construction projects of building nature that is explained by the combined diversities, the analysis returned a value $R^2 = 0.256$ which shows that only 25.6% of the

changes in the response variable, that is, implementation of construction projects is explained by combined diversities in workers. To test the hypothesis at the 5% significance level, an analysis of variance (ANOVA) was conducted and the resultant outcome gave $F(3,217) = 24.942, p = 0.000 < 0.05$ which led to the rejection of the stated null hypothesis. Hence acceptance of the alternate hypothesis which stated that the combined diversities significantly influences the process of executing/implementing construction projects of building nature in Kajiado County, Kenya.

5.2.5. Interpersonal Conflict and Implementation of Building Construction Projects

The fifth objective that the study sought to achieve was determination of how interpersonal conflicts influence the process of executing/implementing construction projects of building nature in Kajiado County. A null hypothesis that sought to check if interpersonal conflicts among workers significantly influences the process of implementing/executing construction projects of building nature in Kajiado County was tested. The outcome of the analysis indicated that a significant association existed between interpersonal conflict and implementation of construction projects, by returning a coefficient of $r = 0.145$, which is weak and significant since $p\ value = 0.000 < 0.05$. Regarding the quantity of contribution in the implementation of construction projects of building nature that is explained by the value diversities, the analysis returned a value $R^2 = 0.21$ which shows that only 21% of the changes in the response variable, that is, implementation of construction projects is explained by interpersonal conflicts in workers. To test the hypothesis at the 5% significance level, an analysis of variance (ANOVA) was conducted at the resultant outcome gave $F(1,219) = 4.679, p = 0.032 < 0.05$ which led to the rejection of the stated null hypothesis. Hence acceptance of the alternate hypothesis which stated that interpersonal conflicts significantly influence the process of executing/implementing construction projects of building nature in Kajiado County, Kenya.

5.2.6. Moderating Influence of Interpersonal Conflict on the relationship between Project Team Diversity and Implementation of Building Construction Projects

The sixth study objective was determination of the moderation influence of interpersonal conflict on the connection between project team diversity and implementation of building construction projects in Kajiado County. The null hypothesis that was tested was; There is no significant moderating influence of interpersonal conflict on the relationship between project team diversity and implementation of building construction projects in Kajiado

County. The regression was done step wise. In the first step, project team diversity and implementation of building construction projects were regressed and the results gave $R^2 = 0.256$ showing that combined project team diversity contributes 25.6% of the changes in implementation of building construction projects, and $F(3,217) = 24.942, p = 0.000 < 0.05$. In the second step, interpersonal conflict was added to the model so as to measure the contribution of project team diversity and interpersonal conflict on implementation of building construction projects. The results showed $R^2 = 0.277$, the difference between the two values of R^2 showed a change of 0.021, this change was attributable to the addition of interpersonal conflict. This therefore, shows that interpersonal conflict gives a contribution of 2.1% on the relationship between project team diversity and implementation of building construction projects.

5.3 Conclusion

This section presents conclusions made as a result of the study findings based on the objectives and hypotheses. The first study objective was to establish the influence of project team knowledge diversity on implementation of building construction projects in Kajiado County. The indicators for project team knowledge diversity were; team member education level, team member speciality, team member skills, team member experience and team member training. Descriptive statistics showed that the respondents agreed generally that project team diversity had an influence on the implementation of building construction projects. The study showed that skills among the workers was appreciated, and had a positive influence on the implementation of building construction projects, since it determined job allocation, remuneration and confidence of the workers. It is therefore, important that for a project to be implemented successfully, the project team should have members with diversity in skills. Diversity in levels of education does not seem to influence the implementation of building construction projects much. Results from inferential statistics indicate that project team knowledge diversity had a positive influence on the implementation of building construction projects. This means that building construction projects that have a mix of workers with divergent knowledge would be implemented better than those that do not.

Objective two, was to determine the influence of project team social category diversity on implementation of building construction projects in Kajiado County. The indicators for project team social category were; team member race, team member gender, team member religion, team member age and team member political affiliation. The mean and standard

deviation for all the project team social category diversity indicators were computed, the results showed that gender mix among members of a project team influences the implementation of building construction projects positively. It was also observed that age differences in the work place did not have an influence on the implementation of building construction projects, gender diversity was also measured and found to have influence on implementation of building construction projects. It is concluded that for projects to be implemented successfully the aspects of age, gender, and ethnicity have to be balanced. Inferential results showed a significant positive influence of project team social category diversity on implementation of building construction projects. This implies that for successful implementation of building construction projects, project teams should be diverse in terms of age, gender and ethnicity.

The third study objective was to determine the influence of project team value diversity on implementation of building construction projects. Project team value diversity was measured using team member achievement, team member cultural beliefs, team member integrity and the concert for others. The descriptive statistics indicated a strong influence of project team value diversity on implementation of building construction projects. Results from inferential statistics indicated a moderate positive relationship between project team diversity and implementation of building construction projects, it was further established that if the values of the project team members are good then that can lead to successful implementation of building construction projects.

The fourth study objective was to establish the influence of combined project team diversities on implementation of building construction projects. Combined project team diversity was indicated by project team knowledge diversity, project team social category diversity and project team value diversity. Descriptive statistics showed that combined project team diversity had an influence on the implementation of building construction projects in Kajiado County. Project team value diversity was the most important with the highest mean, followed by project team knowledge diversity and lastly, project team social category diversity. it is therefore, important that project managers should strive to have teams that are diverse for implementation of building construction projects to be successful. Inferential statistics showed that project team diversity had a moderate positive relationship with implementation of building construction projects and an increase in diversity of team members in terms of knowledge, social category and values would result to improvement in the implementation of building construction projects in Kajiado County.

Objective five was to assess the influence of interpersonal conflict on implementation of building construction projects. Interpersonal conflicts referred to conflicts among the project team members due to task allocated to them, personality differences, emotions and relationships. Descriptive statistics showed that interpersonal conflict had a detrimental effect on the implementation of building construction projects. Inferential statistics indicated that there existed a weak positive correlation between interpersonal conflict and implementation of building construction projects. It was further observed that some amount of conflict was beneficial to implementation of building construction projects, but beyond a certain point it was seen as having a negative effect on the implementation of building construction projects. It is therefore, concluded that, for building construction projects to be implemented successfully, it is required that the project manager should moderated the level of conflict in the project team.

The sixth objective was to determine the nature of the moderating influence of interpersonal conflict on the relationship between combined project team diversity and implementation of building construction projects in Kajiado County. The findings indicated that interpersonal conflict was responsible for an increase in the amount of variation in implementation of building construction projects when paired with combined project team diversity.

5.4 Contribution to Knowledge

The contribution of the study to knowledge is summarised in Table 5.1

Table 5. 1: Contribution to Knowledge

Objective	Contribution to Knowledge
To assess the extent to which team knowledge diversity influences implementation of building construction projects in Kajiado County, Kenya.	The study empirically established that diversity in knowledge among project workers has a significant influence on the process of executing/implementing construction projects of building nature in Kajiado County, however the association is weak positive.
To determine the extent to which team social category diversity influences implementation of building construction projects in Kajiado County, Kenya.	The study empirically established that diversity in social-category among project workers has a significant influence on the process of executing/implementing construction projects of building nature in Kajiado County, however the association is weak positive.
To determine the extent to which team value diversity influences implementation of building construction projects in Kajiado County, Kenya.	The study empirically established that diversity in values among project workers has a significant influence on the process of executing/implementing construction projects of building nature in Kajiado County, however the association is moderate positive.
To assess how combined project team diversity influences implementation of building construction projects in Kajiado County, Kenya.	The study empirically established that diversity in general among project workers has a significant influence on the process of executing/implementing construction projects of building nature in Kajiado County, however the association is moderate positive.
To determine the extent to which interpersonal conflict influences the implementation of building construction projects in Kajiado County, Kenya.	The study empirically established that interpersonal conflict has a significant very weak positive influence on the process of executing/implementing construction projects of building nature in Kajiado County.
To determine the moderation of interpersonal conflict on the association between project team diversity and implementation of building construction projects in Kajiado County, Kenya.	The study empirically established that interpersonal conflict positively moderated the association between team diversity and building construction projects implementation.

5.5 Recommendations

Based on the findings of the study, recommendations are made with regard to policy, practice, and methodology, then discussed in the following sub-themes;

5.5.1. Recommendations for Policy

1. Building construction projects have been key to the development of counties in Kenya since devolution, this study finding therefore have implications to both county governments and project practitioners. The research findings indicated that there existed a significant association between all variables of team diversity, interpersonal conflict and implementation of building construction projects in Kajiado County. This implies that if building construction companies employ a workforce that is diverse in terms of knowledge, social category and values, then projects would be implemented successfully. Further it implies that building construction companies' managers should look at ways of managing the interpersonal conflict between the project team members. This would reduce the conflict between project team members and hence improve the implementation of building construction projects.
2. The research findings established that in as much as social-category diversity aspects positively influenced the project implementation process, the number of women working in building construction projects was quite small. Since this is a county government project, it was expected that the two-third gender rule could have been adhered to. It is therefore recommended that the two-third gender rule should be fully enforced in all projects that are funded by the tax-payers money so that no gender is left behind in terms of empowerment. This can be enforced by denying the award of companies that do not meet the gender requirement in its staff register. An accreditation score based on diversity aspects can also be generated such that only companies attained a certain determined threshold will be awarded the building construction project implementation tenders.

5.5.2. Recommendations for Practice

1. The research established that team diversity has an influence on building construction projects implementation. There was a positive association between the two variables. The study therefore, recommends that when recruiting workers to make up a project team, aspects of diversity in knowledge, social-category, and values should be strongly

considered since all of them were found to positively influence the project implementation process.

2. Interpersonal conflict was found to have a moderating influence on the relationship between team diversity and building construction projects implementation process. In particular, higher level of relationship and task conflict had a negative influence whereas moderate level positively influenced the association. It is recommended that the project managers should look for ways of managing the levels of conflicts within their teams so as to improve the project implementation process. Additionally, recruitment officers should avoid recruiting workers who are on the extreme ends on the diversity constructs since they are the ones most prone to have conflicts among themselves.

5.5.3. Recommendations for Methodology

1. This research used pragmatism paradigm and descriptive research design which involved collection of both qualitative and quantitative data then analysis for both descriptive and inferential statistics. The conversion of the Likert-type responses from ordinal to interval for subsequent inferential analysis might have led to loss of information. It is recommended that a similar study be carried out but the information sought be interval so as to allow for accurate analysis.

5.6 Suggestions for Further Research

Based on the research finding, the following suggestions for further research are made:

1. This study established that interpersonal conflicts made up of relationship and task conflicts have a significant moderating influence on the strength of association between team diversity and building construction projects implementation, it is suggested that a similar study be carried out to first confirm the effect of team diversity on either performance or implementation process of building construction projects, and then a different contextual factor be picked management leadership style and checked whether it moderates the strength and nature of relationship that exists between team diversity and implementation of building construction projects.
2. Secondly, it is suggested that a longitudinal study be carried out. This is to check whether team diversity influences project implementation over a long period of time. This will help in confirming if team diversity and implementation process coefficients are stable or fluctuate over time.

3. Lastly, a similar study can be carried out in other counties or developing countries so as to check if the same results can be replicated in other study areas.

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APPENDICES

Appendix I: Letter of Request of Transmittal of Data

Benson N. Leyian,
Department of Management Sciences and Project Planning,
Faculty of Business and Management Sciences,
University of Nairobi

Dear Respondent,

I am a candidate at the University of Nairobi pursuing a degree in Doctor of Philosophy in Project Planning and Management. Part of the requirement for successful completion of my studies is to write a thesis. The topic for my thesis is; ***"Project team diversity, Interpersonal Conflict, and Implementation of Building Construction projects in Kajiado County, Kenya."***

I have accordingly designed and do hereby attach a questionnaire to collect data from building construction staff in Kajiado County. This project has been sampled for the study and you have been identified to participate in the study as a respondent because of the role you play. The data and findings will be used strictly for academic purposes.

Thank you very much for your time and cooperation. I greatly appreciate your support in furthering this noble research effort.

Yours Faithfully

Benson N. Leyian

Reg No.: L83/51531/2017

Appendix II: Questionnaire for Project Workers

INTRODUCTION

This questionnaire is designed to collect information about project team diversity, interpersonal conflict and implementation of construction projects in Kajiado County, Kenya. It contains **6** sections with **31** items. The information will be used for academic purpose only, I therefore request you to spare about 10 minutes and respond to all the items as truthful as possible. You may use a tick or as directed in each item.

SECTION I: BACKGROUND INFORMATION

3. Please indicate your gender
   a. Female ☐
   b. Male ☐
4. What is your age bracket?
   a. 18 – 25 years ☐
   b. 26 – 30 years ☐
   c. 31 – 35 years ☐
   d. 36 – 40 years ☐
   e. 40 – 45 years ☐
   f. Over 45 years ☐
5. What is your highest level of education?

   a. Primary ☐
   b. Secondary ☐
   c. Certificate ☐
   d. Diploma ☐
   e. Degree ☐
   f. Others ☐

6. What is your position in the project? …….
7. For how long have you worked in the construction industry?
   a. Less than 5 years ☐
   b. 5 – 10 years ☐
   c. 10 – 15 years ☐
   d. 15 – 20 years ☐
   e. Over 20 years ☐

SECTION 2: IMPLEMENTATION OF BUILDING CONSTRUCTION PROJECTS

This section contains statements on implementation of building construction projects. Kindly rate the statements by circling the appropriate scale of 1-5 among the following; Strongly Agree (5), Somewhat Agree (4), Neutral (3), Disagree (2) and Strongly Disagree (1).

	Statement	**5**	**4**	**3**	**2**	**1**
P1	We complete task within time schedule					
P2	We have few change requests by the client during construction					
P3	We experience project delays during construction					
P4	Tasks are completed within budget					
P5	Minimal project variation orders are received					
P6	We have minimal re-work on tasks already completed					
P7	We meet quality specifications					
P8	Quality checks of materials is carried out					
P9	County government is satisfied with our work performance					
P10	We meet the client requirements/needs					
P13	I am satisfied with the management of this project					

2. (a) Kindly explain the challenges you encounter during project implementation?

……
……
……...……
……..

SECTION 3: INTERPERSONAL CONFLICT						
This section contains statements on interpersonal conflict. Kindly rate the statements by circling the appropriate scale of 1-5 among the following; Strongly Agree (5), Somewhat Agree (4), Neutral (3), Disagree (2) and Strongly Disagree (1).						
	Statement	**5**	**4**	**3**	**2**	**1**
I1	We do tasks in harmony					
I2	There exist important opinion differences between project team members					
I3	We have conflicts about ideas generation in our work place					
I4	We have differences of opinion in our work unit					
I5	Team members dislike each other					
I6	Personality conflicts are evident in our work unit					
I7	There's tension among team members					
I8	Emotional conflict is there among members in your work unit					

3 (a). What are some of the conflicts that you encounter while working in this project?

……
……
……

3 (b). Please suggest some actions that can be undertaken to reduce interpersonal conflict among project members

……
……
……
……
……..

SECTION 4: PROJECT TEAM KNOWLEDGE DIVERSITY						
This section contains statements on project team knowledge diversity. Kindly rate the statements by circling the appropriate scale of 1-5 among the following; Strongly Agree (5), Somewhat Agree (4), Neutral (3), Disagree (2) and Strongly Disagree (1).						
	Statement	**5**	**4**	**3**	**2**	**1**
T1	Recruitment of workers into the organization is based on the education levels of the workers					
T2	I have had challenges working with people from different educational levels					
T3	Equal opportunities for job advancement exist for workers with both most and least education levels					
T4	Differences in education levels of workers, is a source of conflicts at the workplace.					
T5	Jobs are allocated depending on skills of individuals					
T6	Payment is made based on skills possessed					
T7	At work, I experience lack of confidence due to my level of skills					
T8	Learning more skills through training, would improve my work performance					
T9	The team leader includes members of different training backgrounds in decision making process					
T10	Mentoring of workers in acquiring jobs skills in latest technologies is highly practiced in this company					

4. What are the challenges you face at work in relation to your knowledge background?

……
……
……
……

SECTION 5: PROJECT TEAM SOCIAL CATEGORY DIVERSITY						
This section contains statements on project team social category diversity. Kindly rate the statements by circling the appropriate scale of 1-5 among the following; Strongly Agree (5), Somewhat Agree (4), Neutral (3), Disagree (2) and Strongly Disagree (1).						
	Statement	**5**	**4**	**3**	**2**	**1**
D1	Teams benefit from the involvement of people from both genders					
D2	A good mix of group members' gender helps doing the task well.					
D3	Both genders are usually included in decision making process					
D4	My age identity is a barrier to my career advancement					
D5	I have not experienced conflicts within the team due to status difference between young and old workers					
D6	This organization provides equal development opportunities to all regardless of age					
D7	Decision making teams include members of both the young and the old					
D8	I am aware of the ethnic demographics of other employees in my organization					
D9	The ethnic diversity does not affect professional relationship within the team					
D10	Ethnic diversity promotes healthy competition in the team in achieving targets					
D11	My religion influences my colleagues' attitude towards me at work					
D12	Religious diversity is a cause of conflict among employees in my organization					
D13	Religious discrimination usually undermines people's performance					

5a. What are the gender, age, ethnic and religion related challenges you experience at your work place? Please list them below.

……

….

5b. Kindly state the importance of socially diverse workforce in a workplace

……

SECTION 6: PROJECT TEAM VALUE DIVERSITY						
This section contains statements on project team value diversity. Kindly rate the statements by circling the appropriate scale of 1-5 among the following; Strongly Agree (5), Somewhat Agree (4), Neutral (3), Disagree (2) and Strongly Disagree (1).						
	Statement	**5**	**4**	**3**	**2**	**1**
C1	Achievement is rewarded					
C2	Diverse personalities exist					
C3	Different cultures are accommodated					
C4	Project members are true to their values					
C5	I always keep my promises					
C6	I believe honesty is the basis for trust					
C7	There is good teamwork and cooperation in my organization					
C8	Project members motivate each other to come up with efficient ways of doing work					
C9	Project members encourage each other at work					
C10	We engage in team building activities in this company					
C12	Team members listen to each other opinions					
C13	All individual differences are respected in the company					

7. What are the challenges you face at the workplace in relation to difference in values among project team members?

……
……
……

Thank you very much.

Appendix III: Interview Schedule for Site Engineers and Project Managers

INTRODUCTION

This interview is designed to obtain information for academic purposes only. The accuracy of the responses you provide will be very important to the success of this research thesis. The findings of the study are hoped to make a significant contribution towards project team diversity, interpersonal conflict and implementation of building construction projects in Kajiado County, Kenya. The interview will take approximately 25 minutes. You are therefore requested to assist with the interview. Thank you.

SECTION A: Demographic information

1. Gender (observe on gender and record) Male/female
2. What is your professional qualification?
3. How long have you worked in the building construction industry?

SECTION B: Information on specific variables of study

4. Briefly describe the project team social category diversity distribution of the work force within your company. Probe on age, gender, religion, race and ethnicity.
5. Briefly describe the project team knowledge diversity distribution of the workforce within your company. Probe on background training, education level, specialty, experience, and skills.
6. Briefly describe the project team value diversity distribution of the workforce within your company. Probe on achievements, cultural beliefs, integrity, honesty and members concern for others.
7. Briefly describe the type of conflicts that arise among team members. Probe on task and interpersonal conflict.
8. Kindly explain the implementation of the construction projects in terms of completion within schedule?

Appendix IV: Observation Guide

Preliminary activities: (Choosing a site, gaining permission, scanning the site and familiarizing oneself with the setting)

Name of project **: …….**

Site location **: ……..……**

Project Activity **: …….**

Trade of persons involved **: …….**

Date and Time period **: ……..……**

1. Observe and describe the construction activities taking place at the site.
2. Observe and describe the workmanship of the workers.
3. Observe on mixing ratios and quality of materials during construction at the site.
4. Interact and describe the satisfaction of the workers.
5. Observe and document the gender ratio at the site.
6. Observe on the interactions of the workers including who talks to whom and whose opinions/decisions are respected.
7. Observe and describe the teamwork spirit among the workers.
8. Any other. ……

Appendix V: Informed Consent

INFORMED CONSENT

Good morning/Good Afternoon

My name is Benson N. Leyian and I am undertaking a study on Implementation of Building Construction Projects in Kajiado County, Kenya. The purpose of this study is to gain an understanding on project team diversity, interpersonal conflict and implementation of building construction projects in Kajiado County, Kenya.

You are among the building construction staff who will be requested to fill the questionnaires because of the role you play. If you agree to take part in the current study you are kindly requested to assist with accurate information as indicated in the questionnaire. The process will take you about 25 minutes to fill.

It is important to remember that I am not evaluating you and your responses will be kept anonymous and confidential. The information gathered will be used for academic purposes only, your name, the company, or other personal identifier will never be used.

Your participation is voluntary and you have the right to stop the process at any time without any problem. However, we hope you will collaborate with the study as your participation is very important to the success of the research thesis and may significantly contribute towards project team diversity and implementation of building construction projects in Kajiado County, Kenya.

If you consent, please sign below, then you can continue with filling the questionnaire.

Respondent Signature: ..... Date: ……