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Challenges with Multicultural Leadership for Project Managers: A Qualitative Multiple Case Study

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Walden University

College of Management and Human Potential

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Harrison Nnaemeka Nnaji

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Walden University
2023

Abstract

Challenges with Multicultural Leadership for Project Managers: A Qualitative Multiple

Case Study

by

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M.Sc., EC Council University USA, 2022

MPhil, Walden University USA, 2021

M.Sc., University of Portsmouth UK, 2017

MPM, University of Lagos Nigeria, 2012

B. Eng, Federal University of Technology Owerri Nigeria, 2003

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Management

Walden University

April 2023

Abstract

Culturally diverse teams are becoming the norm with the rising trend of globalization. The phenomenon has been associated with a rise in the number of multicultural teams with diversified team members. The central problem addressed in this study relates to inadequate understanding of challenges posed to project managers of multicultural software development teams operating in Nigeria. The purpose of this qualitative multiple case study was to explore challenges faced by this population. Avruch's theory of culture, the Human needs theory by Burton, and the cross-cultural adaptation theory by Kim were the conceptual frameworks for this study. Participants included 15 project managers or senior leaders of multicultural software development teams in Nigeria and were selected using a purposive sampling technique. Semi-structured in-depth interviews were conducted until data saturation was reached. Braun and Clarke's thematic data analysis method was used involving familiarizing data, generating initial codes, searching for themes, and reviewing and defining themes. Identified themes include language barriers, cultural differences, perceptions of time, lack of tolerance, differences in work cultures, and perceptions and stereotypes. Solutions to addressing challenges included improving communication, tolerance, and respect for diversity. An effective multicultural management and training program is needed to impact team members with skills required to lead and manage multicultural project teams. Study findings can inform the design of multicultural team leadership workshops for project managers leading multicultural software development teams with skills required to effectively lead teams, thus promoting positive social change through improved teamwork and productivity.

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Dedication

I dedicate this dissertation to my late parents, Elder Jonathan Okorie Nnaji & Mrs. Rachel Nnenna Nnaji, for their sacrificial efforts in grooming and reinforcing the values and benefits of quality education to their children, to my wife and my loving children, to my siblings, and to my friends and supportive colleagues.

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Chapter 1: Introduction to the Study

Culturally diverse teams are becoming the norm in the contemporary world. The increasing trend of globalization has led to a rise in the number of multicultural teams with diversified team members (Sogancilar & Husniye, 2018). The rise in urbanization, multinational companies, mobility of labor, and the closer integration of the global economy is a factor facilitating global interconnectedness, although COVID-19 is slowing the pace (Shrestha et al., 2020). While cultural diversity is essential in bringing about new skills and approaches to problem-solving, there are challenges due to the difficulties in terms of harmonizing contributions of culturally diverse members (Heldal et al., 2020; Kappagomtula, 2017; Rahman, 2019). Understanding these challenges will lead to positive social change by implementing initiatives to address such issues. Chapter 1 includes background literature regarding the identified social and practice problem, including the research gap. A review of the purpose is followed by research questions, significance of research, assumptions, scope, delimitations, and limitations before ending with a summary.

Background of the Study

Multiculturalism has become core for project management success in the 21st century (Deshpande et al., 2017; Kappagomtula, 2017). Multiculturalism involves having a project team with individuals from distinct cultures in terms of ethnicity as well as religious and national differences (Heldal et al., 2020). The world is increasingly becoming a global village where businesses face competition from all sides, which necessitates open-mindedness (Averweg & Addison, 2015). Multiculturalism in project

teams promotes creativity because of diversity of ideas and perspectives in groups: An individual's creativity is enriched by their ability to integrate diverse points of view (Deshpande et al., 2017). Multiculturalism allows teams to understand and respect cultural differences. This is especially vital when developing a product or service for a global audience involving numerous cultural profiles (Heldal et al., 2020; Vigier & Spencer-Oatey, 2017). Cultural diversity also leads to an enormous talent pool, which is critical in terms of borderless issues such as cybersecurity and software development, which struggle with team diversity (Ayega & Muathe, 2018).

The level of effectiveness in a team depends on the degree of cohesion and understanding among team members. However, multicultural teams are predisposed to misunderstanding among members motivated by overarching dissimilarities (Alemu, 2016; Dumitrașcu-Băldău & Dumitrașcu, 2019; Tabassi et al., 2019). Ogbodo (2014) found cultural differences in software development teams were responsible for occasional poor performance and misunderstanding. Differences in terms of ethnic, religious, or national characteristics create fertile grounds for individuals to disagree and confront each other, which can hamper productivity in teams (Krawczyk-Bryłka, 2016; Lima & Patah, 2016). The style of leadership demonstrated by project managers may lead to ideological conflicts. The democratic leadership style allows everyone to contribute to the team, providing grounds for ideological disagreements (Akanji et al., 2018).

Managing these conflicts requires project managers to have the ability to solve problems and possess necessary leadership skills (Akanji et al., 2018). Conflict management also requires project managers to sufficiently understand multicultural team

challenges (Kappagomtula, 2017; Tabassi et al., 2019). They need to have adequate knowledge of individuals in their groups in terms of their values, perceptions, and diversity (Jayanthi, 2017; Tabassi et al., 2019). This allows projects manager to accommodate different views among individuals in a team. Leadership skills empower project managers to understand conflict points involving the emotional state of members and how potential conflicts are averted. Conflict can also arise from a lack of direction in projects, especially conflicting ideas (Alemu, 2016; Kappagomtula, 2017).

Problem Statement

Cross-cultural challenges can hinder effective multicultural team leadership across various industries (Lee & Schneider, 2020; Rahman, 2019). Cultural differences among project team members can lead to poor project performance and misunderstandings and cause conflict. Cultural differences have also been identified as a significant cause of fragmentation of project teams, as such challenges have led to interpersonal conflicts within project teams (Ayega & Muathe, 2018). Leadership of multicultural teams can be affected by various unique challenges that could decrease their efficiency and productivity (Rahman, 2019).

Research from various disciplines has contributed substantially to the topic of multicultural team dynamics, challenges, and leadership (Batsa et al., 2020; Huang, 2016). Limited research has been conducted focusing on developing countries, with many studies focusing on developed countries (Abadir et al., 2019; Rahman, 2019). Culturally diverse teams are becoming the norm in the developing world. Harmonizing contributions of culturally diverse teams can be challenging. Cultural differences have

been identified as a significant cause of fragmentation of project teams, as such challenges have led to disparaging interpersonal conflicts within these teams (Ayega & Muathe, 2018). Past research has focused on multicultural teams in general, and few have focused on specific sectors such as software development teams in the developing world in places like Nigeria (Batsa et al., 2020; Huang, 2016). This is a knowledge gap involving software development that few past studies have addressed.

The specific research problem was that there is a critical knowledge gap regarding challenges experienced by multicultural software development teams and leadership competencies required to enhance performance of these teams. There was inadequate understanding of challenges posed to project managers leading multicultural software development teams operating in the developing world (Batsa et al., 2020; Huang, 2016). Software development teams in Nigeria were used in this multiple case study because it was not possible to explore all developing countries. Inadequate understanding of challenges of leading multicultural software development teams has adverse effects on the success of projects. This is because conflict-laden issues are usually not adequately understood and mitigated, leading to problems that become difficult to handle later, thus adversely impacting efficiency and productivity of multicultural software development project teams (Huang, 2016).

Purpose of the Study

The purpose of this qualitative multiple case study was to explore challenges faced by project managers leading multicultural software development project teams in Nigeria. The central concepts of research include multicultural teams, team leadership,

and challenges associated with the nature of teams. A qualitative multiple case study approach was employed. The population of interest included project managers in Nigeria who have experienced challenges working with culturally diverse software development teams for at least 1 year.

Research Question

RQ: What are challenges faced by project managers leading diverse multicultural software development project teams in Nigeria?

Conceptual Framework

A literature review demonstrated culture and conflict are core elements in multicultural team dynamics. Avruch's theory of culture, the human needs theory by Burton, and the cross-cultural adaptation theory by Kim were the conceptual frameworks for this study. Culture refers to the socially inherited and learned ways of living shared by persons as members of a given social group (Avruch, 2019). Groups differ in scale and they can overlap and intersect. Therefore, an individual culture is never singular or monolithic as people carry multiple cultures that intersect and at times exist in tension with each other. Based on Avruch's view, culture is socially distributed across populations and is a derivative of experience (Avruch, 2019). Avruch's conceptualization of conflict in intercultural settings provides the framework through which cross cultural challenges in multicultural software development teams were explored.

The human needs theory asserts that culture is marked by certain needs whose absence or scarcity can lead to emergence of conflict. The current research took into

account the problem of cross-cultural challenges as they relate to the emotional and psychological needs of the multicultural project team members.

The cross-cultural adaptation theory by Kim was chosen because the theory involves cultural adaptability in team settings. The theory sheds light on how and why people, upon relocating from a familiar home culture to a new culture are changed by the experiences of interacting with others in a new environment (Kim, 2017). The problem to be addressed in this study was comprehended using Avruch's concepts of culture. Multicultural software teams are made up of people of different ethnicities and countries, leading to conflicts due to differences in their backgrounds. Poor understanding of possible cross-cultural challenges can result in interpersonal conflicts that can adversely impact a project's success. Project team members are likely to carry their own culture and that of their current and previous groups to new groups; hence, there is a need for project managers to handle challenges that may result from this. Perceptions of other team members may lead to conflict in the workplace. Culture diversity may also force new members to suppress their culture or undergo cultural transformation to fit the new team.

Nature of the Study

This study involved using a qualitative research approach due to its nature. In this study, the goal was to assess challenges experienced by project managers leading multicultural software development project teams. A qualitative exploratory multiple case study design was used in this study. The approach facilitates the investigation of a phenomenon within its real-life context using various data sources (Yin, 2018). In this case, the phenomenon was multicultural challenges experienced by project managers

working within Nigeria's information technology project teams. The approach allowed me to have a detailed understanding of challenges that project managers in those contexts experience. A case study is also appropriate when seeking to address how and why questions (Yin, 2018). This study sought to answer challenges faced by project managers leading multicultural software development project teams.

According to Yin (2018), a single participant can represent a case in multiple case study research. In this study, relevant information was collected from each participant representing a case. A qualitative approach is suitable for participants to express their views and experiences during interviews and observations (Ravitch & Carl, 2016). The design involved collection of beliefs of participants concerning challenges of multiculturalism in software development teams. These included project managers who experienced challenges leading multicultural software development project teams. All participants worked in such settings for at least 1 year to be eligible. Participants were selected using the purposive sampling technique. The proposed sample size was 15 to 20 participants, but interviews proceeded until data saturation was reached. Qualitative studies require a sample size of at least 12 participants to attain data saturation (Boddy, 2016; Vasileiou et al., 2018). Data were collected using interviews and observations and analyzed using thematic data analysis processes.

Definitions

Case study: An intensive study of a person, group of people, or phenomenon in order to generalize to other similar populations (Heale & Twycross, 2018). Case studies involve comprehending boundaries of the case and the complexity of behavioral patterns

(Yin, 2018). In this study, a single project manager or a leader represented a case; thus, multiple cases were reviewed.

Multiculturalism: Exposure to and internalization of more than one culture (Korzilius et al., 2018).

Multicultural team: People from different cultures working together to accomplish the same goal (Korzilius et al., 2018). Multicultural software development teams consist of individuals who work together to provide software development and maintenance services.

Assumptions

I assumed that respondents provided honest answers regarding challenging experiences involving leading Nigeria's multicultural software development project teams. Honesty is important in qualitative research because it ensures that participants do not modify their responses based on what they think the researcher wants to hear. Participant bias has a substantial adverse impact on research credibility (Ravitch & Carl, 2016). Participants were assured of their confidentiality in this research to encourage them to provide sincere responses. Secondly, data collection methods were expected to offer respondents adequate accounts of work-related experiences. Considerable insights involving workplace environments of participants provided proper context for their responses.

The study was grounded in the interpretivist research philosophy. Social reality is shaped by human experiences and social context (ontology); thus, it is best explored within its sociohistoric context by integrating subjective interpretations of participants

epistemology (Wellington & Szczerbinski, 2007). I assumed that views and experiences of the project managers who took part in this research did not exist as objective realities but were outcomes of subjective meanings they developed as a result of their experiences at the workplace.

Another assumption was that all responses given by participants were interpreted and analyzed in a nonbiased manner. Preliminary results of the analysis were sent to participants for transcription review validation purposes. The approach ensures qualitative research credibility (Patton, 2015; Shenton, 2004). The investigator cannot be independent of research (Burkholder et al., 2016).

Scope and Delimitations

I explored views and experiences of project managers leading multicultural software development project teams in Nigeria and skills and competencies required to lead those teams effectively. Participants were project managers leading multicultural software development project teams with a minimum of 1 year of experience who possessed knowledge and experiences required to participate in this research. Inclusion criteria were developed to find critical participants to take part in this research. I recruited participants using the purposive sampling technique. I anticipated finding potential participants on LinkedIn and other social media platforms such as Twitter.

I focused on project managers who had experienced challenges leading multicultural project teams. By using the term multicultural, I anticipated diversity in terms of participant recruitment. Project teams were likely to be made of people of different ethnicities and races within and outside Nigeria. I did not involve members from

other fields such as construction projects. Aspects not explored in this research may be investigated in future studies.

Research procedures were clearly explained, allowing transferability to other settings. I provided rich and thick descriptions of methods, sampling techniques, recruitment, setting, and data analysis techniques to empower readers to make decisions regarding applicability of research findings. According to Shenton (2004), adequate thick description of the phenomenon under exploration must be provided to enable readers to understand and allow comparison to other emerging situations. I anticipated findings were transferable to other leaders of multicultural project teams in Nigeria.

Limitations

Social desirability bias was a potential limitation. There is a possibility that some participants may seek to give correct answers. Others may give responses that they may think were viewed favorably by researchers or maybe in line with expectations in the field (Bernard, 2017). To avoid such challenges, I took time to develop interview questions. I reviewed interview guides carefully to ensure there were no biased questions. Interview questions and protocol were pilot tested to establish their appropriateness for the current study. Using pilot-tested interview questions is critical in terms of gaining valuable knowledge regarding phenomena under exploration (Forero et al., 2018). The approach ensured trustworthiness of data. In addition, I assured participants of their rights to confidentiality and anonymity. Assuring participants of their anonymity and confidentiality is likely to encourage them to provide genuine responses during interviews (Ravitch & Carl, 2016).

I anticipated involving 15 to 20 participants. There were challenges involving obtaining a significant number of participants considering there are few managers or leaders of multicultural software development teams in Nigeria. A database for searching such individuals was lacking. Hence, I used social media platforms and personal knowledge to recruit many participants. Another limitation is that some participants may not have disclosed all their experiences due to the risk of disclosing information at their workplace that could be considered confidential or negative. Participants were assured of their confidentiality in order to encourage them to share their experiences. Potentially identifying information was omitted.

Participants were selected using the purposive sampling technique. This nonprobability sampling technique is commonly used to identify information-rich cases based on researcher judgment (Palinkas et al., 2015). The sampling technique may lead to bias during the participant selection process because it does not involve random selection of participants (Ravitch & Carl, 2016). Inclusion and exclusion criteria were developed to guide selecting participants and minimize bias during the selection process. This allowed recruitment of participants from different geographical areas, thus improving transferability of findings to other contexts.

Significance of the Study

The section involves justifying the importance of the study and its potential impact on research as well as how this research contributes to new knowledge, practice, and theory. The study will contribute to conflict and culture literature regarding aspects

of leading and managing multicultural software development teams with a focus on Nigeria. Study findings contributes to practice, theory, and social change.

Significance to Practice

Outcomes of this research may contribute to the body of research regarding evidence-based challenges facing project managers of multicultural software development teams in the developing world. This information might be essential to these populations in order to foster stronger team cohesion. Conflicts among team members exist due to personal differences in terms of beliefs and values, which are exacerbated by cultural diversity (Ayega & Muathe, 2018). Having a prior understanding of potential challenges may help project managers avert these challenges and lead to more productivity (Jayanthi, 2017). This study involved providing project managers of multicultural software development teams with insights about these challenges based on other project manager experiences. I addressed skills project managers of multicultural software development teams need to develop to effectively lead and manage their multicultural software development teams.

Significance to Theory

The study facilitates a better understanding of theories that framed the study by interpreting the study findings through the lens of theories. The study includes information about how project managers are likely to carry their own culture and that of current and previous groups to new groups. The study includes a clear outline of how perceptions of other team members lead to conflict in the workplace.

Significance to Social Change

Study findings can be used to design multicultural team leadership workshops in order to impact project managers leading multicultural software development teams with skills required to effectively lead teams, thus promoting positive social change through improved teamwork and productivity. These skills included communication, negotiation, and emotional intelligence. Research also can promote positive social change by giving voice to project managers of multicultural software development teams in the developing world, an under researched area in literature. Documented experiences may point project managers to new ways of thinking about cultural diversity in multicultural organizations operating in the developing world (Hong et al., 2016).

Summary and Transition

Chapter 1 includes the introduction and background to research. Culturally diverse teams are becoming the norm in the developing world. Continuing trends in globalization have made project managers work in multicultural settings, whereby culturally diverse teams are likely to develop different ideas and approaches. To harmonize contributions of culturally diverse teams can be challenging. The social problem is that cultural differences have been identified as a significant cause of fragmentation of project teams, as such challenges have led to disparaging interpersonal conflicts within project teams. Most of the past research has focused on multicultural teams in general, and few have focused on specific sectors such as software development in the developing world. An exploratory multiple case study design was used, and data

were analyzed thematically. Chapter 2 includes a critical review and analysis of the existing body of literature to support current research.

Chapter 2: Literature Review

There is a critical knowledge gap concerning challenges project managers leading multicultural software development teams encounter while leading these teams.

Culturally diverse teams present various challenges for organizational leaders which can impede communication processes and decrease performance levels due to lack of harmony and cohesion and misunderstandings (Heldal et al., 2020; Kappagomtula, 2017; Rahman, 2019). Cross-cultural conflicts and differences adversely impact managerial and leadership practices and behavior, including coordinating, controlling, and organizing staff members (Deshpande et al., 2017; Kappagomtula, 2017). Cultural differences can impact project performance because of misunderstandings between project team members (Heldal et al., 2020; Rahman, 2019). Cultural differences have also been a significant cause of project team disintegration, resulting in interpersonal conflicts.

With increasing trends in globalization, managers operating in multicultural settings are likely to develop different ideas and approaches. However, it cannot be easy to complement the contribution of culturally diverse teams since cultural differences can result in disparaging interpersonal conflicts within project teams (Jayanthi, 2017).

Although numerous studies have been conducted regarding multicultural leadership, benefits, and challenges in developed countries, no comprehensive study has been carried out in developing countries with a particular focus on software development teams (Averweg & Addison, 2015). Thus, this indicates a knowledge gap among leaders in this specific sector managing multicultural and diverse teams in developing countries. The

purpose of this qualitative multiple case study was to address challenges faced by project managers leading multicultural software development project teams in Nigeria.

In this chapter, discussions of multiculturalism, cross-cultural and interpersonal conflict, and leadership are presented. Cross-cultural complexities and challenges are critically evaluated to address multicultural project management in Nigerian software development. The chapter concludes with a summary and transition to Chapter 3.

Literature Search Strategy

The literature review includes various scholarly works from books, websites, journals, articles, and dissertations. The primary purpose of this multiple case study was to explore challenges posed to project managers leading diverse and multicultural teams in the software development sector in Nigeria. Relevant articles and journals which were peer-reviewed and published between 2018 and 2023 were retrieved from databases and search engines. The literature search was carried out using Google Scholar, SAGE Journals, Walden University Library, ProQuest, ResearchGate, Science Direct, and EBSCOHost. Google facilitated online searches of additional information on keywords.

Key terms used in the literature search were: *multiculturalism, cross-cultural complexities, multicultural competencies, global leadership, cross-cultural teams, cross-cultural management, multicultural challenges, cross-cultural conflicts, interpersonal conflicts, multicultural factors, management and resolution of multicultural conflicts, leadership and management, cross-cultural competence, and multicultural experiences*. The reference section of identified papers were scanned to identify more eligible studies. Also, I concentrated on multicultural project management by examining previous studies

involving multicultural software development management. Literature was selected to explore multicultural challenges facing project managers leading culturally diverse project teams in the software development sector in developing countries.

Conceptual Framework

Culture and conflict are core elements of multicultural dynamics. The human needs theory by Burton and cross-cultural adaptation theory by Kim were selected as theoretical frameworks for this study. Concepts of cross-cultural adaptation theory by Kim were chosen to address cultural adaptability in team settings. The human needs theory was selected because it relates human needs to conflict. The third theory in this project is Avruch's theory of culture.

Avruch's Theory of Culture

The problem in this study was comprehended using Avruch's concepts of culture. According to Avruch (2013), culture can be socially distributed across populations, and is a derivative of human experiences. This is particularly true among multicultural software development project teams. When multicultural software development project teams complete their tasks, this motivates them to undertake other different projects. Although members can originate from different international cultures, they can develop their own culture, creating challenges that can lead to interpersonal conflict that can negatively affect the project's success; by understanding this, project managers working with multicultural software development teams can set expectations that can assist in terms of managing and avoiding any interpersonal conflicts among teams (Avruch, 2019).

According to Avruch (2013), culture is psychologically distributed among individuals within multicultural populations. This theory was used for the study as a lens through which to analyze the problem. Acculturation can significantly impact how team members relate and react to interpersonal conflicts (Avruch, 2019). This could result in other cross-cultural complexities that challenge project managers' ability to lead successfully. The acculturation effect could occur faster with team members who adopt culture superficially. Understanding this concept is vital since it helps project managers effectively.

Avruch (2013) asserts that culture is intensely connected to the current or past social practice since it is a derivative of experience. In spite of its conventional base, culture is to a large extent flexible, circumstantial, and responsive to the needs of the world where the individuals live. New cultures among team members can help them determine how they react to conflicts at any given time irrespective of their traditional or customary base. The blend in culture emanates from a mix of the team members' conventional culture base or the present and past social practices (Avruch, 2019).

Human Needs Theory

Maslow's human needs theory was applied. According to Maslow (1970), cultures are marked by different needs and threatened by the absence of those needs because absence or scarcity leads to conflict. Such needs include but are not limited to physiological, security, love, esteem, and self-actualization. Humans are characterized by various crucial qualities which result in conflicts when missed. These include identity, recognition, belonging, freedom, personal fulfillment, and distributive justice (Maslow,

1970). In multicultural settings, team members depend on one another to deliver quality outcomes. For effective collaboration, needs of team members have to be met (Ritzer & Goodman, 2004). Needs could be culturally triggered. For instance, individuals who may not have English as their first language may have problems communicating with native speakers.

Native speakers need to be patient and empathetic with nonnative speakers as they learn new languages. If these needs are not met, it could result in a cross-cultural complexity resulting in differences and conflict. An example is a team member from a different cultural background who believes that respecting their elders does not maintain eye contact (Rodríguez-Rivero et al., 2022). Thus, understanding the needs of such a member is crucial to avoid causing any possible conflicts. In essence, members of different software development teams have different needs and belong to other groups (Ritzer & Goodman, 2004). Hence, project managers need to be prepared to handle challenges arising from their group members' nature. Multicultural software development project team members are likely to carry their own culture and that of their current and previous groups to the new groups, hence the need for project managers to handle challenges that may emanate from this (Ritzer & Goodman, 2004). Perceptions of other team members may lead to conflict in the workplace. They may also force the new members to suppress their culture or undergo cultural transformation to fit the new team. The human needs theory's connection with the human needs to culture plays a vital role in introducing awareness of how different cultures' needs affect a software development project team's dynamic and the possible outcomes (Burton, 1998). In this regard,

multicultural project leader's must-have skills that can assist in accommodating the different needs of team members in a manner that prevents and address conflicts (Ritzer & Goodman, 2004). This will only be achieved by ensuring that the project is delivered within the stipulated time, budget, and scope.

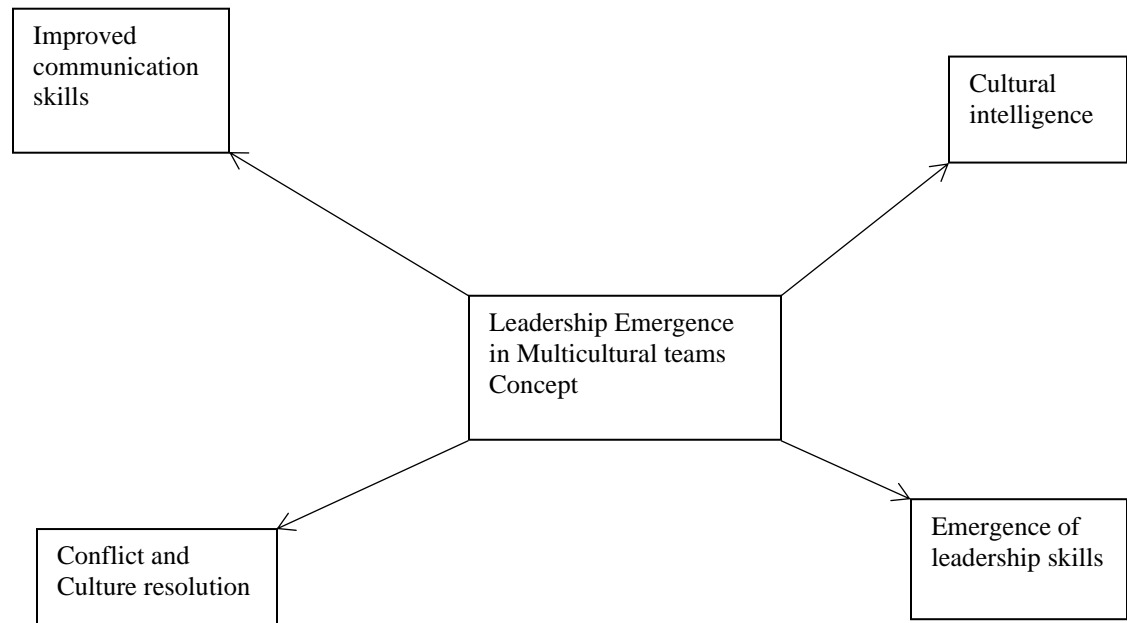
Cross-Cultural Adaptation

According to Kim (2001), cross-cultural adaptation theory depicts that deculturation and acculturation arise when strangers from different global cultures have a common purpose. Deculturation and acculturation arise because individuals will be striving to adapt to the cultures of others to foster effective communication between them. Although communication is unique in every culture, similarities and differences can occur due to cultural variability dimensions of cultural variabilities such as individualism-collectivism and low context-high context cultures (Pinilla, 2020). A software development project is one form of project that can make a multicultural team collaborate to achieve this project's success. Therefore, when a team member joins a new multicultural team, the team member's culture will begin to be affected by each team member's culture. As a result, the team members get a new culture, which blends the team member's base culture and the cultures of all the teams (Kim, 2017). Through this theory, team members can eliminate unwanted aspects of their culture and adapt to the new culture of each new team. This could affect how the team members react to interpersonal conflict in the software development project. With this understanding, a skillful multicultural project leader for a software development project team must assess

the dynamics of each team member's culture. This will help overcome the cultural challenges and concentrate on the project at hand.

Figure 1

Conceptual Diagram



A literature review was carried out with a focus on the management experiences of multicultural project team leaders and the impact of their multicultural skills in leading multicultural teams. The selected concept was Lisak and Erez's (2015) concept of leadership emergence in multicultural teams. Lisak and Erez's (2015) concept of leadership emergence in multicultural teams explores key concepts including conflict and culture. Examining this concept was beneficial in assisting multicultural managers in understanding how to solve conflicts that could have arisen due to the incorporation of different cultures during multicultural software development projects. Leadership skills

emerge when multicultural teams understand and overcome internal boundaries separating members from disparate cultures (Lu et al., 2022).

When multicultural managers show their leadership skills during conflicts, they become productive and generate a synergized outcome from individuals with diverse skills and concerns regarding cultural boundaries (Kane & Levina, 2017). This sense of connection with others with different cultures working in the same global company shows an individual's global identity. Self-concept-based leadership theories insist on the importance of three universal features of the global identity that can contribute to a multicultural team member being recognized by other team members as an emergent leader (Lisak & Harush, 2021). Concurrently, global identity will be useful in conveying a sense of going to the global work context where leaders can easily communicate with team members of different cultures. Cultural intelligence significantly differentiates upcoming global leaders from other team members, improving their roles as multicultural brokers (Shan et al., 2021).

Definitions and Constructs of Multiculturalism

Multiculturalism is a perspective in which diversity in backgrounds and experiences related to race, sexuality, age, religion, education, ethnicity, and socioeconomic class are acknowledged (Sukamto et al., 2018; Vora et al., 2019). Multiculturalism is a social movement that respects and celebrates pluralism, and it advances the view of cultural heritage and experiences of different racial and ethnic groups (Sukamto et al., 2018). This section presents the definition of the term multiculturalism and explores its various constructs.

Definitions

Multiculturalism can be defined as the co-existence and thriving of more than two cultures within a particular society. Deshpande et al. (2017) asserted that multiculturalism accepts and promotes diverse cultural traditions in society, while Vigier and Spencer-Oatey, (2017) defined multiculturalism as the point at which different social customs are recognized in the public and advanced. Kappagomtula (2017) stated that multiculturalism is inclusive of employees from different nationalities, ethnicities, races, education, and genders, while Heldal et al. (2020) described multiculturalism as the workforce representation of differences in race, ethnicity, language, nationality, and sexual orientation.

The multicultural co-existence constitutes distinct and diverse cultures manifested through ethnic, religious, and racial groups, all these present distinguishable communicative ways, beliefs, attitudes, patterns of behaviors, and cultural perspectives (Bhatia, 2021). Primarily, multiculturalism seeks to include the various viewpoints and contributions of the diverse cultural members of the society while upholding their integrity and acknowledging their set of differences as they assimilate with the dominant culture (Sukamto et al., 2018). The phenomenon has a great impact on institutions and political and sociological aspects of people's lives. The contributions and practices of distinct cultural groups in various fields have emphasized the increasing need for recognition to heighten the interest further and promote equity across all domains (Sukamto et al., 2018).

Multiculturalism can differ from company to company depending on the policies and plans postulated for a specific purpose, which will be beneficial in improving organizations' efficiency and revenue. However, when cultural diversity is not properly managed, it could conflict with the productivity and contentment of workers. Various studies posit that when all employees are valued and treated right in the companies they are working for, it gives them more enthusiasm (Alemu, 2016; Dumitraşcu-Băldău & Dumitraşcu, 2019; Tabassi et al., 2019). However, this will not be the case if those from the minority group in a company are not receiving similar benefits, making them feel less valued. As a result, this can limit their capabilities and enthusiasm that can significantly affect their job performance. Thus, when the significance of multiculturalism is neglected, conflicts and differences are expected to occur (Ogbodo, 2014).

Constructs

Multiculturalism depicts the way a given society handles cultural diversity. Grounded on the assumption that members of different cultures coexist peacefully, multiculturalism expresses the view that society is enriched by preserving, respecting, and promoting cultural diversity (Krawczyk-Bryłka, 2016). In the area of political philosophy, multiculturalism is concerned with the ways in which societies choose to develop and implement official policies with equitable treatment of different cultures (Sukamto et al., 2018). The key constructs of multiculturalism will be reviewed under this section.

Multiculturalism as an Acculturation Process

Acculturation can be defined as the process of adapting new culture.

Acculturation and multiculturalism are tightly twisted, with multiculturalism being one of the outcomes of the acculturation process. According to Krawczyk-Bryłka (2016), acculturation can help individuals gain knowledge and understanding of different cultural systems, resulting in cultural change. Acculturation changes can occur in various life domains, including language use, social affiliation, communication style, cultural identity, and cultural beliefs and knowledge (Karim, 2021). However, this can arise by learning and adapting to a new culture gradually. Usually, acculturating individuals have to deal with two major issues. First, they have to ensure that they are motivated or allowed to retain their true origin as much as they are involved with the other culture (Akanji et al., 2018). Second, they must ensure they are motivated or allowed to participate in the mainstream and normal culture. This is because the process includes separating or retaining the ethnic, cultural identity and marginalizing one's relationship with the dominant culture (Karim, 2021).

Although differences in acculturation can be linked to variations in measurements, studies have discovered that a high degree of acculturation can result in separation orientation, while low degree acculturation can result in an assimilation orientation. This is because the process entails separating or retaining dominant cultural identity and positive orientation towards both ethnic and host cultures (Krawczyk-Bryłka, 2016; Lima & Patah, 2016). According to Akanji et al. (2018), the acculturation patterns found within a multinational organization can influence whether minority groups adopt

the dominant group's norms and values or not adapt to the dominant group. This research highlights the impact of acculturation and the adoption of cultures by multicultural individuals.

Various assimilation and acculturation models, such as the alternation model, have been explored to provide an understanding of how to relate to different cultures. According to Kappagomtula (2017), the alternation model affiliated with the cultural frame switching concept can offer understanding regarding different cultures and at the same time maintain a sense of individual cultural identity. Despite the relevance of various acculturation models, Tabassi et al. (2019) revealed that these perspectives could help understand how individuals can adjust and become effective when working in a new multicultural environment setting. Thus, these models show the multicultural process as summative incorporation of cultural identities when identifying behavior and insights of other cultures.

However, critics have argued that acculturation has some weaknesses. According to Jayanthi (2017) and Regus (2022), acculturation assumes that tension can occur when an individual tries to assimilate into another culture. Although studies have not focused on the tension between two cultures, this has coarsened attention towards the negative aspects of multiculturalism, thereby neglecting the benefits that multicultural teams will gain when working in a multicultural organization (Regus, 2022).

Multiculturalism and Identification

Identification can be defined as the criteria people use to relate or identify themselves with more than one culture to be regarded as multicultural. Over time and

across disciplines, identification has been regarded as one of the most crucial constituents used to theorize multiculturalism. This concept is somehow connected to acculturation. This is because both are concerned with how individuals are affiliated with each of their cultures (Alemu, 2016; Kappagomtula, 2017).

One of the major benefits of conceptualizing multiculturalism in terms of identification is that it gives room for more flexibility in conceptualizing mixed forms of multiculturalism. Lee and Schneider (2020) discovered that people could be identified with cultures that are not associated with their geographical place. Other research studies have depicted that identification can assist in exploring interpersonal questions related to working with multicultural teams and gaining insight into the needs of other cultures (Vora et al., 2019). The mission is usually to acknowledge and capture differences in multicultural identity negotiation and understand the varied processes involved in developing multicultural identity constructs. The construct is useful in understanding cultural identity integration experiences and managing various multicultural differences and their ways.

Multicultural team members can change their identity through identification depending on the circumstances using cultures they are prototypical to, although the motive for the occurrence can be self-enhancing (Ayega & Muathe, 2018). This move can be oblivious when changing an identity since it can cause confusion and misplaced cultural responses not affiliated to situational exigencies, especially when an individual's identity is misidentified or improperly acknowledged. Other studies have revealed that multicultural individuals can easily blend and relate with other cultures through

hybridization due to the infusion of cultural identities. Therefore, when multiculturalism is conceptualized in terms of identification due to hybridization, it will be easy for people to identify themselves as group members without having access to cultural content, which is normally related to that culture (Rahman, 2019).

Multiculturalism and Cognition

The cognitive concept defines multiculturalism by adopting cultural schematics, which is referred to as understanding different cultural structures and cultural self-concepts (Batsa et al., 2020; Huang, 2016). For many years, the cognition concept concerning multiculturalism has developed, becoming one of the dominant approaches (Abadir et al., 2019; Rahman, 2019). One of the major insights that are usually gained from this construct is that individuals can possess multiple mental depictions of cultures triggered by contextual clues. As a result, this can help one to theorize about cognitive consequences of multiculturalism, such as self-efficacy and attribution complexity. According to Alemu (2016), benefits associated with cognitive strategy can be attributed to its strong theoretical foundation and empirical evidence. This can be a result of research that was conducted revealing how brain activation contributes to frame shifting among multicultural individuals (Ayega & Muathe, 2018). Unlike other constructs of multiculturalism, the cognitive strategy emphasizes what is currently happening as a basis for the theory. This is because cultural schematics highly depend on how an individual understands a specific culture.

Multiculturalism and Skills

Skills and capabilities are constructs that conceptualize multiculturalism. This can easily be identified where people from different cultures relate, making it a key element of becoming multicultural. According to Sarala et al. (2018), these constructs originate from acculturation, where views related to function in two cultures are discussed. Also, Korzilius et al. (2018) focused on multicultural models, which defined multiculturalism as having multicultural competency or bringing behaviors skills. One of the major advantages of these concepts is that they are very practical. According to Grass et al. (2020), when skills and abilities define multiculturalism, it becomes easy for the teams to cooperate successfully. Similarly, skills and abilities are considered important since multicultural individuals are usually viewed based on their talents and expertise, particularly in a culturally diverse and cross-border context.

However, despite the importance of these constructs in a multicultural setting, they have few limitations. According to Cico et al. (2021), one of the limitations that are usually overlooked is the basis of skills and abilities, which is knowledge. Apart from serving a crucial purpose in understanding multiculturalism, it is usually assumed to be part of skills and abilities. Another limitation is their behavioral representation, making multiculturalism regarded as one of its results, behavior (Cico et al., 2021; Korzilius et al., 2018). Thus, people who impressionist appropriate behaviors after being trained can gain apparent knowledge concerning the expected behaviors.

Multiculturalism and Context

The common theme involves defining individual-level multiculturalism by the context in many studies, such as geography, interpersonal relations, and history.

Researchers have argued that this concept is usually assumed when individuals from more than one cultural group differ from the multicultural (Huang et al., 2022; Lee & Gyamfi, 2023). However, researchers have focused on the social context of interpersonal relationships that can support individuals from cultural affiliations when exploring multiculturalism. For instance, when examining the impact of multiculturalism in improving organizational performance in the USA, the context will be multicultural companies operating in the US (Korzilius et al., 2017).

According to Ponomareva et al. (2022), context-based conceptualization is important as it unequivocally recognizes how largely external-based factors such as cultural heritage and interpersonal relations steer and compel individuals' multiculturalism. Although having more than one ethnic origin or being surrounded by multicultural networks can offer more opportunities for one to become multicultural, various issues can be experienced. First, the contextual concept varies among people, ranging from superficial to deep. Vora et al. (2018) revealed changes that an individual can encounter through interacting with consumers from different cultures could be beneficial since one can develop intercultural contact. Another limitation is that contextual concept approaches discount an individual's agency to select how to interact with one's cultural environment.

Other research studies explore different views regarding context. According to Hong et al. (2016), South Asian women residing in Britain applied multiculturalism by developing affiliated identities where they actively engaged with diverse cultural groups to the point of assimilating them. Studies have shown that the individuals who demonstrate cultural acquisition can deepen their knowledge by enacting other cultures over time (Hong et al., 2016; Vora et al., 2019). In other words, while context plays a crucial role, individuals can exercise agency over their cultural identity.

Prevalence of Multiculturalism

Multiculturalism has been prevalent since ancient times. This can be traced back to when the First Persian Empire followed a policy of integrating and tolerating various cultures (Liu et al., 2015). Today, statistics estimate that people residing in their non-birth countries will increase in the coming years (Huynh et al., 2018). This can be attributed to the worldly spread of cultural interactions, transmissions, exposures, and variations through migration, globalization, travel, diversity, and related outcomes (Hong et al., 2016).

In developed countries, there has been a high prevalence of multiculturalism. For instance, in the US alone, approximately 13% of people are foreign-born, where 34 % are non-white, and 20 % speak a language other than English at home (Hong et al., 2016). An increased number of multicultural people can also be found in other countries, where migration is strong or where there is a history of colonization, such as Nigeria. According to the United Nations, the number of international immigrants increased significantly from 75 million in 1965 to 150 million in 1990 (United Nations, Department of

Economic and Social Affairs, Population Division, 2017). In 2005, more than 190 million international immigrants moved from developing to developed countries. For instance, the net inflow of migrants to Europe, Northern America, and Oceania increased during this period, although there were signs of reduction at the beginning of 2010.

However, migration from poor developing countries to developing middle-income countries has also increased. According to Chiou (2016), the Gulf countries have received a significant increase of migrants from other Arab countries and Asia. Argentina has absorbed sizable flows of migrants from Bolivia, Paraguay, and Peru. In Africa, more than one million Mozambicans have migrated to South Africa because of mining, and the number is expected to increase even in the future (Marais et al., 2020).

Nigeria has experienced a significant increase in the number of international immigrants from half a million in 1990 to 1.3 million in 2020. However, since the net migration rate has been negative, Nigeria is considered to have the largest population in Africa and the seventh largest in the world, with about 206 million people. Compared to other West African countries, Nigeria still has the lowest share of migrants, resulting from its vast population. Being a diverse country with multiple ethnicities, religious practices, and languages, developing long-lasting business relationships in the Nigerian business environment is paramount. This is because it requires formal and informal meetings that are usually beyond professional discussions (Zong et al., 2018). Trust is built over time, depending on the relationships. This is different from other developed countries where trust depends on consistent performance rather than just relationships. In general, the population of multicultural communities is expected to increase in size over

the next decades. For instance, from two million to 10 million between 2010 and 2060, commanding an increase from 2.5% to 6.2% of the population (Colby & Ortman, 2015).

Multiculturalism gradually arises from cultural interaction between people who are from different cultural orientations. Thus, these unique cultural identity outcomes regarding individuals have emerged from phenomena such as migration, ethnicity, demography, race, and identity, including hyphenated cultural identity, globalization, and professionalism (Zong et al., 2018). Multiculturalism is majorly attributed to international migration and their immediate offspring to the high-income world. This phenomenon has been primarily driven by technology, the internet, and global connections encouraging migrants to acculturate, leading to different versions of identifying with and acknowledging the ethnic and host cultures (Schwartz et al., 2016).

People can become multicultural by associating with hyphenated cultural identities, a higher, synergized, emergent self-concept derived from integrating the values of the host and heritage cultures. This is because multiculturalism embodies and promotes cultural security, cultural diversity, and cultural equity. Alternatively, non-immigrant individuals are multicultural through globalization. With the internet, language, products, and the media, globalization has led to multicultural individuals living in their ethnic countries that recognize people who have multiple cultures. Notably, the rapid growth of multiculturalism has become integral to the dynamics of most populations globally, and Nigeria is not an exception. However, multiculturalism issues are taking center stage in countries globally and growing in importance across multiple research and practical domains.

Benefits of Multiculturalism

Multiculturalism in workplaces positively impacts every organization since most companies are becoming multicultural and diverse in gender, race, and nationality, which can bring considerable benefits to the company. In a study of multicultural organizations and teams, Szymanski et al. (2019) found that multicultural people were more likely to occupy senior positions than monocultural ones. Notably, multiculturalism has been proven to have more culturally diverse networks (that is, their networks include people from more varied cultural backgrounds). They hold more strategic positions within these networks (for example, they are more likely to have centralized positions. This is because they have a higher level of creativity, particularly in tasks with cultural relevance (Engelsberger et al., 2022; Szymanski et al., 2019).

People of multiculturalism hold more complex views of culture and social issues. Shan et al. (2021) revealed that multicultural project managers have better cultural metacognition, or awareness that cultural differences matter. As a result, this can help them monitor and regulate their behaviors in cross-cultural situations. Research has established a dynamic connection between multicultural identification and social networks (Shan et al., 2021). A positive link has, for example, been identified between bicultural identification and personal social networks (Bobowik et al., 2022).

Multiculturalism has been considered to contribute significantly to innovative thinking and the development of creative ideas in all organizations (Grass et al., 2020; Korzilius et al., 2018). When organizations implement the policy involving multicultural employees, it provides guidelines on how different cultural norms should be designed and

discussed. Managers working in a multicultural environment will be innovative in formulating policies arising from culture-specific norms, especially when providing a common set of standards around which cross-cultural team members can relate to one another (Ayega & Muathe, 2018). Similarly, employees from different cultural backgrounds have different experiences, knowledge, networks, and skills, bringing together diverse perspectives that can be useful in increasing innovation. Thus, multicultural managers are often brought into these cross-cultural teams as facilitators or barriers of cross-cultural differences. Evidence depicts that when performing a cross-cultural task, multicultural people are more innovative compared to monocultural (Ayega & Muathe, 2018). This can be attributed to their skills in handling different tasks since they originate from different cultures.

Multiculturalism has been considered to affect the characteristics of one's social networks, which is an important element for success in multicultural organizational settings (Maddux et al., 2021). One's ability to successfully negotiate multiple cultural settings often hinge on "informants" from different cultures who can provide culture-specific knowledge, guidance, and advice (Vora et al., 2019). A culturally diverse network has been shown to be important for success. According to Jayanthi (2017), multicultural people have more network connections with their secondary culture, which are richer. This indicates that multicultural individuals who view their cultural identities as conflicting appear to keep their native cultural resources.

Alternatively, multiculturalism promotes cultural security, cultural diversity, and equity. According to Schwartz et al. (2016), cultural security entails cultural safety,

cultural sensitivity, and awareness. Also, bicultural individuals can play a unique role in teams or workgroups. For instance, managers with multiple cultural perspectives can be recruited into teams precisely because they can bring different perspectives and knowledge to a team's task. These perspectives, however, cannot benefit the team unless they are verbalized since they can help leverage cultural diversity to improve organizational performance.

Multiculturalism has been proven to increase productivity and efficiency in a highly competitive environment. Berry (2016) found that high performance in a multicultural environment can be exhibited where multicultural teams show diversity in age, ethnicity, nationality, gender, and other differences, where employees can enrich their knowledge and skills to improve the organization's performance. The study also revealed that multiculturalism improves employee career growth and interpersonal skills in a working environment. Multiculturalism also helps companies increase their general employee satisfaction and inspire their global image. As a result, this helps increase the predisposition to overcome culture shock due to expansion in business and move towards meeting global needs (Carlo et al., 2016).

Challenges of Being Multicultural

This section presents an exploration of the literature reviewed under the challenges of multicultural teams. Themes including cross-cultural complexities, culture and interpersonal conflict, and cross-cultural interpersonal conflict management and resolution have been reviewed.

Cross-Cultural Complexities

In the context of this dissertation, cross-cultural complexities can be defined as individual characteristics that can affect one to integrate fully with others or perform the task easily in an intercultural setting (Repke & Benet-Martínez, 2017). Individuals with these characteristics can easily cause conflicts since they cannot comfortably relate or work with people from different cultures. However, the following challenges were eminent when researching the existing research articles regarding cross-cultural complexities.

Communication Barrier

Effective communication in a culturally diverse company is key since it will allow people to share and exchange ideas that can transform organizational performance. While people can have different communication styles, this can cause conflicts among people working in a multicultural setting. Two studies found that the communication barrier was a major concern among multicultural teams.

Jayanthi (2017) investigated the communication issues and conflicts among multicultural teams and their effect on cultural diversity. In multinational companies, communication issues could cause a project to fail. Furthermore, differences in cultural assumptions and communication styles can negatively affect an organization's performance, leading to conflicts (Abadir et al., 2019). Conflict in any multicultural organization can occur due to improper communication leading to misunderstandings and conflicts. The communication barrier as a cross-cultural complexity significantly affected multicultural team performance (Jayanthi, 2017). With the communication barrier as a

cross-cultural complexity, it is possible to examine the existence of other cross-cultural complexities.

Communication barriers could result in negative stereotyping of intelligent team members. Vigier and Spencer-Oatey (2017) explored how communication barriers can impact multicultural individuals in a multinational company. Team members with less proficiency in a common language tend to feel more insecure and are usually met with frustrations from people who understand different languages. Consequently, the notion of stereotyping people against their culture or origin could negatively affect the working relationships of employees, hence, disrupting team functioning. Communication barriers in a multicultural team decrease understanding and can result in categorization processes that could be destructive to team collaboration (Brett et al., 2020).

Consequently, this study presented the knowledge, context, and methodology gaps. The knowledge gap is linked to only researching communication barriers as a cross-cultural complexity. However, the current research study addresses this gap by investigating other cross-cultural complexities experienced by project managers in multicultural software development project teams. The context gap involved researchers focusing on one company. The current research addresses the gap by exploring challenges experienced by project managers working in a multicultural setting across Africa. The methodological gap observed in this study is the use of the ethnography field approach. This study will address this gap by utilizing a qualitative approach.

Competition

Competition is a universal aspect of human life. Thus, the values and attitudes that people usually have regarding competition may vary. If not properly articulated, the problems associated with competition can immensely result in conflicts among multicultural teams (Pokhrel, 2023). Desivilya and Raz (2015) focused on exploring multicultural healthcare professionals operating in medical centers. Competitive attitudes from members of a common culture who considered sharing information in their native language made other members from a different culture feel uncomfortable, resulting in conflicts since other members felt discriminated against. However, the researchers called for more research to be conducted regarding how to improve coordination and diversity among multicultural teams. The context of the research investigated multicultural teams of nurses. This will be different since the research will investigate the challenges project managers experience when working with multicultural software development project teams.

Different Working Styles and Expectations

Individuals from different cultural backgrounds have their unique ways of working. Mach and Baruch (2015) focused on exploring how different working styles and expectations can impact multicultural team performance. Approximately 36% of the participants agreed that the most different working styles and expectations of team members was serious concern stemming from cultural backgrounds. Their research shows that team members must be guided to achieve tasks varied depending on their culture. For instance, while some of the members anticipated having autonomy on their

tasks, others expected explicit directions from the team leader to complete their work. Attitudes, values, and how individuals create relationships differ from one culture to another. Working styles and ethics among multicultural team members are likely to be different as well. Although some cultures insist on private time and work-life balance, it can be more acceptable in some cultures and will not be perceived as exploitation to inquire employees to work more than the stipulated time, which is more than eight hours a day (Chu et al., 2019). Concurrently, perception of authority and responsibility could be different. From Mach and Baruch (2015) research, people are likely to be different based upon their culture. This is because people can easily be motivated with an appropriate compensation system in a stable environment. For instance, Chinese and Koreans can easily accomplish their tasks since they are happier to follow their instructions than their seniors accustomed to working independently (Heldal et al., 2020). On the other hand, some employees with higher salaries than others would be more motivated to work and complete their tasks on time.

Therefore, multicultural leaders who pay based on the work done and motivate employees are not likely to experience any difficulty when dealing with multicultural teams. Quality of life and a relationship-based work environment could significantly improve the accomplishment of tasks among employees.

Intolerance and Lack of Knowledge

Tolerance can be defined as the capability to identify and respect other people's values and beliefs. In other words, being tolerant means accepting diversity and not expressing negative attitudes towards different individuals (Averweg & Addison, 2015).

According to Heldal et al. (2020), 28% of the participants agreed that intolerance and lack of knowledge about diversity are serious problems that need to be addressed. From their study, the first thing that the manager needs to do is to ensure that every employee respect diversity. The researchers revealed that there must be individuals who come from different countries and speak different languages in every multicultural team. For this reason, it is crucial not to use these differences to banter or begin a conversation. These scholars revealed that people should do their jobs in a multicultural setting without feeling judged. In this regard, team members must be trained about diversity and cultural tendencies since they will be more tolerant of their differences. Research revealed that a lack of awareness of team members and managers concerning these issues could result in conflicts among team members in the team. As a result, it could lead to underperformance under these circumstances where the managers would be required to identify strategies to tackle them.

Culture and Interpersonal Conflict

In every organization, people do not move suddenly from peaceful co-existence to conflict-ridden relationships. Conflicts occur because of dealing with cross-cultural complexities in a multicultural setting. Many studies have mentioned that conflict between members of different cultures can result from interpersonal conflict. This part of the literature review will explore what existing literature says regarding culture and interpersonal conflict and the impact of interpersonal conflict on teams regardless of an individual's culture.

Zhang and Huo (2015) explored how interpersonal conflict impacted construction project performance through negative emotions in China to examine and compare the challenges associated with culture and interpersonal conflict. The method that was used in this study was a structured questionnaire survey that gathered 266 completed data from 45 construction project teams in mainland China. The study discovered that interpersonal conflict and negative emotions have contrary connections with project performance. The research revealed that project performance is one of the vital indicators of project success. Thus, managers are expected to be extra vigilant and make practical adjustments that can help reduce interpersonal conflicts that can significantly affect project performance (Brett et al., 2020). This could only be achieved by emphasizing the need for project managers to have a high level of political skill.

In another study that explored the culture and interpersonal conflict, Yasmeeen et al. (2020) examined the relationship between structural empowerment and interpersonal conflict in international nongovernmental organizations in Pakistan. There was a positive relationship between culture, structural empowerment, and interpersonal conflict. The results indicated that a multicultural organization implementing structural empowerment had a lot of interpersonal conflict cases. However, the researchers concluded that being a multicultural manager comes with the responsibility of understanding the roles of others to avoid future interpersonal conflicts. To manage and prevent conflicts, there is a need for project managers to possess human factor skills such as political skills (Zhang & Huo, 2015).

Cross-Cultural Interpersonal Conflict Management and Resolution

The literature review on this topic explores the existing literature present without restricting the review to the realm of software development project management studies. The selected studies explored challenges faced by managers when managing and resolving conflict among multicultural teams.

One of the major challenges faced by managers when resolving interpersonal conflict in multicultural teams is trust. Krawczyk-Bryłka (2016) focused on examining the relationship between people from different countries in the context of multicultural teams. Multicultural teams with cooperative status hierarchies had higher mutual trust and psychological safety than multicultural teams with competitive hierarchies. Multicultural teams who cooperate have lower relational and process conflict than those with competitive status hierarchies (Altwaiian, 2019). Lack of trust among multicultural teams could lead to poor communication, increased stereotyping, diminished loyalty, and increased occurrence of interpersonal conflict.

Another challenge that managers experience when dealing with interpersonal conflict within a multicultural team is the presence of competition. According to Tabassi et al. (2019), team diversity was considered to cause competition and envy between individuals from different cultures. Competition results in trust issues, which led to interpersonal conflict among the multicultural team (Yu et al., 2021). This literature review revealed that multicultural leaders must invest in enlightening multicultural teams on the significance of competition to address this issue.

Research on Multicultural Managerial Competencies

Competencies can be defined as sets of interrelated domains of understanding, capabilities, and behaviors that can be designed to offer insight into managerial efficiency in an organization (Lima & Patah, 2016). In a multicultural setting, managerial competencies include both cognitive and behavioral abilities that are dependent, dyadic, transactional, transformational, and people oriented. This section explores literature reviewed regarding multicultural competencies for software development project managers.

The first multicultural managerial competency required is developing an awareness of other cultural values to understand and interpret one's behavior. According to Kappagomtula (2017), this requires developing behavioral flexibility and cognitive complexities that can be useful in understanding other people's cultures and their values (Kappagomtula, 2017). When developing this skill, the process includes cultural bridging abilities depending on the experience and knowledge gained from the specified culture (Heldal et al., 2020). Kappagomtula (2017) concluded that with the help of this skill, multicultural managers will have a fundamental understanding of the operational context of international business and how to ensure multicultural teams perform their tasks as required.

Another competency required involves comparing cultural-specific knowledge to cross-cultural ability. This competence involves switching cultural frames to examine culturally specific schemas and utilizing cultural metacognition abilities. This will help determine which cultural-specific knowledge to apply when dealing with multicultural

teams (Alemu, 2016; Dumitraşcu-Băldău & Dumitraşcu, 2019; Tabassi et al., 2019). This will help appreciate other cultures' diverse cultural norms and values and understand cross-cultural complexities when dealing with people from diverse cultural orientations. According to West et al. (2017), one can understand how different people respond differently to cultural primes through cultural frame switching.

Cultural metacognition is another important skill a multicultural manager should possess. According to Krawczyk-Bryłka (2016), through cultural metacognition, the manager can understand how to manage complexities in cross-cultural engagements, understand both cultural variations and resemblances, and develop heightened attention when managing multicultural teams. This offers a multicultural competence its vitality and emergence from the interaction of its parts and complements its conceptualization (Batsa et al., 2020). Managers can develop this competency by acquiring cultural-general experience during international exposure and working and collaborating with different cultures.

Another multicultural managerial competency is possessing cross-cultural agility skills. According to Hanna and Bethzazi (2018), understanding cross-cultural agility is crucial towards improving cohesion and cooperation among multicultural team members. Agility in management can be divided into five pre-expert, expert, achiever, catalyst, co-creator, and synergist (Abadir et al., 2019). These categories depend on four competencies: context-setting agility, self-leadership agility, stakeholders' agility, and creative agility (Abadir et al., 2019). Therefore, when multicultural leaders incorporate this competency in their leadership role, they tend to out-perform other managers

regarding effectiveness and engagement. In addition, they can show up a high consciousness for modifications within their environment, focus on informed decision-making, and implement their decisions fast. Different studies have postulated that most managers in agile organizations are achievers with a strong trend to the catalyst level. Concurrently, cross-cultural agility incorporates effective communication among team members of different cultural backgrounds. As a result, this will lead to integrating and navigating themselves into teamwork that is purposed to achieve the project's goal. Although the organization can develop cultural awareness and international ethos, these teams will not have any problem relating to people from other cultural backgrounds.

Literature Gap

More than 190 million people have emigrated from their birth countries, indicating a 100% increase from the 1990 figure (Lima & Patah, 2016). However, migration from poor developing countries to developing middle-income countries has also increased. Migration has developed a situation where individuals with skills and competence can work and operate in developed countries, leading to the presence of a highly educated work demographic known as multiculturalism. Multicultural individuals or teams are important for the success of every global organization, although relatively little is known about their impact within their working environment (Krawczyk-Bryłka, 2016). Multicultural employees are more than a hypothetical construct.

The notable emergence of multiculturalism has prompted more studies regarding multicultural competencies. West et al. (2017) argued that cultural awareness skills are paramount when developing a bicultural competence concept since they can help

organizations or multicultural teams achieve the required purpose. Managers working with multicultural teams can have difficulty understanding different cultural dispositions. This study does not discuss how leaders or managers should respond differently to cultural primes by using various approaches like cultural frame switching. Also, this literature did not explore some guidance to global organizations regarding employing multicultural individuals with skills and competency in their respective fields.

Other existing studies investigated cross-cultural complexities. However, they did not explore the complexities and the specialized skills required by project managers to effectively deal with these complexities and reduce interpersonal conflicts (Brett et al., 2020; Kappagomtula, 2017; Pokhrel, 2023). Alternatively, the literature discovered that most research focused on industries, such as healthcare organizations, and not the software development domain, presenting a knowledge gap. Therefore, these knowledge gaps presented an opportunity for the current study to be conducted to validate the challenges project managers usually experience in the multicultural software development realm.

Literature discovered that a lack of specialized skills by managers led to multicultural initiatives (Heldal et al., 2020). The researchers concluded that managers should have skills and experiences that would assist them in developing a shared group identity to avoid cross-cultural conflicts and increase collaboration among multicultural teams. This established a knowledge gap addressed in this current study by narrowing the study that explores skills required by project managers dealing with multicultural software development project teams. These skills will be useful in building a shared

group identity, minimizing destructive conflicts, and maximizing collaboration among multicultural teams (West et al., 2017).

Summary and Conclusions

The literature review was focused on challenges affecting managers working with multicultural teams. I began first by addressing multiculturalism and then subsequent studies about the prevalence of multiculturalism and benefits and challenges project managers' experience when working with multicultural teams. The literature review also included gaps in order to explore cultural complexities experienced by project managers and competencies required to overcome those challenges.

The literature includes four primary themes, which are further divided into secondary themes. Secondary themes were multiculturalism, its prevalence, benefits, and challenges, and literature research gaps. Primary themes were cross-cultural complexities, culture and interpersonal conflict, and cross-cultural and interpersonal conflict management and resolution. Further, I explored competencies required by project managers working with multicultural software development teams.

Most articles focused on challenges multicultural leaders encounter when dealing with multicultural teams. Most findings on multiculturalism involved understanding diverse cultural characteristics and challenges multicultural teams usually experience. Findings included cross-cultural complexities involved in being multicultural and consequences of joining different cultural identities.

Studies lacked information about challenges project managers usually encounter when dealing with multicultural software teams. It can be challenging to harmonize

contributions of culturally diverse teams. The literature review guided the scope of this study regarding challenges facing project managers and skills required to solve conflicts resulting from cross-cultural complexities. The need for additional assessment involving multicultural software development project management significantly influenced this research.

Chapter 3 includes an explanation of the qualitative multiple case study design. I address population sampling, data collection, analysis, and validity. I also examine quality of the study, ethical considerations, and explanations of how conflicts must be solved.

Chapter 3: Research Method

The purpose of this qualitative multiple case study was to explore challenges faced by project managers leading multicultural software development project teams in Nigeria. Although culturally diverse teams are becoming the norm in the developing world, there is a critical knowledge gap in terms of challenges experienced by project managers leading multicultural software development teams and leadership competencies required to enhance performance of these teams (Rahman, 2019). Given the need for an adequate understanding of management experiences of multicultural software development teams, I employed an exploratory multiple case study design to explore challenges project managers experienced leading multicultural software development teams in Nigeria. The study is significant because it involved investigating an under researched topic. Continuing trends involving globalization have made managers work in multicultural settings, and culturally diverse teams are likely to develop different ideas and approaches (Alemu, 2016).

This chapter includes the research design and methods used to conduct the study. Specifically, I outline and justify the research design, study population, participant recruitment procedures, and ethical approval. Data collection strategies and analysis are discussed in detail. The chapter includes a discussion of measures to ascertain trustworthiness of research findings. The chapter ends with a summary and transition to Chapter 4.

Research Design and Rationale

In any empirical research study, research questions are developed based on a key issue. Research questions define the course of the research in terms of specific objectives and aims for investigation (Patton, 2015). The research question that guided the scope of this research was: What are challenges faced by project managers leading diverse multicultural software development project teams in Nigeria?

I used a qualitative research approach in order to develop an in-depth understanding of challenges experienced by project managers leading multicultural software development teams. A qualitative multiple case study approach with the constructivist research tradition was employed. Constructivism means human knowledge emerges through interactions of individuals with environments. Meaning is created and interpreted by human actors (Amineh & Asl, 2015). Human beings rationalize their experiences by developing a model of the social world and the way it functions. Constructivist researchers do not seek to claim objectivity of research but instead appreciate that human beings are likely to view and interpret the same phenomenon differently (Amineh & Asl, 2015). According to Bogna et al. (2020), the approach gives voice to diverse groups. Unlike a positivist school of thought that involves testing of hypotheses and obtaining generalizable findings, the qualitative approach is discovery-oriented, focusing on meanings attributed to the research phenomenon (Samy & Robertson, 2017).

Qualitative research is conducted in various fields, including management, education, healthcare, psychology, and social work. It is an umbrella term for various

strategies for conducting inquiries to determine how human beings perceive, understand, experience, and interpret the social world (Patton, 2015). A qualitative design is appropriate when the researcher seeks to have a detailed understanding of views, opinions, and perceptions of individuals or a group of people involving a given phenomenon (Babbie, 2017; Ravitch & Carl, 2016). A qualitative approach was appropriate for this study, unlike a quantitative approach that would not allow me to have an in-depth understanding of the phenomenon of interest.

According to Tomaszewski et al. (2020), there are five qualitative research approaches: case study, grounded theory, phenomenology, narrative, and ethnography research. These approaches facilitate the investigation of a phenomenon within its research context using various sources of data. This is imperative in terms of ensuring that the phenomenon is not investigated through one but rather various lenses to allow for multiple perspectives to emerge (Yin, 2018). A case study design allows the investigator to adopt the research design in order to comprehend a real-life phenomenon under natural conditions that are relevant to the scenario under exploration (Gaya & Smith, 2016). A case study is also appropriate when seeking to address how and why questions (Baxter & Jack, 2008). It is appropriate in terms of conducting an in-depth exploration of organizational settings to comprehend how culture impacts their performance.

A multiple case qualitative study research design with multicultural teams was used to investigate the research problem. An explanatory design was not appropriate because it involves explaining cause-effect relationships. By applying a qualitative exploratory multiple case study design, findings will empower project managers of

multicultural software development teams to understand challenges of leading these teams. Multiple case studies facilitate collection and analysis of data from different cases and are replicable and can be employed to address intricate social phenomena (Yin, 2018).

The multiple case study design was selected after considering other qualitative research strategies, including narrative, ethnography, grounded theory, and phenomenology. The approach facilitates investigation of the phenomenon in its real-life context (Baxter & Jack, 2008; Yin, 2018). A phenomenological research design did not fit the purpose of this research since I was not concerned with exploration of lived experiences. Another approach that could have been employed is the grounded theory approach, but it was not used because it involved collection and analysis of data to develop a theory (Charmaz, 2016). I did not intend to develop a theory to explain challenges experienced by leaders of multicultural software development teams. Ethnographic research involves understanding the culture of a given group of people (Morgan-Trimmer & Wood, 2016). The approach was not suitable because the focus of this research was not comprehending different patterns of a culture or group. The multiple case study design involves using in-depth and holistic case inquiries of contemporary experiences in their real-life context (Yin, 2018). It was therefore appropriate for this research.

Role of the Researcher

Reflexivity involves exploration of one's beliefs, actions, decisions, and practices which may have impact the research process. Reflexivity is needed to identify

positionality of the researcher and avoid introducing bias into the research process by critically exploring their assumptions (Ravitch & Carl, 2016). Because I conducted qualitative research, discussing and disclosing my assumptions and biases during the research process was critical. This includes any personal and professional relationships with potential participants in the research in order to avoid concerns involving instructor or supervisory relationships with power over the research subjects. I did not anticipate recruiting participants with whom I knew personally or had instructional relationships that gave me power over them. Prospective participants can be vulnerable if their decision to participate is due to fear of potential retaliatory responses if they decline participation (Babbie, 2017). Although I interacted with some members of information technology departments from different cultural heritages, I did not have any previous professional relationships with participants that could influence the outcome of the research. Participants were recruited from different geographical regions in Nigeria. In keeping up with general requirements in terms of autonomy, I sought participants' consent to participate in this research. Informed consent is needed for participants to confirm their willingness to partake in research (Patton, 2015).

Regarding my prior professional management experience, I have been exposed to different managerial roles in the banking sector in Nigeria. I have been exposed to different cultural contexts and roles, and my past work experience and education have made me more sensitive and aware of the different issues leaders of multicultural teams may experience at the workplace. I considered my prior experience as a benefit to this research because I was better placed to comprehend the participants' stories regarding

their challenging experiences leading multicultural teams. On the other hand, it may be argued that my experience with multicultural teams may lead to bias in the data collection and analysis processes. To minimize bias, a wide range of measures were put in place, including the use of a reflective journal, among other measures that were discussed under the trustworthiness of this research. An independent qualitative investigator reviewed the categories identified in the data analysis phase to ascertain that the analysis depicts the experiences and views of the respondents (Ravitch & Carl, 2016).

I anticipated that the conversations with the respondents during the interviews would enhance my understanding of the social context under exploration. I acknowledged that each potential respondent was unique and represented a case study with the premise for case comparison (Yin, 2018). I captured participant views and feelings using anonymous data collection techniques. Having come from Nigeria, I may have an understanding of certain terms that may have an impact on insights and non-verbal cues with the potential to enrich dialogues and engagements with the respondents.

Methodology

Using an exploratory multiple case study research design, I investigated challenges experienced by multicultural software development team project managers in Nigeria. A case analysis was performed, with each respondent being viewed and treated as a separate entity (Baxter & Jack, 2008). Understanding the interaction of the components of the broader system calls for the exploration of the intricacies of the particular social settings. A qualitative research approach was employed because it facilitates better comprehension of the social phenomenon compared to the quantitative

research approach. This is because qualitative research strategies allow the investigator and the respondents' greater latitude for interaction and exploration of the phenomenon (Burkholder et al., 2016). A multiple case study design is preferred because it allows the exploration of a phenomenon in its real-life context. A multiple case study design is endorsed over a single case study design in research studies aimed at offering conceptual contributions while providing a rich and definitive picture of human interactions (Yin, 2018). In this section, I will present a discussion of the research population, sampling strategy, and explain the procedures followed in the identification and recruitment of the participants.

Participant Selection Logic

The overarching goal of this research was comprehending the perceptions of a sample of participants within the population of multicultural teams leading multicultural software development teams in Nigeria. The country is ethnically diverse, with over 370 ethnic groups and more than 500 languages (Ugbem, 2019). The three main ethnic groups in the country include Hausa/Fulani in the northern region constituting about 29% of the population, Yoruba of the southwest region (21%), and Igbo in the southeast region (18%) (Adeleye et al., 2021). The high scope of ethnic diversity in the country has been made intricate by the intersection of different ethnic and religious identities. The southern region is made mostly of Christians while the northern region is mostly made of Hausa-Fulani who practice Islam and many ethnic minority groups practice Christianity. The investigator has a role to play in determining the parameter to use in the study to select participants for the research. Yin (2018) views a case study as a unit of analysis,

including an entity, individual, or even an event. The unit of interest in this multiple case study design is multicultural software development organizations in Nigeria. Participants were recruited from the LinkedIn group, a social media and professional network operating worldwide. The online platform, together with Twitter serve as a pool for the sample.

Qualitative research requires the investigator to define the selection criteria (Patton, 2015) clearly. Non-probability sampling technique, a type of sampling method where all participants do not have an equal chance of participating, is commonly used in qualitative research approaches. Purposive sampling techniques was used to select participants for the multiple case study. Purposive sampling technique were used to identify diverse information cases to bring about varying perspectives regarding the phenomenon (Moser & Korstjens, 2018). An account of each participant's views and experiences constituted a case (Yin, 2018).

To be involved in this research, participants had to meet the following criteria: project managers or leaders that had experienced challenges leading a culturally diverse software development team, had worked for at least one year in the software development arena, and possessed knowledge regarding the topic under exploration. In addition to this, they should have been able to express themselves in the English language and be willing to participate in the research. The exclusion criteria included people without the required knowledge, those not involved in the leadership and management of multicultural software development teams, those that did not experience challenges leading

multicultural software development teams, those that met the other criteria but are not willing to participate in the research, and those unable to express themselves in English.

The adequate sample size must be used in qualitative research, and this pertains to the suitability of the sample components and size. The sample size is a key element to consider regarding the quality and trustworthiness of qualitative research and is implicated mostly in research within the post-positivist tradition (Ravitch & Carl, 2016). There are continuous debates regarding an adequate sample size in qualitative research. The question of how many research participants is adequate depends on various factors relating to the epistemological and methodological issues (Fusch & Ness, 2015). Vasileiou et al. (2018) argue that sample sizes in qualitative research should be large enough to allow new and richly textured comprehension of the phenomenon under exploration but small enough to allow a deep exploration of the phenomenon.

In this research, the sample size was expected to be between 15 to 20 participants. However, the data collection exercise continued until the point of data saturation is reached. The sample size was selected in line with the recommendation that qualitative studies require a sample size of at least 12 participants to attain data saturation (Boddy, 2016; Vasileiou et al., 2018). The use of small sample sizes is consistent with the principles of the qualitative research approach (Fusch & Ness, 2015). To allow diverse views, the participant selection plan involved the recruitment of a diverse sample of participants in terms of demographic details such as age and geographical location. This allowed a broader exploration of the views and experiences of the participants (Guest et al., 2020).

Instrumentation

Specific instrumentation was employed in this qualitative multiple case study design to collect adequate data to address the research objectives (Yin, 2018). Exploring every response together with the characteristics of the respondents is critical in the data analysis process. The instrumentation processes should align with the overarching goal of the research and contribute to the collection of original data to address the research questions. Instrumentation was selected carefully to collect data and develop themes regarding the challenging experiences of project managers of multicultural software development teams in Nigeria. The instrument that used to gather data in this study includes semi-structured interview protocols, reflective field notes, demographic form questionnaires, audiotapes, and informed consent.

The key instrument employed in the data collection task is semi-structured interviews with open-ended questions to explore the perceptions of project managers leading multicultural software development teams in Nigeria regarding their views on the challenges experienced while leading such teams (Appendix A). Semi-structured in-depth interviews are the most commonly used approach in qualitative research to collect data. The approach mostly involves a dialogue between the investigator and the respondent, directed by a flexible interview protocol and complemented by probing and follow-up questions (Sutton & Austin, 2015).

The approach was preferred because it allows the investigator to gather open-ended data facilitating the exploration of the thoughts, views, and feelings of the participants regarding a given topic and delving deeply into personal and sensitive topics.

According to DeJonckheere and Vaughn (2019), interview or topic guides provide an outline of key issues and areas of questioning to guide qualitative interviews and discussions. They also promote consistency across interviews while allowing for smooth conversations to take place. As the investigator, I developed the interview guides by reading the existing body of literature critically and identifying key issues of interest in this research. As I read about the different concepts relevant to this research, I developed open-ended questions to promote in-depth conversation with the participants.

The semi-structured interviews were developed carefully to avoid excessive structure on the interviews, as this could interfere with the quality of the questions for the qualitative study. All the questions included in the topic guides are within the phenomenon under exploration, with the respondents required to respond to the questions based on their views and experiences. The responses provided by the participants during the interviews were compared and contrasted with those of other participants to promote the development of new themes. Field notes, including observation and documentation of the non-verbal reactions of the participants in the course of interviews, were taken. The interview guide contains questions regarding the experiences of project managers leading multicultural software development teams.

The use of semi-structured interviews allows for asking follow-up and probing questions with regard to the views and challenging experiences of the participants regarding leading multicultural software development teams. Open-ended questions facilitated participants to air their personal experiences with the leadership of multicultural software development teams. Nevertheless, the questions call for a form of

control to keep to time and stay on track, but it should not be too strict to the extent that the interview turns out to be a question-answer session where the respondents are denied ample time to explain themselves. The researcher has a responsibility to ask follow-up and probing questions but should do so without letting out their assumptions or perceptions regarding the phenomenon under exploration (DeJonckheere & Vaughn, 2019).

Reflective field notes were assembled during the interviews. The field notes involved records of the investigator's observations, emotions, conditions, and contingencies during the interviews. Archival data refers to any kind of information collected previously by others and available for systematic study (Roulston, 2019). I have reviewed over 100 peer-reviewed journal articles and grey literature sources relevant to the current research. The grey literature includes information from governmental and non-governmental reports and white papers relevant to the current research. The different sources of data act as a source of data triangulation and complemented the data obtained through semi-structured interviews.

The researcher-developed instruments relevant to the data collection process include the demographic form questionnaire, audiotapes, and informed consent. The demographic form questionnaire was used to gather data to describe the characteristics of the participants, including age, gender, occupation, and years of experience in leading multicultural software development teams. The consent form was used to gather data regarding ethical aspects, including allowing the participants to make an informed decision and informing them about their rights in the study. The responses given by the

participants was recorded, and participation was voluntary. Demographic form questionnaires and informed consent forms was developed based on past studies.

Procedures for Recruitment, Participation, and Data Collection

Recruitment usually leads to the first contact between the investigator and prospective participants and is a prelude to the informed consent process. Researchers should employ fair and equitable recruitment practices and avoid putting participants at risk of coercion or participation because of undue influence (Bernard, 2017). Participants in this research were recruited using purposive sampling technique. Data collection techniques used included semi-structured interviews with open-ended questions to explore the perceptions of project managers leading multicultural software development teams in Nigeria. This section outlines the procedures followed in participant recruitment, participation, and data collection exercises.

Recruitment Procedures

To obtain a reasonable sample size, a recruitment flyer was posted on LinkedIn and Twitter groups for software development teams in Nigeria. Interested parties were advised to respond within 15 days. The LinkedIn profiles of potential participants were screened before contacting them for invitation for the interviews. Each screened participant was assigned a unique study identifier, and the identifiers did not have any links that can be used to identify the participant. The purpose of the unique identifier was to indicate the status of the participant such as a signed consent form or withdrawal from the study. Potential participants interested in taking part in the research were contacted through phone calls or email to confirm that they have satisfied the inclusion criteria.

Those not satisfying the criteria were thanked for their interest and advised to refer friends who may have satisfied the criteria. The participants were scheduled for an interview at places deemed convenient to the investigator and the participants.

Participation and Data Collection

The first step before the data collection process is obtaining Institutional Review Board approval from Walden University. The researcher anticipated recruiting 15 to 20 participants from social media platforms such as LinkedIn professional website and Twitter. The use of social media platforms to facilitate the recruitment of participants is critical in broadening the scope of the research study, including facilitating access to participants who may not be easy to reach (Moser & Korstjens, 2018). Purposive sampling techniques was used. As per Babbie's (2017) guidelines, the overarching aim of this research study was shared with the participants.

All potential participants were required to complete an informed consent form to confirm their willingness and readiness to take part in the research upon making an informed consent. Semi-structured in-depth interviews were conducted and were curtailed once the point of data saturation is reached. The interviews were held via phone, Zoom, Skype, Microsoft Teams, or any preferred online audio/video collaboration tool, with the results being recorded, transcribed, and coded to identify the meaning. Interviews conducted via any of the online audio/video collaboration tools enriched the research with input similar to face-to-face interactions and telephonic interviews. In addition, interviews conducted using the technological tools are beneficial in the sense that they eliminate the need to commute for face-to-face interviews which can be a real

challenge in the current study considering that participants are from different geographical regions.

There are guidelines regarding social distancing measures that discourage face-to-face meetings. An interview guide with predetermined questions was used. However, flexibility was upheld to allow questions to emerge and facilitate a free flow of discussion (DeJonckheere & Vaughn, 2019). The content validity of the topic guides was reviewed by a team of research consultants experienced in research regarding multicultural software development teams. Microsoft Excel spreadsheet was used for data collection and storage purposes depicting participation, interview schedules and assist in categorizing the findings based on the emerging codes and themes.

Transcription of the interviews is necessary to ensure the responses given by the participants are accurately captured for the thematic analysis (Clark et al., 2017). The recordings were transcribed within two days upon completion of each interview and the transcripts only contained the participant number assigned to them upon nomination into this research. The transcripts did not contain any personally identifiable information in an attempt to comply with the ethical principles regarding confidentiality. Only the investigator had access to personally identifying data and it was not included in the final report.

The qualitative research approach calls for an in-depth exploration of the phenomenon, even when exploring sensitive topics such as interracial discrimination issues, which are areas of research that can be emotionally risky to the respondent (Sanjari et al., 2014). Taking this into consideration, appropriate protocols were put in

place to manage any distress that participants may experience in the course of the interviews. In addition to this, standards for expressing emotions in the course of the interviews and ways of terminating the research relationships were communicated in advance to the respondents using the informed consent form.

Procedures for Pilot Studies

A pilot study was conducted by the researcher to test the validity and reliability of the interview questions. Four participants were recruited through the email invitation. The individuals came from different ethnic backgrounds, and all had been involved in software development teams involving people of different cultural and country origins. The reason for preferring email for the participants' invitation is that it is a convenient and cost-effective approach for recruiting participants in different regions (Mirick & Wladkowski, 2019). The invitation letter was provided to the respondents with my contact details. Those who did not respond to the email invitations were invited to participate via WhatsApp messages. Although email is a cost-effective approach to participant recruitment, not all potential participants check their emails, thus the need for alternative recruitment strategies (Mirick & Wladkowski, 2019). Nevertheless, no one was subjected to undue pressure to partake in the pilot research.

The interview questions used in the pilot study have been developed following a critical review of the literature regarding the experiences of project managers leading multicultural software development teams. I observed themes and issues raised in past research and developed questions seeking to address the issues. I also read the Human Needs Theory and Cross-cultural Adaptation Theory and applied the key concepts of

these theories in the interview guide. I developed semi-structured interview questions to guide the interview process. I made efforts to develop the questions in a neutral way to avoid using words directing how participants should answer (Patton, 2015). The first few questions are aimed at screening the respondents to ascertain that they are eligible for participation. This was followed by demographic questions aimed at giving details to understand the characteristics of the participants. I began with easy questions before proceeding with more in-depth questions to address the phenomenon of interest.

The data collection procedures followed included conducting the interviews via phone or Skype based on the preferences of the respondent. Using these platforms to conduct the interviews is appropriate considering that the respondents are in different geographical regions and the current COVID-19 prevention policies in Nigeria emphasize social distancing. The use of Skype is beneficial because it allowed the interviewer to build a rapport with the respondents and get to observe their body language while maintaining the conventional advantages of conducting face-to-face interviews (Drabble et al., 2016). The primary technique employed in the pilot study was the semi-structured interview technique with open-ended questions. Probing questions and follow-up questions were asked to solicit more information from the participants.

The interviews were held at a time convenient to the participants. By estimation, each interview took about 45 minutes to complete. Participants were informed about this and their rights to withdraw from the study without providing explanations in the recruitment phase. A tape recorder was used to record the interviews, and the participants was informed during the recruitment process that the interviews was recorded. They were

informed that they can contact the investigator if they had additional information to share or want to make clarifications after the interviews.

Data Analysis Plan

The data analysis plan is about depicting how the data were explored and transformed. For any scientific research to be replicable, investigators should provide a roadmap of how they analyzed the data. Thematic data analysis is the most commonly used method in the analysis of qualitative data. In this study, I made use of Braun and Clarke's (2006) thematic data analysis method. The approach to data analysis was preferred because it provides novice researchers with step-by-step guidelines on how to go on with the data analysis process. Their method was easy to use, and it allows flexibility in the selection of a framework for the study. The adopted thematic data analysis method is not tied to a particular research design, unlike other data analysis procedures. Therefore, it facilitates the rich, thick, and detailed description of the data (Braun & Clarke, 2006).

The first step of the analysis method is familiarization with the data, and this involves immersing oneself in the data to become familiar with it (Braun & Clarke, 2006). The step was accomplished by transcribing and reading the transcripts several times to become intimately familiar with the content. The transcripts were sent back to the respondents for validation purposes. The second step is about identifying initial codes throughout the data. According to Braun et al. (2016), coding requires closely reading the data and tagging the code elements of interest to the research question. This was accomplished by putting the transcripts in a tabular layout, and the codes were colored

across various sentences, which was also used for transcription validation purposes by the participants.

The last three phases involve theme development, refinement, and naming. The main work in these phases is combining codes to develop themes, revising the themes, and providing a rich analysis of data to finalize the themes (Braun et al., 2016). Once the process of coding is complete, different codes were put together to develop candidate themes (Elliott, 2018). Then I looked for similarities and differences in each code while providing an account of each code. At this phase, some themes may be combined if found similar. A comparative analysis followed this to polish the elements of each theme to address the research questions (Saldaña, 2016). Clear and compelling quotations from the transcripts were provided to support the analysis process.

Issues of Trustworthiness

The trustworthiness of qualitative research has always attracted debate from positivists, mostly due to issues regarding the validity and reliability of research that may not be addressed in the same way as quantitative research. Various qualitative scholars have depicted how investigators can incorporate strategies to deal with rigor issues in qualitative research (Shenton, 2004). The majority of the qualitative research scholars prefer using different terminologies to distance themselves from quantitative investigators. An example of such scholars is Guba and Lincoln, who propose a four-criterion approach that should be considered by qualitative investigators in the pursuit of the trustworthiness of the research (Lincoln & Guba, 1985). By addressing similar issues, the key constructs coincide with those employed by positivist researchers. The concept of

credibility is equivalent to internal validity, transferability is equivalent to external validity or generalizability of the findings, dependability is equivalent to the reliability, and confirmability is equivalent to objectivity in quantitative research (Shenton, 2004).

Credibility

One of the key criteria addressed in this qualitative research is credibility which is equivalent to the concept of internal validity under the positivist school of thought. Credibility determines if the research findings represent conceivable information drawn from the original data drawn from the respondents and if the interpretation reflects the original views (Korstjens & Moser, 2018). Establishing the credibility of qualitative research is one of the most critical approaches to establishing the trustworthiness of the study findings (Shenton, 2004). In this section, a discussion of the provisions made by the investigator to enhance confidence that the data were collected and analyzed as per qualitative research guides is provided here.

To enhance confidence in the findings of this research, one of the strategies employed is collecting and analyzing data till the point of saturation. Saturation is a critical concept because it is one of the elements that depict the quality of the data and thus is often included when evaluating the credibility of qualitative research (Saunders et al., 2015). Saturation is when data collection and analysis do not lead to new insights (Guest et al., 2020). Similar arguments regarding saturation have been made by Hennink and Kaiser (2021), who assert that it occurs when there is adequate data from the study to establish a robust and solid comprehension of the phenomenon under exploration. In addition, Fusch and Ness (2015) assert that failure to reach the point of data saturation

will substantially impact the quality of the research. Another technique that was used to bolster confidentiality in the quality of the data collected is member checking. One way for checking the accuracy of the data is by sending back the transcripts to the participants allowing them to check if their words reflected what they intended.

Another technique that was used to promote the credibility of this research is peer scrutiny of the research procedures and elements. The project methods were reviewed by my committee chair and the second committee member and any kind of feedback on improving the quality of the research were evaluated and reflected. Sending the proposal to the committee members and my colleagues who qualified in qualitative research allowed fresh perspectives to emerge. The approach allows challenging any biased assumptions that the investigator may have made. This is critical because the closeness of the investigator to the research topic may inhibit their ability to peruse the research with real detachment (Korstjens & Moser, 2018). The questions asked by the research committee members and my colleagues assisted me in refining the research approach and developing a better understanding of the research approach chosen (Ali & Watson, 2016; Shenton, 2004).

Triangulation is another approach that can be employed to bolster the quality of this research. Triangulation involves the use of different techniques in the data collection processes and may include individual interviews, focus groups, and observation. In this research, the investigator conducted individual semi-structured interviews and documented the observations made in the data collection phase. According to Natow (2020), the use of different approaches to data collection compensates for the individual

limitations of each study and exploits their respective benefits. Supporting data in the form of observations made and documents provided by participants assisted in explaining the challenging experiences of the participants with leading multicultural software development teams.

Another form of triangulation employed to boost the credibility of the interview data is using a wide range of informants. The approach allows for verifying individual views and experiences against others, consequently leading to a rich picture of the needs or behavior of the participants (Shenton, 2004). The credibility of the data in qualitative research is also impacted by the qualitative research method. A multiple case study design allowed the integration of diverse participant voices while displaying features of commonality, redundancy, and divergence for an in-depth exploration of a broader population group (Yin, 2018). The credibility of the data was strengthened using a multiple case study design that supports triangulation by facilitating the collection of data from a diverse set of participants.

Prolonged engagement and observation in the field are critical to upholding the credibility of qualitative research. The approach empowers the researcher to create a rapport and build trust with the participants, becoming familiarized with their way of life and allowing one to check for misinformation due to distortions made by the researcher during data collection and analysis phases (Smit & Onwuegbuzie, 2018). I spent time building a rapport with the respondents. The participants were also requested to support their responses with statements and examples without disclosing individual or

organizational names. In the data analysis phase, I also spent adequate time studying the raw data from the interview responses to identify recurrent themes in the transcripts.

Iterative questioning can be incorporated to detect inconsistencies, including the use of probes to elicit detailed data (Yin, 2018). In this approach, the investigator returns to matters raised before by the participant and extracts data of interest through the rephrased questions. In this case, inconsistencies can be identified, and the investigator can decide to keep or discard the suspect data (Shenton, 2004). Probing questions to seek an in-depth explanation of the ambiguous issues were taken into consideration.

Reflexivity involves examining one's judgment, belief systems, and practices, and how they may have impacted the data collection exercise (Olmos-Vega et al., 2023). The overarching goal of being reflective is identifying personal beliefs that may incidentally impact the research process. The practice is critical considering that the researcher decides the interview questions and protocols for gathering the information, and there may be underlying assumptions to the beliefs (Jacobson & Mustafa, 2019). My key assumption in this research is that the participants' views do not exist as objective realities but are a result of the subjective meanings developed based on their exposure, roles, and challenges leading multicultural software development teams. A reflexive journal was kept for tracking my assumptions and beliefs that may impact the interviews and data analysis processes (Dodgson, 2019).

Transferability

Transferability refers to the extent to which the findings of qualitative research can be transferred or applied in other contexts or with other participants (Korstjens &

Moser, 2018). A thick description of the phenomenon under exploration assisted in promoting transferability as it will convey the actual circumstances being explored and to what extent and the contexts surrounding them. Transferability was also enhanced through the intentional selection of a diverse sample of project managers leading multicultural software development teams across Nigeria. Without the insight, it can be challenging for the reader of the final account to establish the extent to which the findings ring true. The descriptions make it possible to make decisions regarding the applicability of the research findings to their settings. This is consistent with Shenton's (2004) argument that the researcher is responsible for ensuring that adequate contextual information regarding the fieldwork is provided to allow the reader to make decisions regarding the transfer. Therefore, adequate rich and thick descriptions of the phenomenon must be provided to enable the reader to develop a proper understanding of it and compare the occurrences of the phenomenon discussed in the research report with those seen and emerging in their contexts.

Dependability

In addressing issues about reliability, positivists argue that the researcher should employ techniques to depict that if the work were repeated in the same context and with similar participants, similar findings would be obtained. To address matters about dependability in qualitative research, Amin et al. (2020) insist that all the procedures involved in conducting the research should be described in detail, making it possible for another investigator to replicate the study and obtain similar findings. In line with this, a detailed explanation of the research procedures, including research design, participant

recruitment, data collection, and analysis processes, have been provided to allow for possible replication of the research. Such an in-depth coverage enables the reader to evaluate the extent to which appropriate research practices have been followed (Ravitch & Carl, 2016).

As per Lincoln and Guba (1985), research findings are likely to be dependable if the researcher has been consistent in the research process. To further facilitate dependability, I developed an interview guide containing the research protocol and the core questions to be asked in the study. The approach facilitates possible replication of the study as the reader becomes aware of how the interview questions were developed (Shenton, 2004). Achieving dependability also calls for correct and detailed descriptions of the participants in the research process (Korstjens & Moser, 2018). Consequently, I provided detailed descriptions of the participants, including their demographic details such as age, occupation, and geographical localities where they were recruited. Comprehensive information regarding the research methods, including the study design and data collection plans and analysis, have been provided. In addition to this, an audit trail of all the processes followed in the data collection and analysis practices were provided.

Confirmability

Another criterion of interest in qualitative research is confirmability. The concept is comparable to that of objectivity in the positivist school of thought. The concept mandates the investigator to ascertain the findings emanating from the participants' experiences and ideologies instead of the assumptions and views of the investigator

(Ravitch & Carl, 2016). This includes putting procedures in place to establish rationale that the findings presented in the research paper are based on the evidence obtained from the participants and are void of researcher preconceptions (Korstjens & Moser, 2018). Triangulation can assist in promoting the confirmability of the findings by decreasing the potential impact of investigator bias. Triangulation was achieved by collecting data through different approaches, including observation and semi-structured interviews. Shenton (2004) considers the scope to which the investigator admits his or her predispositions as a key criterion for confirmability. To this end, it is critical to outline beliefs regarding underpinning decisions made and the reasons for preferring a qualitative multiple case study design over other approaches that have been outlined in this paper.

Once more, in-depth methodological descriptions are needed to allow the reader to establish how far the data and constructs emanating from the research processes are acceptable. Key to this is the audit trail, which allows the investigator to trace the research process step by step through the decisions made and procedures followed. According to Korsten and Moser (2018), the researcher is responsible for the provision of a complete set of notes on the decisions made in the course of the research process, including participant recruitment, interviews, and data analysis. An independent researcher reviewed the interview guide for the current research to ensure it does not include biased questions. I have also provided a detailed description of my role as the investigator and my affiliation with the phenomenon of interest in this research. The process followed in the data analysis process has been outlined. By anticipation, the

procedure may change as the data collection and analysis procedures continue, and this was tracked using an audit trail, and the changes were reflected in the final paper.

Ethical Procedures

Ethics refers to a system of principles dealing with the dynamics of the decision-making regarding what is right or wrong. Scientific work as all human activities is governed by individual, social, and community values. Development in ethical principles was triggered by a great deal of human experimentation that took place during World War II, where innocent human beings were exposed to torturous ordeals to gather scientific data valuable in the Nazi regime's war efforts (Wendling et al., 2016). Several ethical codes including the Nuremberg Code and Declaration of Helsinki in 1964 were developed to prevent abuse of human research subjects. Handed out in 1947, the Nuremberg Code is a 10-point statement given out to avert future abuse of human subjects (Carlson et al., 2004; Miracle, 2016). The act mandates participation in research to be voluntary and participants have the legal capacity to give informed consent. The Act also requires research procedures not to harm the participants, should not be conducted at risk of death of the participants, and should have the authority to withdraw their participation in the research. The Act also mandated proper arrangements to be made before initiating the research to decrease the risk of harm to participants, and the research should correlate with the potential benefits (Wendling et al., 2016).

The most significant impact of the Declaration of Helsinki was that an independent committee should review research protocols and the risks should not exceed the benefits (Carlson et al., 2004). The United States Department of Health and Human

Services developed a similar policy document as explained in the Belmont Report. Three fundamental ethical principles that emanated from the report include respect for persons, entailing autonomy, and allowing for informed consent. The other two principles include beneficence requiring the researcher not to harm the participants and justice, requiring well-considered procedures are administered in a fair way (Miracle, 2016).

Before commencing the data collection exercise, I sought Institutional Review Board (IRB) approval from the Walden University Research Ethics Committee (05-31-22-0805967). The research materials that were sent in the process of seeking IRB approval included the research proposal, informed consent form, and the data collection tools that were used in the study. The next step upon securing ethical approval is recruiting participants for the study. The participants were provided with an informed consent form to complete to confirm their willingness to take part in the research. The consent form contained details regarding the study aims, purpose, and procedures to be followed to protect the rights of the participants. In line with the autonomy principle, the participants were informed that participation in this research is voluntary, and that one can withdraw at any time without explaining the reason to the researcher.

The safety and confidentiality of the participants is a key ethical concern in qualitative research, considering the sensitivity of the topic (Ravitch & Carl, 2016). To protect the confidentiality of the participants, the participants were assigned pseudonyms to protect their identity. Any personally identifying information were not disclosed in the final report. Printed data were stored in a secure cabinet file, while electronic data were stored on a password-protected computer owned by the researcher. Only the data analysts

had access to the interviews and all the parties involved were required to sign a confidentiality agreement form. The electronic data will be deleted within five years upon completion of the research.

The ethical principle of beneficence is concerned with promoting good for the participants and society in general. The non-maleficence ethical principle requires researchers not to cause harm to the participants in the research process (Patton, 2015). Taking this into account, the psychological and physical risks experienced by the participants and the society should be explored regarding the potential benefits to the study (Sanjari et al., 2014). There are no direct benefits to the participants because of their participation in this research. However, the research has the potential to contribute to the existing body of literature regarding the challenges experienced by project managers leading multicultural software development teams in the Nigerian context. Improved awareness of the challenges experienced by the leaders of the multicultural software development teams will inform quality improvement efforts in the future.

Participants did not experience additional risks apart from those they experience in their day-to-day activities. However, some participants might have experienced undesirable feelings while reflecting on the challenges they may have experienced in their workplace. To decrease the likelihood of experiencing discomfort, I prolonged my engagement with them and build a rapport to make them feel comfortable in the research process. In the research, the anticipated risks as a result of this research are far outweighed by the potential benefits. Researchers can take undue advantage of the research process leading to a power imbalance with the participants acting in a certain

way to please the researcher (Patton, 2015; Ravitch & Carl, 2016). To avoid issues of power imbalance in the research, I was honest with the participants about their rights in this research. I was also reflective on the nature of the relationship with the participants and deliberated on improving it. The study is designed in a way to empower participants and involve them in the research process to capture their true experiences accurately.

Summary

Chapter 3 includes a detailed explanation of the research design and questions focused on understanding experiences of leaders of multicultural software project teams in Nigeria. A detailed explanation of my roles and quality control measures was provided. A qualitative multiple case study design was used to explore the phenomenon in its real-life context. Explanations of the methodology, participant characteristics, data collection, and analysis practices were provided. This was followed by a discussion of measures that were considered to ensure data were trustworthy. Chapter 4 includes a detailed discussion of data analysis and results obtained from analysis in order to address the research question. This also includes results for each data source, coding procedures, and answers to the research question.

Chapter 4: Results

The purpose of this qualitative multiple case study was to explore challenges faced by project managers leading multicultural software development project teams in Nigeria and how they can be addressed. Data collection commenced immediately upon receiving IRB approval, and interviews were conducted per the protocol for semi-structured interview questions. The interview protocol was informed by findings from the literature review and conceptual framework. The interview process allowed for this qualitative exploratory multiple case study.

The research question for this project is: What are challenges faced by project managers leading diverse multicultural software development project teams in Nigeria? The research question was formulated based on identified literature gaps involving leadership of multicultural teams with a focus on software development teams. A literature gap was identified involving insights regarding challenges posed to project managers leading multicultural software development teams that are operating in the developing world (Batsa et al., 2020; Heldal et al., 2020). Chapter 4 includes research settings, demographics, data collection, analysis, and evidence of trustworthiness. This is followed by an overview of results, a chapter summary, and transition to Chapter 5.

Pilot Study

A pilot study was carried out to test validity and reliability of interview questions. Four participants, including two close friends and coworkers, were recruited through an email invitation. They came from different ethnic backgrounds, and all were involved in software development teams with people of different cultural and national origins. Email

was a convenient and cost-effective approach for recruiting participants in different regions. The invitation letter included my contact details. Those who did not respond to email invitations were invited to participate via WhatsApp messages when an adequate sample size was not obtained through email recruitment. Although email is a cost-effective approach to participant recruitment, not all potential participants check their emails, which necessitated alternative recruitment strategies. Nevertheless, no one was subjected to undue pressure to partake in the pilot research.

Interview questions used in the pilot study were developed following a critical review of literature regarding experiences of project managers leading multicultural software development teams. I observed themes and issues raised in past research and developed questions seeking to address those issues. I used the human needs and cross-cultural adaptation theories and applied key concepts of these theories during interviews. I developed semi-structured interview questions to guide the interview process. I made efforts to develop questions in a neutral way to avoid using words which could lead to biased responses (Patton, 2015). The first few questions were aimed at screening respondents to determine whether they were eligible for participation. This was followed by demographic questions aimed at understanding characteristics of participants. I began with easy questions before proceeding with more in-depth questions to address the phenomenon of interest.

Research Setting

I involved participants from leading multicultural organizations in Nigeria, with the majority coming from three main cities: Abuja, Lagos, and Port Harcourt. Semi-

structured interviews with 15 managers working with multicultural teams were conducted via Skype, Zoom, and telephone calls. Participants in this research were contacted using LinkedIn and Twitter, which are professional and social networking platforms. Follow up contact was made using email and WhatsApp messages. Although the scheduling process was a challenge due to commitment of participants to perform their jobs and day-to-day activities, overall, it was a success. Once participants accepted to take part, interview dates and times were then arranged. All participants were project managers involved in leadership of multicultural software development project teams with a minimum of 1 year of experience who possessed knowledge and experiences required to participate in this research.

Interviews were carried out one-on-one in private settings for participants to avoid interruptions. Timing and settings for all interviews conducted were in alignment with preferences of participants, as this was critical for enhancing their comfort and preventing distractions. Interviews were conducted in quiet, calm, clean, and well-lit settings with fiber-based high-speed internet connections. Before commencement of interviews, participants confirmed having consented to take part in this research. They were informed that interviews would be recorded, and a transcribed version of their interview would be sent back to them for member checking before data analysis to confirm if they were accurate representations of what was said during the interviews. Interviews were carried out using Skype, Zoom, or telephone calls depending on preferences of participants. The semi-structured format allowed interviews to flow like conversations and I fully engaged

participants. An interview guide was used to ensure consistency and focus on the research topic during interview sessions.

Demographics

I carried out interviews using one-to-one audio conferencing via Skype, Zoom, or phone calls. All interviews were recorded using different recording devices, including the Skype recorder, Zoom recorder, and phone recording application. All recording applications were available free of charge. Fifteen participants from different organizations took part in this research. On average, each interview took about 40 minutes. Responses from demographic inquiries showed 80% of respondents were male and 20% female. The majority of participants were in the age bracket between 40 and 50 (93%) with only one participant within the 30 to 39 age group. Participants had rich interactions and were from varying cultural backgrounds and were all responsible for various management tasks within their workplaces.

Table 1

Participant Demographics and Characteristics

Variable	Category	Frequency	Mean
Age			43.73
Gender	Male	12 (80%)	
	Female	3 (20%)	
Years of experience			15.67

Data Collection

I managed to contact participants for this research by inviting them through Twitter and LinkedIn. All participants were managers or leaders of multicultural software development teams who had been working for at least 1 year and possessed knowledge regarding experiences being explored in this research. I started by searching for potential profiles of leaders or managers of software development teams working in multicultural settings. I sent inbox messages to potential participants describing themselves in their LinkedIn profiles as working in the Nigeria IT workforce. In total, 100 potential participants were identified and informed about requirements to take part in this research. A handful (22) responded and immediately followed up and were requested to provide their phone numbers and email addresses. Informed consent forms were shared via email. Some of those who had expressed interest in taking part did not meet requirements for participation. They were advised to refer their colleagues who met these requirements. The final participant consented to take part in this interview on July 23, 2022, concluding the process of searching and recruiting participants.

Interviews

Two of the participants contacted responded immediately upon contact via email and I received the consent within two days. The remaining participants responded within an average of two weeks upon initial contact and took an average of one week to consent to take part in this research. The participants were scheduled for an interview after one week or more depending on their availability to accommodate their busy schedules. Five participants had their interview schedule rescheduled due to communication,

professional, or personal matters. Participants offered their Skype usernames or phone numbers making it easy to reach them and communicate with them regarding their participation, and the Zoom link was shared with the participants that preferred the Zoom platform. Those interviewed via Skype were offered my username for proper identification and connection.

All the participants were informed that they would be audiotaped and agreed to that. Before commencing the interviews, I verbally introduced myself, the research topic, and explained how I would maintain the confidentiality of the interview as well as their rights to stop or continue with the interviews. I informed them about the interviews being recorded and a transcribed version of the interview would be shared with them to allow for confirmation that it represented what was said during the interviews. All the interviews went well without challenges and the use of phone calls, Zoom, or Skype interview platforms made it convenient for the participants in the different parts of the country to take part in this research. A semi-structured interview approach was used, and the participants were able to respond to the questions openly. The interview protocol was used throughout the process of conducting the interview and acted as a guide in staying on the track throughout the interview. The semi-structured interview approach used was more conversational, allowing the interviewers to bring about discussions revolving around the managerial experiences of leading the software development teams. The participants were cooperative and forthcoming with their responses and the majority gave examples from their workplace experiences.

Data Analysis

Thematic data analysis is the most used method in the analysis of qualitative data. In this study, Braun and Clarke's (2006) thematic data analysis method was used. The key aspects of data analysis as per this approach involves familiarization with the data, developing initial codes, searching for themes, and reviewing them (Elliott, 2018). According to Saldaña (2016), data analysis entails the transformation of raw data into significant and handy pieces of knowledge through thematic identification and effective communication while noting discrepancies. Braun et al. (2016) advise that qualitative investigators should not wait till the end of the data collection activities to commence the analysis process. In line with this recommendation, I began the process of data transcription immediately after the first interview and went on with the exercise until the last interview was transcribed. Yin (2018) highlights the importance of transcribing and editing the interview notes immediately after the interview to prevent the loss of content or any ambiguities. I manually transcribed the interviews from the digital recorder and smartphone using the Microsoft word document on my laptop. I then saved all the transcripts on the system hard disk and on a flash drive. I then began the process of familiarizing and immersing myself in the data which was critical in understanding the point of view of the participants. I listened to the transcripts several times while comparing them with the transcript notes that I took during the interviews with the respective transcript to ascertain that the responses had been captured correctly. I then reviewed the transcripts several times to develop my own understanding of the responses made by the participants.

Upon conducting the transcription, I sent a copy of each transcript and my interpretation of the transcript for member checking. I requested them to respond within a week and followed up with phone calls to confirm that they received it. Not all participants responded, and I commenced my analysis at the end of one week I had given each client to respond. The analysis was carried out based on the collected data from the respondents and it gave varying points of view of the individual managers leading multicultural software development teams concerning their experiences leading multicultural software development teams. I commenced the analysis using the Braun and Clarke (2006) thematic data analysis method. The first step involves familiarization with the data, and this involved immersing oneself in the data to become familiar with it (Braun & Clarke, 2006). The first step involving familiarization with the data was met by transcribing and reading the transcripts several times to become familiar with the content.

The second step involved identifying initial codes throughout the data. This step was met by putting the transcripts in a tabular layout with the relevant concepts, phrases, and patterns. This was accomplished by extracting the information of interest from the interview data. Participants were assigned participation numbers including P01, P02, and P03 to P15 for each transcription to protect the identity of the participant. The identified meaningful phrases were coded separately using unique category names to differentiate them from other segments and were coded in line with the interview questions. I repeated the process until the data were coded accordingly from the transcripts. Depicting the codes in a tabular layout was critical in assisting the process of sorting, organizing, and generating themes. The displayed data assisted in establishing interrelationships, patterns

and themes emanating from the data. The emerging themes were categorized based on the research questions and conceptual framework.

The remaining phases involved further development and refinement of the themes. This was achieved by rereading and reviewing the codes and revising the themes to develop a final set of themes. I looked at the similarities and differences in each code and combined similar ones to develop the final set of themes. A comparative analysis followed this to polish the elements of each theme to address the research questions (Saldaña, 2016). Clear and compelling quotations from the transcripts were provided to support the analysis process.

Table 2*Emerging Themes and Codes*

Emergent theme	Associated code
(a) Language Barriers	Lack of common language Translation Lack of common understanding Different accents Communication styles
(b) Perceptions Towards Time	Different timezones Commitment to time Varying norms toward time.
(c) Cultural Differences	Diverse cultural norms Response to leadership Religion
(d) Lack of Tolerance	Conflict Lack of awareness
(e) Stereotypes	Prejudice Unconscious biases Assumptions
(f) Differences in Work Cultures and Perceptions	Different work cultures Different expectations Perceptions of authority and responsibilities.
(g) Favoritism	Favoring the predominant culture Preference for team members speaking same language as the leader

Evidence of Trustworthiness

Trustworthiness is about measures put to ensure the trust and confidence in the findings of the research study. For quantitative research, it refers to validity and reliability concepts. The concept is more obscure because it is described in varying terms (Lincoln & Guba, 1985). Qualitative researchers do not make use of research tools with

established metrics for reliability and validity and instead employ various procedures to ascertain that the findings are credible, transferable, confirmable, and dependable.

Throughout the data collection and analysis processes, I employed several strategies to ascertain the trustworthiness of the study findings. The data collection process was carried out in compliance with the ethical standards set by the Walden University IRB board.

Credibility

The credibility of this research was achieved by adopting various measures. The first one is a triangulation of data sources, and this involved collecting data from different sources. According to Lincoln and Guba (1985), triangulation is achieved by taking into consideration varying perspectives from varying sources. The data sources included semi-structured interviews with the 15 participants, field notes taken during the interviews, and the varying experiences of the participants. Triangulation was critical in establishing the accuracy of the data and allow comparison and verification of varying experiences and perspectives. The second technique employed to ascertain the credibility of the data is member checking and this was done by giving the participants an opportunity to have a look at the transcribed data allowing opportunities for corrections. I provided the qualified colleague with my transcripts and asked for his perspective regarding how the themes were supported by the data. I managed to review and improve the themes based on the feedback provided. Peer debriefing has been found beneficial in enhancing the credibility of qualitative research by uncovering issues such as vague

descriptions in the research, biased perspectives by the investigator, and errors in the data collection processes and analysis (Korstjens & Moser, 2018).

Credibility was also achieved through the process of reflexivity, a practice also known as bracketing (Shenton, 2004). I achieved self-awareness and reflection through the process. The practice assisted me in refraining from introducing personal bias into the topic. I practiced reflexivity by maintaining a journal tracking my assumptions and reflections that may have impacted the data collection and analysis procedures. Although it is not practical to be entirely objective in qualitative research, it is critical that investigators are cognizant of their predisposed biases and take reasonable steps to address them (Dodgson, 2019). I employed effective listening skills to ascertain credibility. I made sure that I talked less and listened more to what the participants had to say, and this gave me the opportunity to ask relevant probing questions. I remained patient during the interview process and avoided interrupting the participants as much as possible.

Transferability

Transferability is concerned with the extent to which the findings apply to other settings or participants (Stahl & King, 2020). Although generalizability is not an expected attribute in qualitative research, the rising emphasis on rigor in qualitative research has increasingly highlighted the need for qualitative research findings to be transferable to other contexts (Korstjens & Moser, 2018). Generalizability was not the goal of this research. In keeping with the principles of naturalistic research, the study focused on depth and not generalizability of the findings to other leaders of multicultural software

development teams. Transferability requires adequate contextual descriptions to be provided. The criteria were met by providing rich and thick descriptions regarding the procedures that I followed in the data collection and analysis phases. The participant recruitment, sampling, interview processes, and demographic characteristics of the participants were outlined. The descriptions make it possible to make decisions regarding the applicability of the research findings to other settings. Other researchers are likely to have an idea of how the study evolved and how the conclusions were reached at.

According to Shenton (2004), researchers should provide a rich and thick description of the phenomenon under investigation to empower the researcher to make decisions regarding whether the findings apply to their context. Rich and thick descriptions regarding the procedures followed also assisted in improving the dependability of the findings. Adequate details were provided to improve the likelihood of successfully replicating the study.

Dependability

To address matters about dependability in qualitative research, Amin et al. (2020) insist that all the procedures involved in conducting the research should be described in detail, making it possible for another investigator to replicate the study and obtain similar findings. In line with this, a detailed explanation of the research procedures, including research design, participant recruitment, data collection, and analysis processes, have been provided to allow for possible replication of the research. I have also described the demographic details of the participants and kept an audit trail of the key activities involved in this research. Such in-depth coverage enables the reader to evaluate the extent

to which appropriate research practices have been followed (Ravitch & Carl, 2016). In addition, the investigator should make use of data collection approaches that are consistent and reliable with time. Audit trails and member checking are some of the techniques employed to ascertain the dependability of the research strategies (Stahl & King, 2020). The dependability of this research was achieved by conducting member checking upon transcription of the interview responses. Dependability was also achieved through triangulation and ascertaining alignment between the research and interview questions. In addition, I have justified all the decisions I made in the various sections of this paper. For instance, I justified the use of a qualitative multiple case study design and described my role as a researcher in the methodology chapter. The findings of this research have also been supported by the present body of literature thus upholding dependability. I also kept a record of my transcripts, allowing for possible replication or confirmation of this research.

Confirmability

Another criterion of interest in qualitative research is confirmability. The construct requires researchers to demonstrate their findings purely emanated from the responses provided by the participants (Shenton, 2004). The findings should be a true and accurate reflection of the research carried out and not a reflection of the researcher's bias and assumptions (Korstjens & Moser, 2018). To ensure that the criterion was met, I made use of the reflexivity tool to minimize bias in the research process. The interview guide was reviewed several times to avoid asking biased questions. I disclosed my views regarding the challenges that may be encountered when leading multicultural software

development project teams. I have also provided a detailed description of my role as the researcher in this project. Additional essential strategies in ascertaining credibility included keeping an audit trail to allow the reader to trace the course of this research process through the discussed processes and member checking to demonstrate reflexivity (Stahl & King, 2020).

Study Results

Five participants came from Lagos, five from Abuja, three from Port Harcourt and the remaining two from other parts of the country. The results are based on the participant's responses to each interview question and have been outlined thematically. I manually analyzed the data, defined, and organized the data with respect to the emerging themes from the participants' responses during the interviews. The themes assisted in addressing the research question: What are the challenges faced by project managers leading diverse, multicultural software development project teams in Nigeria? The findings of this chapter are organized by seven emerging themes relating to challenges experienced leading multicultural software development teams, including language barriers, cultural differences, perceptions towards time, lack of tolerance, differences in work cultures, favoritism, and stereotypes. Four key themes emerged with regards to addressing the challenges and they include communication, respect for diversity, tolerance, and other skills including good human resource management.

Language Barriers

Ten out of fifteen participants in this study highlighted language as a key challenge facing multicultural software development projects. When asked about their

experiences in leading the software development teams, ten out of fifteen participants responded along similar lines highlighting language as a key barrier. The participants who highlighted the language barrier as a major issue in the multicultural team associated communication with the ability to bring the team to a common comprehension of the project goals. The participants highlighted that the absence of proper and efficient communication within the multicultural project team settings made it a daunting task to have a common understanding. At times they had to rely on translation. The barrier was reinforced by the comment made by P10: "Language is a big issue, because most languages are translated from the French language or from the native language and when it is translated, it does not actually mean exactly what the person has in mind in delivering. So, a simple tense may be translated and communicated in the wrong way" (P10, 2022, Q3). In addition, the responses made by the participants highlighted that they experienced communication barriers as a result of the differences in native languages. This had the potential to lead to misperception, misunderstandings, and conflicts.

"...there are some countries that have the different languages that work for Nigeria, our main language is English, the British their mother tongue is English. In Afghanistan, they have some other language, they use Arabic" (P03, 2022, Q3). "So, there are a lot of complications when it has to do with communication. You know, a lot of people come with different languages being able to accept each other's culture and all that" (P01, 2022, Q3). "Also, there's usually the language barrier, some of these countries, let me not say most where we have that English is not their primary language.

You know, there's usually that challenge. Some people have to translate what you're telling them into their own language before they can respond” (P04, 2022, Q3).

According to the participants, language barriers and a lack of common understanding of the culture of the other group members led to misinterpretation of things said or done by members from different cultures. In some instances, the group members misunderstood each other leading to conflict. To determine the language to use was a challenge, considering that the project team members came from different parts of the world. To foster effective communication and ascertain a common understanding of the project activities was challenging when participants were speaking different languages, and the team members had to make use of translation devices. Different accents and styles of communication also emerged as key communication barriers. Participants highlighted the use of different accents as a communication challenge: “And what yeah, again, like I said, it has to do with ascent, Nigerians have their own accent, Indians have their own accent, British have their own accent. So those are the things, some of the challenges we tend to encounter when dealing with projects team from multicultural backgrounds” (P04, 2022, Q3).

There were also challenges with communication styles with some members of the team preferring direct or indirect communication. The barriers were exacerbated by the differences in culture with the team members having varying views on the styles of communication. Communication barrier was expressed by P15 who stated: "Some people feel uneasy, probably because English is not their first language and the chosen means of communication might not be their preferred language. Or they're in the language where

they are most eloquent in transmitting their ideas" (P15, 2022, Q3). Likewise, the third participant responded "And for them, their culture is also that you know, you speak openly, speak your mind irrespective of whatever cycle you find yourself in, right? And to some extent, I attribute that to the way they have been brought up. So why am I being brought up to be more cautious in some settings in the way I communicate, in my tone and in my manner, or that culturally my notes have those reservations or checks, and then when we now must collaborate together in a team, you know, it becomes extremely difficult, right?" (P03, 2022, Q3).

Participant 14 (P14) had a varying point of view regarding the language barrier as a challenge within the multicultural project management team. I found it interesting and unique that, a participant with more than 16 years of work experience in multicultural team settings did not view culture and by the extension language barrier as a key challenge to leading multicultural team settings. As highlighted and agreed upon by the other participants, culture impacts the way project team members perceive and comprehend their project activities. While the response contradicted the views of other participants, the statements made by the participants were not astonishing as they were corroborated by Avruch's concept of conflict. As per Avruch's (2013) concept, culture is a derivative of experience because it is widely connected to continuous or past social practices. The theme reflected similar responses from P07 and P13 participants, with the analysis highlighting language as a key challenge within multicultural project team settings. A statement from participant 07 summarizes this: "I have vendors across all the known OEMs that you can think of Oracle, IBM, Cisco. Across each OEM, I noticed that

the language and culture has been a great challenge for me as a project manager” (P07, 2022, Q3). Likewise, P13 responded “I noticed that the language and culture of the people has been a great challenge impacting my success as a project manager” (P13, 2022, Q3).

Perceptions Towards Time

Different perceptions towards time among the participants were severally noted as a challenge to the coordination of a team to complete a given project within a given period. The different timezones led to an issue with scheduling of meetings and obtaining a timely response from the team members who were at certain times working from the different parts of the world. Timezone was a major challenge when scheduling meetings for people in different parts of the world. This is how participant 02 responded: “Most times, there's always that time difference between teams, between the times you know, sorting deliverables and making sure that, you know, you factor in the time zone. Sometimes, most times when I'm available, the teams may not be available” (P02, 2022, Q3). Participant 05 added to the dynamics of working with team members from different time zones. “Overlaps between everybody might not be as much as you would want to have in a typical day. Say for instance, you're working with guys from Asia who are hours ahead. You're working with someone say from this continent in Africa, I have someone working, say in Europe, so you might have an issue, because you don't have that many hours that overlaps for everyone that everyone can actually be at work at the same time” (P05, 2022, Q3).

The responses made by the participants highlighted that software developers from different cultures commit to time in different ways. For instance, participant 15 highlighted concerns from the members of the team from India who were more concerned about completing the task perfectly rather than paying attention to deadlines. On the other hand, participant 06 highlighted that software development activities are time bound, and everything being done has to be completed within a given timeframe. Addressing this issue, participant 06 stated: “So sometimes it's difficult getting people to commit, let's say you're leading the team so typically you would want to work within your typical nine to five whereas you're dealing with a developer for instance, who's working out of Asia and mostly they do and he's ahead of you and then anything after three o'clock becomes difficult because sometimes they are three hours you know ahead and then it's faster close to sleep time for them. So, you find that the window you need to work with, you have to be strategic around how you schedule” (P06, 2022, Q3). In addition, participants highlighted the presence of varying norms and perceptions toward time. For instance, participant 01 highlighted that some members of the team believed there was no need to be in a hurry in their project execution activities. "So, from different diversity, you find people who don't believe there is a need for you to be in a hurry. Some believe that it is not healthy to be in a hurry" (P01, 2022, Q3).

Cultural Differences

Participants came from different parts of the world and had varying cultural practices and perceptions. Participants acknowledged the presence of cultural diversity and acknowledgment of diverse cultural norms and values. Participants highlighted

differences in the way team members responded to their team leaders with some having a more direct response while some were more cautious and avoided proposing decisions that would override those of leaders. Participant 09 stated; “So probably a typical average Nigerian, we have had a hierarchical society. And so typically, when we come to teams, you know, we always, I won't say always, but we tend to maybe defer to the boss. Thus, when the boss has spoken, and those perspectives are different from us, we tend to align with the boss.” (P09, 2022, Q3).

A similar issue was highlighted by participant 03 who highlighted differences in response from members of the teams who came from countries with more liberal national cultures such as the US. The respondent asserted; “When you compare that with cultures, like in the US, you know, everybody has a voice. And sometimes you see general member's views overriding supervisors when the supervisor doesn't have a strong or strong enough opinion on a particular matter. And so, you also have differences in terms of approach, right? Some cultures tend to be more diplomatic, let's say the Indian, they are more cautious in delivery, some cultures tend to also give information as it is” (P03, 2022, Q3). In discussing his experiences with the members of the software teams from different origins, participant 10 shared something similar to the experience of participant 3. “In my culture normally, when a superior, you know, gives his word you are supposed to, well accept it or, you know, and discuss with him or her privately if you have a different perspective, right? However, I'm mixing with cultures where that is not the case, right? I'm also mixing with the cultures where people are more upfront with what they

feel, what their opinions are, and sometimes that comes across as quite brash and quite arrogant” (P10, 2022, Q3).

Religion was another challenge. For instance, Muslim members had to pray several times a day and they had to be allowed time for this. On the other hand, the different religions had different holidays with Christians celebrating Christmas which was not celebrated by Muslims and other religions. “For people in Estonia, for instance, when we are doing our New Year celebration, they don't do it at the same time, they do it another time” (P08, 2022, Q3). Likewise, the fourth participant highlighted the differences among team members due to differences in their religious practices. The response by the participant was “When you have some certain public holidays that they observe that has been probably religions; for example, some believers will celebrate Christmas, while some other countries that is not Christian don't celebrate Christmas” (P04, 2022, Q3).

Taking into account the value structures of the participants, cultural values are carried over from the family to professional life. One of the main challenges with regard to culture is the failure to take into account the presence of the various value systems and the impact culture has on diversity. Thus, it appears challenging for the team leaders to get the members from the different areas to comprehend what those from different settings think and that they might act differently based on their experiences and perceptions.

Lack of Tolerance

The responses provided by the participants depicted that the participants believe that intolerance and lack of knowledge pertaining to diversity is a problem that needs to be addressed in the leadership and management of multicultural software development teams. Participants talked about having members of different origins, and religious beliefs, and also speaking different languages. Thus, it is therefore not logical to expect people with such differences to act the same way and this was the main reason for conflicts among team members. The opinion was explicitly expressed by one participant who said: "After forming, there's the storming stage, everybody's fighting each other because people have different perspectives, different ideas of the goal, different approaches" (P03, 2022, Q3).

The participants highlighted the importance of cultural diversity training. Team members are likely to be less tolerant of individual differences if not trained on multicultural competence. Intolerance and lack of awareness regarding the issues have the potential to bring about conflicts in team activities. As a result, team members are likely to underperform unless they are skilled to address such issues. The theme was supported by responses made by participant 01; "They come in terms of being frustrated in understanding communication, understanding languages, understanding the belief of people, you know, in leadership, there's the autocratic sometimes you believe in certain things, but there are some people you can't force things down their throats, because of their culture, but they are some cultures that are a bit docile" (P01, 2022, Q3).

Stereotypes

The responses provided by all the participants highlighted that there were cultural stereotypes at the workplace that had the potential to cause misunderstandings, conflicts, and barriers to effective teamwork. "...managing integration across can be difficult where we have prejudice or negative cultural stereotypes across different cultures where there are already prejudices that are pre-existing, and if not properly managed can also cause disunity among the team" (P02, 2022, Q3). In addition, participants highlighted how interactions among team members from different countries led to unconscious biases and stereotypes that could negatively impact teamwork and adversely affect work morale. "...it's easy to stereotype people, you know that Germans direct so well, and some people are more diplomatic" (P03, 2022, Q3). In addition, the sixth participant responded "...one thing that typically happens across the world, and in different sectors is when you stereotype people, so this person is from this sector, this gender, or all these races, and they most likely should be like this. So that leads to a lot of assumptions that a lot of times would be false or partially true and may lead to more bad decisions because then you start to act in a certain way, assuming that that would be the best way to treat the situation, but you could be totally off the tangents. I would say, avoid assumptions in general" (P06, 2022, Q3).

Differences in Work Cultures and Perceptions

Eleven of the fifteen participants highlighted that different work cultures and styles constituted a major problem among members of multicultural software development teams from different backgrounds. For instance, some members of the team

expected to be provided with guidelines while conducting their work while others preferred a more autonomous approach to the work. Working styles and values varied among the team members. Some cultures emphasized on work-life balance and private time while others would be comfortable even working outside working hours and not view that as exploitation. The challenges were highlighted by responses from three participants; "...For the challenges, I've had to start with the first one which would be conflicting work styles as the teams' schedules at times required some cultural workers to take a siesta at about 2 pm or 3 pm or are willing to work during off-peak period for the workers" (P05, 2022, Q3).

In addition, participants highlighted variations in perceptions of authority and responsibilities. Team members from more deferential cultures such as the Asians were less likely to speak up, while those from more direct and open cultures from Western countries had no problem expressing their ideas to the management.

"Some cultures, not to stereotype but you know, some cultures are seen as a Yes culture, everybody says Yes, even though they might not agree, and that might not be the best approach. But because of yeah, basically, how they interact, right? People tend to be more cordial, right, and accepting. Some cultures are a little bit more autocratic as you know. Yeah, and some cultures are more engaging, trying to get everybody's consensus, trying to carry everybody along. For some cultures, they expect one person to lead, you know, and then when people come to teams, where they expect the leader, and no one really takes up that position to really read out all that they should do, they seem a little bit

lost, right? And the same, you know, make them to lack a sense of direction” (P03, 2022, Q3).

Favoritism

This theme emerged from responses that depicted those perceptions of one being like other team members had the potential to lead to positive or negative effects. With regards to the challenges of leading the teams, participants expressed concerns regarding discrimination where some leaders had the tendency to favor the predominant culture. “Another thing is talking down on people or looking down on sustaining culture, because the project manager comes from a particular culture, he may be tilting towards the culture that he understands, and then favor people from that culture in terms of assessment of their output in the project (P02, 2022, Q3). Likewise, the sixth participant responded, "So for a project manager who believes that because you speak my language, you're going to contribute more to the projects, and I'm showing you that yeah, that contribution is acceptable by me, you're going to run down, because another may have more content, only maybe speaking a language that you don't even understand. So, favoritism and grouping, in my own language, to say this is my person translates to favoritism dynamics, I call it that way" (P06, 2022, Q3).

Addressing Challenges

While responding to the interview questions, the participants highlighted the skills required by project managers to effectively deal with challenges related to leading the multicultural software development teams. The main skills identified by the participants

included effective communication, tolerance, respect for diversity, and interpersonal skills such as good human resource relationships.

Communication

When asked about the possible solutions to the problems, the participants highlighted the need for project leaders to have effective communication skills. Effective communication skills are needed for effective negotiation with the team members to make everyone feel part of the project team. The participants acknowledged the role of effective communication in the team development process. This requires breaking down communication barriers that resulted from the participants coming from different ethnic and national heritages. The participants acknowledged that healthy and effective communication within the team could be accomplished by listening to the team, addressing their concerns, and leading by example. Effective communication is required to empower the team members to understand each other. The theme was supported by responses from three participants: "...project management is all about communication, communication in terms of customer expectations, or even the objectives of the project. Communication plays a key role in ensuring that, first, everybody knows why, why the project is happening, everybody knows the why, everybody knows the where, and everybody knows the how of the project. Also, every team member should understand, you know, if you're not there, every team member should be able to give the same response. If somebody new comes into the team, everyone should be on the same page. And that can only happen through communication, right? Everybody should be on the

same page, I was able to stand and say, oh, therefore we are doing this. This is where we are, this is how far we've gone" (P08, 2022, Q3).

Another aspect of effective communication is listening. The project manager leading the multicultural software development team should possess strong listening skills to be in a position to create an environment conducive for all the project team members to feel part of the team. The respondents depicted that effective communication was required for establishing a rapport with the project members. Effective communication paves way for the development of healthy workplace relationships. Effective communication is also needed for developing a rapport with project team members and for working towards accomplishing the organizational goals. The opinions were explicitly expressed by three participants who said: "Effective communication is key to interpersonal skills, our ability to meet and understand people on a personal level and get their commitment towards achieving the organizational goal" (P14, 2022, Q3). Therefore, to be effective, the project manager should have the skills required to overcome communication barriers evident in multicultural project team settings. Communication was one of the main challenges highlighted by the participants with misunderstandings and miscommunications often occurring. The communication challenges can be overcome by leaders who possess effective communication skills. Effective communication brings everyone on board about the task to be performed. Responses from three participants supported this theme: "First of all, a good project manager must be an excellent communicator. Right? You should be able to understand not only how to communicate in English but understanding how to accommodate

different cultural communication styles” (P03, 2022, Q3). “...There should be improved communication styles across the team both within the team members and also from the team leads to the team members as well” (P02, 2022, Q3).

Tolerance

The responses made by the participants highlighted that intolerance and lack of knowledge regarding diversity is a major problem. When approaching team members, one must have the aspect of diversity in mind considering that participants are from different regions, speak different languages, and have varying beliefs. The responses made by the participants highlighted the need for the project managers to have skills centered on emotional intelligence. Tolerance was frequently highlighted by the participants. According to the participants, it is critical for project managers to understand and respect diversity, backgrounds, and cultural heritage of the project team members. Understanding the various aspects of the project team members is vital in predicting or comprehending how individual project team members may respond differently to various situations. Such an understanding is critical in guiding the project team leaders in responding to the needs of the team members. The project leader must possess the ability to empathize and be tolerant to people from different cultures to succeed in leading the software development teams. “...every project manager that is managing a multicultural project team definitely has to have tolerance. One has to be empathetic, and you know you need to show a bit of acceptance, you need to be able to have interpersonal skills to be able to manage these diversities” (P04, 2022, Q3).

The respondents highlighted the need for project team members to be open-minded and actively listen to the team members. Strong communication skills are needed and there is a need for one to be mindful of their language. Project team members come from different parts of the world, and there is a need for the project leaders to be tolerant, open to diverging ideas, and listen actively to the team members. "...as a project manager, you have to be open to cultural differences, you have to be empathic, and you have to learn to be patient" (P03, 2022, Q3). A similar response was made by Participant 01. "Adapt a pace that suits the team members to be able to get the right content out. One needs to be a good stakeholder manager to do that, carrying proper analysis to be able to understand the appropriate pace to apply, because understanding human beings is one of the most difficult things to achieve" (P01, 2022, Q3).

Respect for Diversity

The responses made by all participants highlighted the need for project leaders to respect and acknowledge diversity. Training must be provided to the members of the multicultural software development teams to empower them to embrace diversity and respect their differences. Leaders and managers of the teams should be aware of and be alert to conflicts among the team members and provide knowledge to the team members to make them comprehend the importance of cultural diversity. Participants also highlighted the need to find ways to end stereotypes among team members. Three participants expressed that "...Understanding the diversity of your team is most effective. Most importantly, avoid conversations that could trigger conflict within the various diverse teams or cultures that you have within your team, stop stereotyping both in your

mindset and the way you communicate or speak with the team and within the team members; show that stereotyping is not permitted or is frowned upon seriously within the team. Those two things will help break down cultural boundaries and cultural prejudice that already preexist in the environment to help create a more professional and the desired personalities at work” (P02, 2022, Q3). "A project manager should want to avoid biases, you know, stereotypes, those things should be avoided" (P09, 2022, Q3). An interesting argument was made by participant 01 who recommended that project managers should not tolerate political arguments or arguments that are grounded on religion. According to the response, the project manager should be fair, be sensitive about making decisions, and discourage arguments based on religion or ethnicity and any form of stereotypes.

Openness to new things and unfamiliar culture is critical in the process of respecting diversity. They highlighted the need to be aware of the attitudes coming from a different culture and what they may mean in different cultural contexts. In addition, participants highlighted the need to learn how to build relationships while respecting differences. Listening to and respecting opinions from members from different origins and accepting differences is critical in respecting diversity. The theme was supported by P06 response: “...Okay, first of all, I will say, as a team leader, you must be flexible when you're dealing with different cultures, it is even more emphasized because you must cater for everyone, you must first of all show empathy, they need to know that you understand them, you care about them, it is not just about using them as tools for the job” (P06, 2022, Q3). Being open to new cultures and having a high level of tolerance is critical. In addition, listening and accepting the differences and reacting in the right way

are imperative if one is seeking to succeed in a multicultural team setting. Irrespective of the cultural orientation and dimensions leaders take, appreciating differences among team members and taking the right step to ensure the differences do not lead to a conflict was highly endorsed by the participating managers.

Additional Skills

Participants highlighted the need for project managers or leaders to have additional soft and technical skills. Good human relationship management skill was highlighted because people from diverse settings are likely to express their emotions differently. In addition, the project leader or manager should be skilled at working in teams and avoiding working in silos. They should have the skills to bring everybody on board regardless of their cultural or religious perspectives. The opinion was explicitly expressed by one participant who said: "...And the project managers should avoid teams working in silos, you know, a project manager should bring everybody together at every point in time to ensure that there's transparency and there's openness" (P14). Another skill needed is understanding the coding languages used by team members and knowing how to utilize tools to manage follow-up progress with team members. "...One of the key things may be that you have to know how to utilize tools to manage and follow up with the progress of the developers. So, you don't really have to depend on what the tester says as sometimes testers can come up with the wrong information..." (P02, 2022, Q3).

Leaders should learn how to give feedback, especially criticism when working with team members from different cultures. The need for this skill was highlighted by Participant 09; "...For each culture, and for every country, they have a unique way of

giving feedback. So especially when it's constructive and when it can be easily viewed as being negative" (P09, 2022, Q3). Time management was also highlighted, and this does not come as a surprise considering that the varying time zones emerged as one of the challenges. With team members from different locations, effective time management with an understanding of the different perceptions the different teams with varying origins may have towards time. The opinion was explicitly expressed by P12 who said: "Number one is time management; you need to know the time for the project to be delivered. That's the most important thing because every client or every project must have an expected delivery time. So, you should be able to know when you're accepting the projects, you should be able to manage the expectation of the customer, know when it is supposed to be delivered" (P12, 2022, Q3).

Summary

The purpose of this study was to explore challenges experienced by project managers leading multicultural software development teams in Nigeria. In Chapter 4, results were presented with seven themes relating to challenges experienced by leaders of multicultural software development teams, including language barriers, cultural differences, perceptions towards time, lack of tolerance, differences in work cultures, and perceptions and stereotypes. Four key themes emerged with regards to addressing challenges, which were communication, tolerance, respect for diversity, and good human resource management. The chapter also includes demographics of participants, research setting, data collection procedures, data analysis, and evidence of measures put in place to ascertain that findings were trustworthy. Data were collected using semi-structured

interview approaches and 15 participants were selected using purposive sampling techniques. Chapter 5 includes interpretations of findings and limitations of this research. The chapter also includes implications of this study for social change. Recommendations for future research are also addressed prior to a conclusion.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this qualitative exploratory multiple case study was to explore challenges experienced by project managers leading multicultural software development teams in Nigeria. I used the qualitative exploratory research method. Seven themes emerged, which were language barriers, cultural differences, perceptions towards time, lack of tolerance, differences in work cultures and perceptions, stereotypes, and favoritism. This chapter includes interpretations of findings with regard to published literature and recommendations for practice and future research. The chapter includes implications of research findings for positive social change and practice.

Interpretation of the Findings

This section includes findings of current research. The research question and interpretation of themes from collected data are discussed. The overarching research question is: What are the challenges faced by project managers leading diverse multicultural software development project teams in Nigeria? Emerging themes were compared with relevant concepts from the literature review in Chapter 2. This section contains evidence to support how findings of current research extend or disconfirm the prevailing body of evidence.

Application of Theories

Theories framing this study Avruch's theory of culture, the human needs theory by Burton, and the cross-cultural adaptation theory by Kim. According to Avruch (2013), individuals are distributed across the various social groupings including occupational, class, ethnic, regional, and religious. Participants highlighted differences in religious

practices, for instance Muslims praying several times a day while Christians take Christmas holidays. Bringing varying cultural aspects into the project team often led to conflicts. For instance, some non-Muslim participants viewed frequent prayers as interruption and asked if they could also be allowed some time as Muslim members were going to pray. Muslim members of the team viewed praying as a critical part of their faith.

Project managers taking part in this study handled challenges by empathizing with and encouraging team members to manage language barriers. This made team members more flexible and confident in terms of contributing to the team, and consequently enhancing their performance. Cultural differences are not leading causes of conflicts within groups. Nevertheless, cultural differences if manifested can lead to conflicts. Therefore, clear comprehension of culture is a requirement for effective conflict analysis and resolution. Results of the current study are that culture and individual experiences impact experiences and perceptions regarding working with people from different cultural backgrounds. In situations with Muslims being granted time for prayers with other team members asking to be allowed the same amount of time for personal use, those asking for extra time argued from the concept of treating everyone fairly and equally, and granting extra time off for prayers was perceived as unfair to those who did not practice the religion. Differences in perceptions led to conflict, which impacted team performance. Understanding and respecting other cultures is essential in terms of preventing conflict from emerging within teams. Based on responses given by

participants, understanding cultures of team members involves getting to know their values and communicating with them in a way that is meaningful and respectful to them.

Another theory employed in this study is the human needs theory. According to Maslow (1970), certain universal needs have to be met to prevent people from engaging in destructive conflicts. According to Ritzer and Goodman (2004), cultures are marked by certain needs that if threatened or not addressed can lead to conflict. Findings reveal that conflict can emerge due to differences based on culture. For instance, some participants came from countries or settings with more liberal cultures such as the US. They believe everybody should have a voice and this is contrary to those coming from more conservative cultures that hold strong regard for their leaders and tend to follow instructions without questioning the decision made by their leaders.

Limitations of the Study

In Chapter 1, I highlighted some potential limitations that could have adversely impacted trustworthiness of findings of this research. Challenges included social desirability bias, bias in terms of the participant selection process, and challenges in terms of recruiting participants. The only challenge that occurred involved recruiting an adequate number of participants. There was no central database where leaders or managers of multicultural project teams could be recruited. Certain limitations were not anticipated at the beginning of this study.

Study limitations are weaknesses that are inherent to the research approach which may impact outcomes and trustworthiness of findings. Researchers have an obligation to the academic community to address limitations of their work. The use of qualitative case

study design does not facilitate generalizability of findings to the population from which the sample was recruited (Yin, 2018). However, Stahl and King (2020) argued qualitative research approaches is more concerned with trustworthiness of findings rather than generalizability. A multiple case study approach was employed for the purpose of ascertaining trustworthiness of findings and guarding against potential researcher bias and improving cross-case comparisons. I used the multiple case study design to acquire a deeper understanding of experiences of managers of multicultural software development teams.

Fifteen participants were recruited to allow for data analysis while enhancing the likelihood of variations in data or uncommon observations. To avoid overlooking divergent views, I carried out conversational interviews using probing questions to solicit more information from participants and encourage them to provide in-depth details about events impacting leadership of multicultural software development teams. Dependability in this research may have been limited due to geographic location differences of participants, with experiences varying based on location and demographics. Most participants were of Nigerian origin, which could possibly limit applicability of this study to other population groups. Experiences of participants may have differed due to differences in terms of multiculturalism experienced by participants and varying social settings.

The participants selected to take part in this research were designed to offer substantial units of analysis for the multiple case study analysis while raising the likelihood of revealing divergent views. Upholding the confidentiality of the participants

was critical in this research so that the participants in this project may not be identifiable upon publication of the findings. Another limitation is that the study relied on the accounts of the participants, and this could have been affected by a memory lapse. To address this issue, the participants were engaged in an open conversation to allow them to share their experiences in a candid way and were asked probing questions to gather more details and possibly empower them to recall.

Another challenge is that some participants had to be followed up closely with reminders prior to the interview. This led to delays in carrying out the interviews and the challenges can be attributed to the commitment of the participants to their work and life activities. Another limitation is that majority of the participants were male (80%), thus, the findings are more likely applicable to the male population. In addition, almost all (14 out of 15) were within the 40-to-50-year age range. There is a possibility that more balanced demography of the respondents may have yielded varying results.

The research approach employed was the use of qualitative semi-structured interviews. The interviews took place within a limited timeframe with the time for the interviews selected based on the convenience and availability of the respondents. Although semi-structured interviews usually bring out in-depth comprehension of the experiences of the participants, their responses or ability to take part in the interviews could have been impacted by other factors such as work-related pressure or commitment to other events. Lastly, there is a possibility of personal bias impacting the interpretation of the findings of this study. This is particularly regarding my perspectives of reality and understanding of the responses made by the participants. Nevertheless, I am convinced

that there was no bias in the research process due to the various measures put in place to ascertain the trustworthiness of this research. The process of member checking employed in the transcribed version of the interview responses alleviated this limitation. I was also particularly sensitive to any contradictory findings as per the existing body of literature to remove any preconceived notions that may have impacted my interpretations.

Recommendations

The current study employed a qualitative exploratory multiple case study design with a focus on understanding the experiences of project managers leading multicultural software development teams in Nigeria. The main limitation of a qualitative research approach relates to the generalizability of the findings. The findings of the current research may not be generalizable to other leaders or managers of the software development teams. However, according to Ravitch and Carl (2016), the aim of qualitative research is not to achieve generalizability of the findings as the results are only applicable to a small group of the population. Unlike quantitative research, the qualitative approach seeks to provide an in-depth explanation of the phenomenon, unlike quantitative research which is concerned with measuring variables and testing hypotheses. My recommendations for future research will emerge from the research methods employed and the obtained findings. The findings of this research study can be used to shape development of leadership training programs for multicultural teams to assist leaders in addressing the challenges.

For future research, a quantitative research approach can be used. Using another approach would be critical in substantiating the findings of the current research. The use

of a quantitative survey research approach will allow the investigator to collect data from more participants. The themes and the findings obtained can offer opportunities for new research to provide a more contextual exploration of the management experiences of the leaders of the multicultural software development teams. Participants can be recruited from specific organizations or using social media platforms. There should be efforts to involve participants with varying demographic details including those in executive ladders of their organizations. Emerging investigators can leverage the strengths and limitations of this research to replicate the findings of this research using a quantitative approach. The use of a quantitative approach including the use of surveys will allow the investigator to make use of a larger sample size. Another opportunity for future research is employing different conceptual frameworks to guide this research. Another opportunity for future research is investigating how the social profile and other demographic details impact the ability of project leaders to effectively lead and manage teams. Longitudinal quantitative studies can explore the changes with time and could be beneficial in comprehending the relationship between the demographic details of the leader and the effectiveness of multicultural teams.

Implications

The presence of multicultural teams in the contemporary business world is becoming widespread for various types of companies. The reason behind this is the rising mobility of people and labor across the globe. In this context, multicultural work groups have increasingly become the norm and the rapidly changing work environment has led to novel challenges for managers and their staff (Sogancilar & Husniye, 2018).

Therefore, while performing their roles of leading multicultural teams, managers have to comprehend and handle challenges emanating from the presence of multicultural teams. The findings of this research study contribute to the existing body of knowledge regarding the challenges of leading multicultural teams with a focus on the multicultural software development teams in Nigeria. Challenges have been discussed in form of themes and the research gap identified in the background section has been addressed. The research has also contributed to the current body of literature regarding the skills and competencies required to effectively lead multicultural software development teams.

Positive Social Change

The findings of the current research are potentially beneficial for the leaders of multicultural teams and society in general. The findings contribute to the field of knowledge in multiculturalism, team effectiveness, leadership, and experiences of leading multicultural software development teams in Nigeria. The experiences of leaders of multicultural teams shape their leadership and impact their skills and competence in leading the teams (Kang & Bodenhausen, 2015). Leading and managing multicultural project teams exposes the leaders to intersectionality dynamics entailing identity, psychological, and social processes of cultural complexity that may not have a substantial impact on the team and the organization but on the individual leader (Kassis-Henderson et al., 2018). The rising awareness regarding cultural diversity among individuals in organizations allows for the challenging of the various assumptions that have for a long time been accepted in the management organization, thus promoting positive social change. The current research has an impact at the individual level by giving the leaders of

multicultural software development teams an opportunity to voice their experiences. The insights regarding the experiences of the leaders of these teams can facilitate the development of new leadership paradigms to address challenges and issues emanating from cultural diversity within the organization (Averweg & Addison, 2015). In addition, the findings of the current research depicted the various ways members of multicultural teams could depict cultural differences and possibly trigger conflicts or misunderstandings because of the differences. The findings also depict the kinds of traits that are needed to co-exist peacefully among team members of different ethnicities. Among the traits and competencies required include empathy, tolerance, patience, friendliness, and cultural sensitivity.

Research highlighting the findings regarding cultural diversity within multicultural teams in organizations promotes positive social change within the organization because the various widely accepted assumptions pertaining to multicultural teams and their leadership are challenged (Sogancilar & Husniye, 2018). Therefore, the current research promotes positive social change by enhancing the effectiveness of organizations with multicultural teams in managing and effectively leading the teams.

This has been achieved by revealing the challenges that are evident with the leadership and management of multicultural teams, this study provides evidence that can be used to develop and implement appropriate programs and policies that support the needs and talents of individuals leading and managing multicultural teams, thus, bringing positive impact at the organization level. The findings also have the potential to bring about positive social change at the societal level by creating awareness regarding what

leaders of multicultural software development teams go through, the challenges encountered, and effective approaches to handling the cultural differences within the society.

Theoretical and Empirical Implications

A wide range of primary research studies were available (Jayanthi, 2017). Nevertheless, none of these studies focused on exploring the challenges experienced by the leaders of the multicultural software development teams with Nigeria as the multiple case study. In the current research, I made use of Avruch's (2013) culture study and Kim's (2001) cross-cultural adaptation theory to inform the conceptual framework for the current research. The current research assists in bridging the gap in knowledge by improving understanding regarding the challenges experienced by the leaders of multicultural teams working in the various computer science activities, including creating, deploying, and supporting software in Nigeria. The findings depicted the need to develop a conducive environment to promote co-existence amongst employees with varying cultural affiliations. There is also a need to have in place effective multicultural and performance management strategies.

Implications for Practice

Increased staff turnover and poor productivity at the workplace have been identified as some of the major negative effects of not prioritizing and managing diversity (Batsa et al., 2020; Huang, 2016). To prevent the adverse effects while maximizing the benefits of cultural diversity, team leaders and managers must be equipped to deal with the inherent challenges emanating from having team members of different cultural

heritage. Participants in the current research highlighted the various ways multicultural teams and performance related challenges could be addressed. They highlighted the need to possess skills and competencies such as effective communication, tolerance, and cultural learning and integration. In such a setting, there is a need for training programs to the multicultural workforce to impact the leaders and team members with the skills required to effectively co-exist with each other (Dumitraşcu-Băldău & Dumitraşcu, 2019; Tabassi et al., 2019). There have to be effective communication channels and ground rules to guide interactions among team members. To achieve effective communication, it is imperative for the staff members to avoid traits that could lead to cultural conflicts and adversely impact productivity. On the other hand, they should embrace the desired cultural views and perspectives that are required for the development of harmonious relationships at the workplace.

Conclusions

The current research focused on exploring the challenges encountered by leaders of multicultural software teams in Nigeria. In total, 15 participants were recruited and were working with different teams in Nigeria. Five participants came from Lagos, five from Abuja, three from Port Harcourt and the remaining two from other parts of the country. The conceptual framework informed by human needs theory by Burton (1990), Avruch's (2013) theory of culture, and cross-cultural adaptation theory by Kim (2001) guided the process of conducting this research. In total, seven themes emerged, and they offered insights regarding the research questions. The findings in this research depicted that cultural differences within multicultural teams can hamper the successful functioning

of the team leading to inefficiencies within the team and decreased productivity. A strategic response to taking advantage of cultural diversity in the organization is having a clear organizational strategy and integrating it with the overall corporate strategy. Therefore, the organization should have an effective multicultural management system in place covering critical issues such as effective communication, respect, tolerance, and socialization.

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Appendix A: Interview Protocol

Demographic questions

What is your:

Current workplace position:

Gender

Age

Educational level

Years of work experience

Construct questions

1. What is it like working with team members from different cultures?
2. What is your experience leading and managing multicultural software development teams?
3. What challenges have you experienced in leading multicultural software development teams?

Follow up: What do you think is the role of culture in those challenges?

4. What are your views regarding communication within multicultural software development teams?
5. What are your thoughts about how the performance of multicultural software development teams can be enhanced?
6. What do you think are the skills required by software development project managers to effectively manage challenges and lead the teams well?

Closing statement

Thank you so much for your participation and your willingness to give me the opportunity to develop interview skills with you. Are there questions or anything you would like to add based on today's session?

I will send you a copy of the transcripts and you can update me if they are correct and if you need to make any changes. If there are no changes, please let me know so that I can note this for my research. I expect the results to be ready by date 20 December this year and I can send you a copy if you are interested.

Thank you so much for your time.