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Impact of poor communication on project performance among diverse teams

Master's thesis in Project Management

Supervisor: Ole Jonny Klakegg

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performance among diverse teams”

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Abstract

Construction industry is complex and risky business. It consists of projects and projects are characterized as fragmented, dynamic and consists of diverse teams. Communication in a construction project is everything. Communication is a continuous and dynamic process. For better performance and results, the communication among diverse team should be efficient and effective. Effective communication is the core competency element to the success of projects. Due to its nature, projects are performed by diverse teams and these teams have difference among team members. Those differences can be cultural, language, skills, values, educational, experience, personal and religious believes. Since communication is a means of transferring project information among team members, it requires effective management as it directly affect the project success. Therefore, the managing department needs an effective measure to avoid communication problem. Poor communication impacts the productivity and performance of the project. Project managers are asked to improve and eliminate the poor communication among team members. This research paper focuses on identifying the impacts of poor communication and suggesting improving measures that can be implemented to improve communication skill among team members. Qualitative approach was adopted to conduct the study using a semi-structured questionnaire for performing interviews. From the empirical data and literature review, this study identifies 19 impacts of poor communication related to the theme of the study and suggests 17 measures that improve poor communication among diverse teams.

Keywords: poor communication, trust in construction, communication, interpersonal conflict, formal and informal communication

1. Introduction

1.1 General

The construction industry is growing rapidly and plays a vital role in the development of a country and in creating job opportunities for residents. According to (Mahmoud A. Hussain et al, 2018) the construction industry plays an important role towards the social and economic development of countries worldwide. It is important for the public as the developers build houses for the people to live, offices to work, schools to learn and hospitals for treatment. It comprises projects and projects are temporary. Construction projects can involve diverse project teams from different political, legal, economic and cultural backgrounds (Fatma Waziri and Salha Khalfan, 2014). To execute the projects, people from different culture, ethnicity, educational background, and experience share their ideas and knowledge through collaboration to meet the objectives of the project and to accomplish it successfully. Team diversity is defined as any attribute that people use to tell themselves from 409 Effects of team diversity other people (Guangdong Wu et al 2. , 2019) and further added that team diversity is a multi-dimensional concept, encompassing a variety of heterogeneities between project teams. However, it is associated with complexity and challenges. Due to the temporary nature of

projects, the relationship between the participants is also temporary (Sigitas Mitkus and Tomas Mitkus, 2014) and fragile.

1.2 Main Research Background

Conflicts are inevitable in construction projects. Conflicts are a natural part of human interaction and can spring from individual, social, cultural, religious, political, financial, goals, intellectual, and political roots (Thomas Grisham, 2013). There is always a tendency for conflict due to any of the above various reasons. For the people in projects to interact and understand one other they need to communicate. Communication is crucial in construction project for transferring information back and forth between sender and receiver. And is found to be delivered successfully when the receiver understood the sender and comply timely and with appropriate feedback. The process of communication is dynamic and complex, and it involves various teams and individuals with diversity in personality, experience, and educational background. For communication to be effective, it is important to have communication skills because technical skills and experience are not sufficient (Mahmoud A. Hussain et al, 2018). Previous research pointed out that communication is a key factor to project success (A. Suleiman, 2022). The need for the professionals to communicate throughout the project is crucial and it needs to be effective for better performance to successfully meet the objectives and aims of the project. (Luka Goji Tipili and Patria Oyiza Ojeba, 2014) states that construction is such a fragmented, dynamic, and disparate sector, that effective communication becomes essential “for the successful delivery of performance goals (productivity, profitability and repeat working opportunities”. (Fidelis Emuze and Matthew James, 2013) pointed out that without effective communication among people, work progress would become an uphill task in the construction project.

There is no clear-cut definition of communication and different researchers and writers express communication in their perceptions. Communication can have various/different meanings, contexts, and forms which relatedly depend on the discipline referred accordingly to (Ismail Abdul Rahman and Yaser Gamil, 2019) and defined communication synonymously and equivalently as the process of coding one’s thoughts, ideas, and feeling into signals that are transmitted to others who receive, decode, understand and react to them on the basis of their own previous experiences and future expectations. (Ananthan Valitherm, 2014) defined communication as a process of exchanging information, ideas, thoughts, feelings, and emotions through speech, signals, writing, or behavior. It refers to the interchange or sharing of information, feelings, and opinions between individuals in a group or inside an institution, or between groups and organizations in general (A. Suleiman, 2022). Communication is that in which people share their views in the verbal and non-verbal forms to be understood in formal and informal ways (Demudu Naidu Jureddi and N.Brahmaiah, 2016). According to (Stephen Oliver, 2019) communication is the foundation of survival and essential for the growth and evolution of societies, without the ability to transmit observations or ideas animals would at best exist perpetually on the edge of extinction. Communication is means of conversation among people to share their ideas and allows the flow of information back and forth in the hierarchy of the project structure. (BG Zulch, 2014) explains communication as the process of acquiring all relevant information, interpreting this information, and effectively disseminating the information to persons who might need it.

According to (Yaser Gamil and Ismail Abd Rahman, 2021), (Ismail Abdul Rahman and Yaser Gamil, 2019), (Guangdong Wu et al 2. , 2017) and (Sai On Cheung et al, 2013), communication is the process of sending and receiving technical and non-technical information through different means and channels and among different managerial and non-managerial levels. This indicated that there is a mutual exchange of project information by making sure of an understandable environment among the team members is created. For this process to be completed successfully, the information exchanged between both parties must be understood otherwise the process is not effective or complete (Mahmoud A. Hussain et al, 2018). Communication is a key element of effective teamwork (Kathleen Boies et al, 2015). Team members need to engage in sharing ideas for developing strategies and planning their work. Communication and trust are very important factors that push the project performance forward. But if the communication level is poor, the flow of information among the diverse teams in a project will interfere with the productivity and performance of the project. Thus, this will hurt the success of the project.

(Mahmoud A. Hussain et al, 2018) expresses communication as a dynamic and continuous process that runs throughout the project lifecycle and involves many stakeholders. Furthermore, point out that effective communication must be sought and attained due to its vital role which affects the project's outcome directly. Excellent communication is necessary for the success of a construction project. Effective communication is a key aspect of project-based management and is recognized as essential for successful project management (A. Suleiman, 2022). (Isabelle Reymen, 2006) explains that the efficiency and effectiveness of the construction process strongly depend on the quality of communication. Further explains an improvement in the communication within the project team could reduce failure, more open communication at all levels could lead to innovation and better technical solutions, and improved communication during briefing could lead to better decision-making and improved communication in the early stage of the project will positively influence the quality of the project outcome.

Communication is a cause of conflict in a construction project. (Malik et al, 2021) emphasizes that problems in communication are the true and most frequent causes of conflicts in construction projects. One of the factors that causes conflict associated with communication is poor communication among diverse teams. Since projects are performed by diverse teams, due to diversity in their experience, educational background, cultural differences, language differences, professional differences, and other reasons, communication conflict can occur. According to (A. Suleiman, 2022), construction projects utilize people that have diverse cultural origins, interests, languages, and talents having diverse educational and professional diversity from native, foreign, and non-native workforces. These qualities and diversities point out to elevate the complexity and challenges among the diverse participants of the project which will intensify the lack of communication among the members. Communication and trust are very important factors that push the project performance forward. But if the communication level is poor, the flow of information among the diverse teams in a project will interfere with the productivity and performance of the project. Thus, this will induce a negative effect on the success of the project. Therefore, it is crucial for the construction project to have an effective cooperation and information exchange mechanism to carry out its objectives. (A. Suleiman, 2022).

However, poor communication which can classified as inadequate, inefficient, and unsuccessful project information communication, that needs to be eliminated at the construction site for the

effective execution of the project in time, budget and quality, will interfere with the productivity and progress of the project. Poor communication has a range of ramifications and effects in the construction industry, including cost overruns, schedule overruns, disagreements, and project failure. It has been established that inefficient communication results in unsuccessful outcomes (A. Suleiman, 2022). To achieve the stated goals and objectives of projects, it is vital to have an effective communication during the project execution period. However, ineffective communication results to poor communication, which will in turn cause delays in estimated time and extra project cost.

Due to poor communication, there are lots of misunderstanding, misinforming, and redoing of work at the construction site. The receiver might not clearly understand the information from the sender, and interpret the information not as intended and might perform the task wrongly. And if the information is to be passed on to other and the receiver, in which to be a channel of communication might not pass on the information correctly due to misinterpreting or not might not know the language used as the medium of communication in the project, or lack of communication skill. The cause of poor communication are plenty. (A. Suleiman, 2022) pointed out 33 causes of poor communication, (Ismail Abdul Rahman and Yaser Gamil, 2019) pointed out 41 and (Mahmoud A. Hussain et al, 2018) found 30 causes in their study. These causes can cost a fortune and delay for the project estimated cost and time. Project failure is directly linked to poor communication in construction projects.

Poor communication is one of the most causes of cost overruns in the form of direct and indirect means (Ismail Abdul Rahman and Yaser Gamil, 2019) and further pointed out most of improper communication causes major issues in construction projects. And according to (A. Suleiman, 2022), communication breakdown is one of the most severe issues in Palestine project managers face in in managing construction projects. The article added effective communication throughout the construction period can push the project forward to accomplish its stated goals and objectives. (Mahmoud A. Hussain et al, 2018) pointed out that poor communication is a common problem in construction projects. (April H. Reed and Linda V. Knight, 2010) states that it is not uncommon to find communication issue in project and adds lack of communication can lead to people “not being on the same page” and “working at cross purposes. Communication problems, according to (Fatma Waziri and Salha Khalfan, 2014) are greatest challenge in international business, because managers spend on average, 75% of their time communicating and added managing communication is a key enabler of an effective strategy of human resource management.

1.3 Aims and Objectives of the study with problem formation

The principal objective of this research question and objective of this study is to find out how poor communication impacts the productivity and performance of a project among diverse teams and what measures can be done to improve the situation. Diversity in social and cultural behavior of participants, linguistic diversity, professional and experience diversity among the participants is considered. For the communication to be smoother and more effective, the trust among the participants is important. Communication and trust are very important factors that push the project performance forward. But if the communication level is poor, the flow of information among the diverse teams in a project will interfere with the productivity and performance of the project. Thus, this will have a negative effect on the success of the project.

Therefore, it is important know how trust influence communication among the teams and this study will try to find the link between them.

The presence of conflict, especially interpersonal conflict, can create a negative atmosphere in the construction site and the flow of information among the participants will be impacted negatively and unclear and improper communication channel among result. To have a clear idea on how interpersonal conflict influence communication, this study will try to find out the link between interpersonal conflict and communication as a sub research question. The members among the diverse teams communicate one other formally and informally. Obviously, there is difference in building trust among members by considering they adapt formal or informal or both. To find out this, as a sub research question, how does formal and informal communication influence the trust development process in diverse teams and how does it affect the conflict resolution process, is considered in this study. Poor communication is one of the major reasons for conflict, so we need this knowledge to improve the possibility for success of projects when using diverse teams.

1.4 Research question

The ambition and the main goal of this research are to answer the research questions:

How does poor communication in diverse teams impact the productivity and performance of a project?

How does trust influence communication?

How does interpersonal conflict influence communication?

Does formal and informal communication influence the trust development process in diverse teams? How does it affect the conflict resolution process?

What measures can be implemented to improve the communication level among the diverse teams?

1.5 Plan of the research (Methodology)

A semi-structure interview guidelines were adopted for the research methodology for this study. The interviews focus on project managers and other team members from the construction site. To find out the solutions for the research questions, this study needs need insight data from the people working in the field dealing with such things in their daily work. And intended to do so by interviewing people from diverse teams. In addition, a literature review was carried out to enrich the concept and understanding of poor communication on project and the role of trust on communication as efficient and effective communication and communication channel are the key factor for the success of the project. To have the basic concepts and theoretical insight of the topic derived from literature, articles focusing on poor communication, communication in general, role of trust and communication as well as causes of conflict among diverse teams were looked up for reference according to their relevance from Google Scholar.

1.6 Contribution to the Knowledge

The study finding will contribute the knowledge and adds to literature on how poor communication impacts the performance on project in construction industry and what measure should be done to avoid or mitigate communication problem in projects. Furthermore, it will provide additional knowledge on communication and trust relationship and contribute additional information on the literature on poor communication impact on project success and the effect of formal and informal communication on trust and conflict resolution process.

2. Theoretical framework

2.1 General

The project manager's focus is to execute and deliver the project according to budget, time frame, and quality. (BG Zulch, 2014) explains that the areas of project management are the body of knowledge, which can be subdivided into core elements that determine the deliverable objectives of the project, namely scope, time, cost, and quality. But the presence of conflict interferes in achieving the objective because conflict has a mostly negative effect on the success of projects. Conflicts are inevitable in construction projects. There are different causes of conflict. Conflicts occur due to many reasons and one of the factors of conflict is poor communication. Communication conflict occurs often in construction sites due to the diversity of team members performing the work. Since projects are performed by diverse teams, due to diversity in their experience, educational background, cultural differences, and other reasons, communication conflict occurs often. Many researchers and professionals have studied the topic of poor communication in the construction industry, and it is one of the most common reasons for project failure.

2.2 Causes of poor communication among diverse teams

Due to the enormous amount of project information and the number of parties involved in a single project, communication reveals heterogeneity, complexity, and challenges in the construction industry (Yaser Gamil and Ismail Abd Rahman, 2021). For response and result to take place after communication is undertaken, the information transmitted between organizations or individuals must first be understood. Communication is not an easily definable word due to its multi-levels which comprise of many meanings, structures, contexts, types, and purposes (Mahmoud A. Hussain et al, 2018). In construction projects, communication is one of the basic aspects of project management that takes aside others. And effective communication is crucial for the success of the project. But the presence of poor communication among the interacting parties interferes with the flow of information and creates problems that will impact project success. Poor communication has many effects and consequences in the construction industry such as cost overrun, time overrun, dispute and final project failure (Yaser Gamil and Ismail Abdul Rahman, 2017). In other words, poor communication can be expressed with the lack or absence of success and effectiveness in the communication process.

The term poor communication has been used by researchers in the construction industry to describe the phenomenon of ineffective communication in the domain of construction projects (Yaser Gamil et al, 2019). (Mahmoud A. Hussain et al, 2018) explains within a context of lack or absence of success and effectiveness of the communication process. Poor communication occurs often and is a common problem in construction projects. Poor communication can affect the project performance if its effect is understated. Poor communication is associated with negatively affecting important aspects of a project's success such as timeframe and budget. Due to poor communication, lots of redoing of work occur and thus causes cost overrun and time delay in the project. Poor communication could be due to incomplete, inadequate, and insufficient information among team members (Sai On Cheung et al, 2013). Poor communication had often resulted in project delays, project cost overrun, project abandonment (Luka Goji Tipili and Patria Oyiza Ojeba, 2014) and according to their finding poor and distorted information relayed do affect the level of work done onsite and highly affect construction projects. Furthermore, late dissemination of information will impact the work output negatively and thus leads to delay and cost overrun.

Poor communication among team members could be due to fear of communication, linguistic barriers, physical barriers, cultural and social barriers, due to work pressure, lack of honesty and clarity, poor coordination, unclear communication channel, unclear objectives and responsibilities, lack of training, a poor communication platform, slow information flow among parties, delay notification of change, poor communication management, poor project management skills, frequent change of project contract, poor communication skills, lack of clear communication objectives, negligence and casualness, poor interdisciplinary communication, bad or wrong communication (by e-mail, phone, etc.), unstructured colleagues, unstructured meetings/too many and useless, poor progress measurement, different levels of education, lack of mutual trust among construction teams, lack of understanding among parties, lack of mutual respect and trust among construction teams, diversity of culture and ethics among parties and ineffective communication (Yaser Gamil and Ismail Abd Rahman, 2021), (A. Suleiman, 2022), (Youcef J.-T. Zidane and Bjorn Andersen, 2018), (Luka Goji Tipili and Patria Oyiza Ojeba, 2014), (Ismail Abdul Rahman and Yaser Gamil, 2019) and (Mahmoud A. Hussain et al, 2018).

According to (Yaser Gamil and Ismail Abd Rahman, 2021) one of the common causes of poor communication is the lack of timely communication among project teams which has significant results in many negative consequences in terms of time and budget. When we consider the time delay which is also called time overrun, can be defined as the extra time required to complete a project beyond the stipulated time estimated in the planning stage. The delays caused by poor communication could be in the form of slow information flow, improper information channels, wrong design, wrong interpretation, and rework. extra budget, which is also called cost overrun, can be defined as when a project fails to meet or achieve the stipulated budget estimation. Cost overrun could cause major conflict and litigation that may lead to project suspension or failure. As with time overrun factors, poor communication is regarded as an important factor leading to cost overrun (Yaser Gamil et al, 2019)

The barriers of communication affect the process of communication which can lead to poor communication. According to (Demudu Naidu Jureddi and N.Brahmaiah, 2016) there are four barriers of communication, namely language barriers, physical barriers, attitudinal barriers, psychological barriers. According to (Ananthan Valithern, 2014), language barrier is a type of communication barrier in the Malian construction industry among the supervisors and foreign labors. This creates misunderstanding among the supervisors which speak local language, and the foreign labors don't understand or take time to understand, which leads to time delay, safety matters and cost overrun. According to (Martin Loosemore and Patrick Lee, 2002) language is explained as the most obvious and influential cultural variable which can interfere with the process of communication. Language differences are recognized as one of the major sources of communication problems in Persian Gulf (M. Loosemore and H. S. Al Muslmani, 1999). In addition, out of the 33 factors that causes poor communication, seven causes hold top after the confirmatory factor analysis according to (A. Suleiman, 2022). These seven factors which ranks most were lack of communication procedure and training, lack of adequate representation for project stakeholders, inaccurate delivery of project information, unavailability of information in a time of need, inaccessibility of information, lack of appropriate communications medium, and lack of understanding among parties. (Mohd Affendi Ahmad Pozin et al, 2017) discusses the different values and interests from diverse project teams and organizations, and the success

of projects depend on effectiveness of communication practices between project teams employed at the project level.

During virtual interview portion of this research study, a project manager pointed out that while working in Norway, he was the only one who speaks English as a native language, however the rest of the members were from other country and English is the medium of communication. He has to make sure that every message has to be delivered correctly and everybody should understand the message he delivers. Often to make sure, he used to ask them to repeat what he told them to know if they have understood clearly. Language problem is one cause of poor communication. While culture influences the communication process by determining peoples' mind-sets, its most obvious and tangible influence is in the form of language (M. Loosemore and H. S. Al Muslmani, 1999). When the language barrier is considered, it is not only the verbal and dialect difficulties but also the non-verbal silent clues people use in communication.

2.3 Causes of conflict among diverse team members

Conflict is a natural part of human interaction and can occur due to various reasons such as individual behavior, cultural and social difference, the difference in religious beliefs and political roots, financial differences, the difference in goals and objectives, and the intellectual variation among participants. Conflict is an argument between people based on their interests. It has been defined differently by many writers. According to (Guangdong Wu et al 2. , 2017) conflict can be defined as a process that begins when one party perceives that the other has frustrated, or is about to frustrate, some concern or benefit. (N. Jaffar et al, 2011) highlighted that conflict is doubt or questioning, opposition, incompatible behavior, controversy or antagonistic interaction and disputes is one of the range of events considered as conflict. A disease that arises because of differences in goals and interest is conflict (Summaira Malik et al, 2021). The cause of conflict can be managed or resolved or postponed depending on the gravity and situation (Thomas Grisham, 2013). It depends on the level of the conflict of the issue. If it is small, managers try those people to sort it out themselves. If managers can see the consequences are going to be big for example because of language when they are passing, it is better to just jump and correct that. It is good and it can save time if they try not to always get involved in everyone's problems, at some point since they are adults, they need to work out things themselves. And on projects, there are always some levels of frustration and conflict. They need to learn those skills. If it is a big issue of course the need for managerial involvement become necessary. Sometimes it gets frustrating when some people get the same conflict over and over repeatedly. They need a discussion to resolve the situation once for good. Some managers prefer to solve problems when they occur. They don't want to delay them or wait till the project ends. Managers prefer to solve them themselves first but if they want help or advice then they can give them.

As for the effects of conflicts, it is generally proposed that conflicts have both destructive and constructive effects on project performance. In other words, it can have a positive or negative effect on a construction project. Positively it can boost creativity, innovation, learning, greater self-awareness, high efficiency and productivity, high performance, and job satisfaction among the conflicting parties, and negatively it can cause inefficiency, competitiveness, strained relationship, low productivity and performance, mistrust, absenteeism from work, low motivation, less work satisfaction, reduced correlation, and cohesiveness.

Conflict arises because of differences in opinion, ideas, beliefs, and interest of people involved in a project. A conflict can have a positive impact on an organization's business, e.g., increasing productivity and exploring better solutions, but at the same time, a conflict can have a negative impact as well, such as poor communication and employees not willing to co-operate with each other (Summaira Malik et al, 2021). For a project to be delivered, different teams work together to achieve the objective, thus due to their diversification, the possibility of conflict increase among the diverse teams. Diversity could be a positive for better innovative solution but as the same time it can have a negative effect such as poor communication among team members. As mentioned above, the causes of conflict can be individual, social, cultural (Sudhakar, 2015), religious, political, financial, goals, intellectual, and political roots.

The relationship between the three types of team conflict is explained by (Guangdong Wu et al 2. , 2017) and their study classifies team conflict into task, relationship, and process conflict. According to the study task conflict may occur if a project team holds different opinions on project objectives, contents and responsibilities during projects implementation, whereas relationship conflict refers to incompatibility wrought by interpersonal relationships among project teams, and includes stress, anger, hostility, and other negative emotions expressed when they feel uncomfortable with each other. On the other hand, process conflict is associated with the conflict that occurs when a project team disagrees about the processual arrangements of the project tasks.

2.4 Interpersonal conflict among team members

Interpersonal conflict is one cause of conflict at the construction site which requires project managers' attention in resolving the issue as it can cause delay and cost overrun in the project (Julie L. Brockman, 2014). And further identified interpersonal conflict at construction site as one of the top occupational job stressors, strongly linked to a reduction in worker psychological and physical health. In addition, interpersonal conflict has been identified as a determinant of work disability, occupational accidents, and other costs related to reduced quality, loss of skilled employees, restructuring inefficiencies, decreased motivation and productivity, absenteeism, and employee turnover. Interpersonal conflict arises when two or more interdependent individuals perceive an interference with the means to a goal or an interest followed by some form of interaction (Julie L. Brockman, 2014). According to (Lianying Zhang and Xiaoyan Huo, 2015) and (Julie L. Brockman, 2014) managers spent 30-42% of their time dealing with conflict among employees as it must be fully neutralized, and it should not interfere with the progress of the project success. On the other hand, (Shahnawaz et al, 2011) says project managers spend a minimum of 20% of their time dealing with conflicts. If we look at the figures it seems there is a difference in their report, but it shows clearly that project managers deal with conflict and allocate much time to resolve it.

However interpersonal conflict among teams of projects is unavoidable due to the diversity of the interacting parties such as the owner, contractor, and supplier as they have their interest and objectives. If they think their interest is somehow negatively opposed or influenced, it will create problems and tension among the parties. It is also stressful for the workers at the workplace and is associated with reduced psychological and physical health (Julie L. Brockman, 2014). Interpersonal conflict is associated with unsafe and unhealthier work outcomes and the process that is implemented to mitigate and/or prevent it will positively benefit the project outcomes. The presence of interpersonal conflict creates symptoms such as hostility, jealousy, poor communication, frustration, low morale, and a decrease in team

decision-making effectiveness (Julie Yu-Chih Liu et al, 2011). The best way to manage the difficulties created by interpersonal conflict is to resolve the conflict at the place of the source of conflict before it escalates and brings more damage to the project. The role of the project manager is crucial in resolving the conflict with a positive attitude. Interpersonal conflict and negative emotions at the construction site among the conflicting parties have inverse relationships with project performance (Lianying Zhang and Xiaoyan Huo, 2015).

2.5 Trust among team members

Nowadays project teams consist of people from different country having different social and cultural background, profession, and experience. They work together to accomplish the objectives of the project. However, to do so, they need to communicate and somehow develop trust one other for better information flow and better solution. Due to their diversity, the dynamic and continuous flow of information could be challenging. Developing trust among them will be difficult and challenging for the project management.

Trust is an elusive concept and has several definitions by different researchers in various contexts. The reason for such can be due to its diverse form. To trust means you rely on others not to take advantage of you; to be trustworthy means you do not take advantage of others when trusted (Shahnawaz et al, 2011) and it has several benefits for the contracting parties; it lowers the transactions costs through mutual risk sharing during the life of the project. This indicates that trust between the participating parties in a construction project cannot be built overnight. It is a gradual process. Even though it takes time to build trust between members, it is also fragile and can be broken easily due to many reasons. For example, conflict among team members and it makes difficult to build trust again. Trust is needed when risk and uncertainty are envisaged in relationships and that risk is translated to and shared with the other party to expect positive outcomes (Rotimi et al, 2016). The presence of trust among the participants of the project can help to shear the risk, smoothen the tension of conflict, and better productivity and effective work performance. Some authors suggest that trust is a precondition for partnering. The presence of trust in the contract helps the parties to choose partnering as a piece of procurement equipment.

(Kathleen Boies et al, 2015), (Robert C. Ford et al, 2017) and (Saonee Sarker et al, 2011) defines trust as “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party”. (Albertus Laan et al, 2011) define trust as a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another. This definition implies that trust is a state of mind, not a behavior, but that it may lead to trusting behavior. According to (Stephen Oliver, 2019), trust is a fundamental aspect of communication, negotiation, appraisal of performance, labor relations, project management, and client/contractor relations; it is an effective mechanism enabling teams to work efficiently, especially for diverse, and distant and/or distal teams or collaborations. Trust can be seen as a belief in which one can be seen to behave following the commitment and be honest in the negotiation process keeping in mind this commitment and having to withhold from taking unwanted advantages from the team members (Saonee Sarker et al, 2011).

A trust statement involves at least two parties, the trustor and the trustee. The trustor is the one who holds certain expectations about another party, and, as a result, may or may not be willing to be vulnerable to the actions of the other party and the trustee is the one who is assessed by the trustor (Saonee Sarker et al, 2011), (Stephen Oliver, 2019), (Albertus Laan et al, 2011) and (Shahnawaz et al, 2011). Trust is associated with the existence of risks, as it contains uncertainty about its vulnerability to others during the risky situation and trusting beliefs, the expectation not to be harmed by the behavior of the other party in the risky situation. It is better to trust one other for a better outcome but on the other hand, it is also crucial to bear in mind that they may fail to not respond according to your expectation in a risky situation. On the other hand, when there is trust among team members, they can ask for help, speak and honestly, take the risk, accept new challenges and carry out their activities with less anxiety and stress (Taryn Jane Bond-Barnard et al, 2018). Trust plays an important role in social transactions as it can make it easy for knowledge sharing among team members and is very instrumental to project performance as it facilitates voluntary cooperation (Gian Casimir et al, 2012). According to (Robert C. Ford et al, 2017) teams with high degrees of trust are more proactive, more focused on task output, more optimistic, more frequently initiate interactions, and provide more substantive, productive feedback.

Formal and informal communication among team members has a huge impact on the trust development process. According to (Guangdong Wu et al 2. , 2017) formal communication is a form of communication that occurs according to the rules and regulations of the organization and is featured with serious, binding, and confidential. In addition, in the context of formal communication, discussion and communication among project teams focus on the specific task on hand and are beneficial to reaching a consensus and forming a unified opinion. Adopting formal communication can slow the process of trust development as the participants communicate with one other formally. According to (Summaira Malik et al, 2021) the relationship of formal communication with project success was found statistically significant, but the impact was negative. It was because of the reason that, although formal communication enhances coordination among teams or people, it does not help them in developing trust mechanisms and, as a result, the desired project success is not achieved, and differences between them are not resolved by this form of communication.

However, on the other hand, having informal communication allows the participants to know each other more deeply and thus enhances and favors the trust development process. Informal communication is based on social relationships, and arguably has nothing to do with an organization's rules and regulations (Guangdong Wu et al 2. , 2017). Informal communication is an important interactional region in which meaningful organizational relationships can be created and organizational members' needs can be met (Martha J. Fay & Susan L. Kline, 2011). The transmission of information can be vertical and horizontal with high efficiency. The flow of information and communication among team members would become more progressive and in addition, improves the project performance. (Martha J. Fay & Susan L. Kline, 2011) suggests that informal communication likely supplies opportunities for high-intensity teleworkers to develop taken as-shared, person-centered knowledge and social norms related to organizational message flows that would be associated with positive work attitudes and relationships with coworkers.

When the team members communicate informally, they are relation and a friendly atmosphere is created, in which they can arguably express their thoughts truly and honestly. They can

communicate informally by emails, text, phone calls across the globe, anywhere in the world, or physically in person. This can create a good bond among the team members to feel safe to share what they think, what they want, and how they want. So that it will drive them to more creativity, innovation, collaboration, and negotiation. Lack of informal communication will lead to a more formal meeting and communication. Informal communication was also found to be statistically significant and positively affecting project success. When people communicate informally, they tend to know more about each other, including about the other's culture, background, skills, etc., and so conflicts and differences are more likely to be resolved, and project success is achieved, which is also supported by some previous research (Malik et al, 2021). Formal communication requires time and effort; hence it will impact the performance somehow negatively. According to (Carsten Röcker, 2012) most innovative ideas in an office work comes from informal communication among team members as they can develop trust easily and share ideas with one other. This will drive the project to perform positively.

2.6 Impact of diversity on project performance

Performance is a critical indicator employed to evaluate the success of construction projects (Guangdong Wu et al 2. , 2019) and categorized project performance in to three dimensions the project's overall performance in terms of time, cost and quality; the project's multiple goals in terms of risk management, absence of conflicts, claim management; and stakeholder satisfaction in terms of owner, end-user, contractor.

Projects are performed by diverse teams. Team diversity is defined as “any attribute that people use to tell themselves that another person is different (Ting-Peng Liang et al, 2007). In normal sense, traditionally diversity can be easily visible like age, race and gender or it can be less visible things like level of education, experience, knowledge etc. Diversity means in this case means differences in educational background, work experience, language difference, and cultural and social behavior. Since projects are performed by diverse teams, due to diversity in their experience, educational background, cultural differences, language differences, professional differences, and other reasons, communication conflict can occur. The presence of diverse team on projects could be beneficial if it is managed and exploited correctly. Having diverse work force on project could have a positive impact on productivity and workplace sustainability (Daeyoun Won et al, 2021). This means that more skilled and diverse workers from various sectors, their experiences, culture, skills, and professional ambition will contribute to the productivity and success on the project if they have been managed and utilized properly.

According to (Semra Comu et al, 2011) several research shows that cultural diversity reduces the productivity of a project due to that individuals and organizations in the project network will have different values, beliefs, and norms and adds that this will lead to increased transaction costs both in monetary and efficiency terms. In addition to the cultural diversity, the impact of linguistic diversity on the effectiveness of task coordination. Thus, the key challenge that they will face is the lack of achieving sufficient communication to coordinate the diverse set of skills on a project. In multicultural projects, most often, English is the medium of communication among the participants, however still some fail to understood properly or may not know the technical terms and theoretical vocabulary. As a result, this leads communication problem. Pronunciation can also be an obstacle for the preferred language among the participants leading to communication problem. Conflicts and misunderstanding can be resulted from the communication problem among participants of project, thus leading to difficulty and low productivity.

(Ting-Peng Liang et al, 2007) argues that knowledge difference among diverse team will increase task conflict, which in turn will have a positive impact on the project performance among team members. In addition, relationship conflict among team members will negatively impact the project performance. Knowledge difference is advantageous for the project as it leads to competition, creativity, innovation among team members due to task conflict (disagreement concerning the subject of a particular task). (Guangdong Wu et al 2. , 2019) explains that team diversity was positively associated with project performance. Further the presence of task and relationship conflict among diverse team will impact the project positively and negatively, as task conflict is associated with positive impact and relationship conflict with negative impact on project performance.

3. Methodology

3.1 Interviews

Given the potential for communication problem among diverse teams in construction project creating difficulties every day, it is important to know and understand how the industry deal with such problem. To find out the solutions for main research questions and sub-questions, an interview was conducted with experts from two construction company at the construction site. Two construction project managers, one site engineer and one project supervisor were willing to seat for the interview. The interview conducted was to help to have an insight date from the people working in the field dealing with such things in their daily work. A semi-structured questionnaire was prepared, and the data were collected. The semi-structured, in-depth interviews was conducted virtually through teams. In person meeting or virtual meeting was offered to the participants and based on their choice, virtual was conducted, as it saves time for both the interviewer and the interviewee and because of the comfort it entails. To further ensure the richness of the method, the interviewees were first informed about the aim of the study. All participants were informed prior to conducting the interview via mail. A request for willingness for interview was sent to different construction company, unfortunately the number of people interested were four, two project managers and two other team leaders. At the beginning of every interview, each participant was asked/informed that the interview is going to be audio recorded for further analysis and evaluation. All the interviews were about 45-60 minutes in duration at the convenient time of the participants in March and first week of April 2022.

The interview questions which were used in the interview are listed below and additional questions were also asked as the interview was semi-structed based on the flow of the interview.

1. What is the position currently you are working on?
2. Since projects are performed by diverse teams doing different tasks with different experiences, discipline. How do you mostly communicate, virtually, email, physically?
3. In what situations are digital communication better than physical communication, and why?
4. What kinds of communication problems do you face and what kind of coping strategy do you use?
5. Based on your experience, how often does communication create problems or conflict compared to the other causes (factors) of conflict and why?
6. How does poor communication among diverse teams influence the performance of work on the project?

7. From your experience, can you give your opinion on how communication influences project performance?
8. What is the difference in the flow of work and performance for the success of the project between having poor communication and good communication?
9. What is the role of the project manager in keeping the communication between the diverse teams in the best interest of the project?
10. How does interpersonal conflict influence communication?
11. Can you give me your thoughts on how trust influences communication?
12. If the trust among diverse teams is little, how does it impact the communication flow in the progress of the project?
13. Does formal and informal communication influence the trust development process in diverse teams?
14. How does formal and informal communication affect the conflict resolution process?
15. What is the difference between positive and negative attitudes in communication among diverse teams in conflict resolution techniques?
16. What measures can be implemented to improve the communication level among the diverse teams?
17. Is there anything you would like to add that maybe I have not thought about asking you?

Due to the deficiency of the data collected from the interview, the research became difficult to analyze, evaluate and come to a solid conclusion for answering the research questions. The consequences of having less interviews for the research study became significant. To have qualitative research, there is no clear number, that should be used for the interview in research study. This is because some interviews provide little data while others deliver rich insight data. However, it is obvious that the likelihood of capturing most if not all opinions increase with the number of people, one interviews (William W. Cobern and Betty AJ Adams, 2020). For quantitative research, the number of people interviewed matters, as there is a need for the data to reach certain point to perform analysis and accurately evaluate/estimate the outcome of their research study. On the other hand, to perform qualitative research the number of people interviewed does not matter, however, the more the number, the more the options you get. Having enough interview make sure that you have enough data/options to analyze and evaluate the result. If the number of interviews is not enough, the number of options you get from the interview becomes less. Therefore, instead of finding solid answers from the interview due to shortage of interview, the findings would become more of suggestions.

The steps that were adapted after the interview were, after every interview a note was taken to make sure if something was missing or need to be added, and then every interview was labeled and stored. Transcription of every interview and reading them thoroughly followed by coding. Then identification of thematic patterns was done. After doing all these steps, the findings were written.

3.2 Literature review

To enrich and compensate the shortage of data from the available few interviews conducted, a literature review was carried out. A literature review is a survey of everything that has been written about a particular topic, theory, or research question. A literature review is done to identify, summarize, evaluate current theories and methods. It can be used in identifying methodological problems and gaps, providing much-needed evidence for decision-makers

when identifying and supporting prior issues. A literature review is helpful for practitioners to keep up to date with their fields. It can help to discover what has been written about the topic and to determine what contributes to the topic from each source. This method allows to inflict flexibility in the selection and incorporation of literature. A literature review aims at addressing the research to map the key concepts and research gap by selecting, searching, and combining existing knowledge. An effective literature review analyzes and synthesizes information about key themes or issues. Keyword identification was blind beyond the top-level concepts. Any area potentially of interest was stacked. This search starts with collecting of articles related on of causes and effects poor communication in construction, and then role of trust on communication among participants. Articles related to influence of interpersonal conflict on communication were looked and collected. These articles were staked based on their relevance main topic.

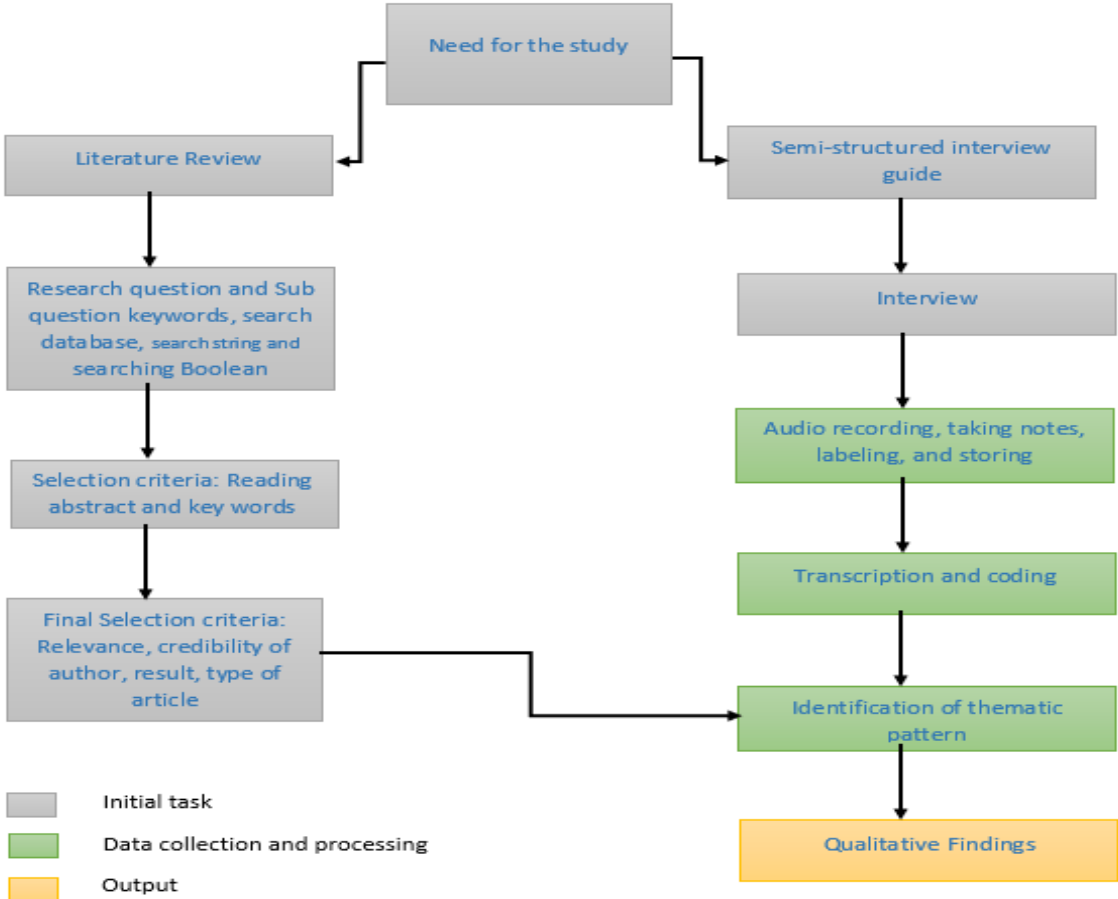


Fig 1. The research process

3.3 Analysis of data

The questionnaire for the interview was all designed by the author of this thesis in accordance to the main research question and sub-questions, and in addition from the information obtained from literature search. The intention of this interview, as mentioned earlier, was to have an insight empirical data from the people who are working in the field dealing with communication problems and their consequences. The interview questionnaire was designed openly as possible as they can be, in order for the interviewee to have an open discussion on the topic as long as they feel fit on the topic that has been raised. The interviewees were asked to share their ideas and opinions based on their knowledge and experience.

For better quality of work and future referencing, the interview was audio recorded and every interviewee was notified and asked for their confirmation before starting the interview. They were informed at the beginning of each interview if they do not feel comfortable, they can stop the interview. As mentioned above, the voluntary respondents were two project managers, one site engineer and one project supervisor. Three out of the four were male and one female.

Quickly browse through all the transcripts as a whole and notes were made about the first impression. Reading the transcript once more one by one carefully and line by line. Then coding was done by labeling of relevant pieces like words, phrases, or sentences was done from the transcript. These labeling were focusing on actions, activities, processes, differences, opinions, and concepts. The coding was based on repetition, or when the interviewee explicitly states that was important or something read about it from previous articles open-mildly by aiming for the description of things that were important. After the coding was done, categories were created by bringing several important codes together. Sometimes new codes were created by combining two or more codes together. The next step was the labeling of categories based on their relevance and how they have connected each other. At last results were discussed and discussions were presented.

4. Result

After finishing the coding, all the codes were categorized in to three categories, namely causes, impacts and measure. Their relationship between the categories is that for better performance and success of the project, communications should be effective and clear. To achieve this objective, first causes of poor communications must be identified both from the empirical data and literature review. After identification of the causes, what is their impact on the project performance are presented and discussed. At last what measure are needed to improve the situation. How can project managers improve the communication skill among diverse team members.

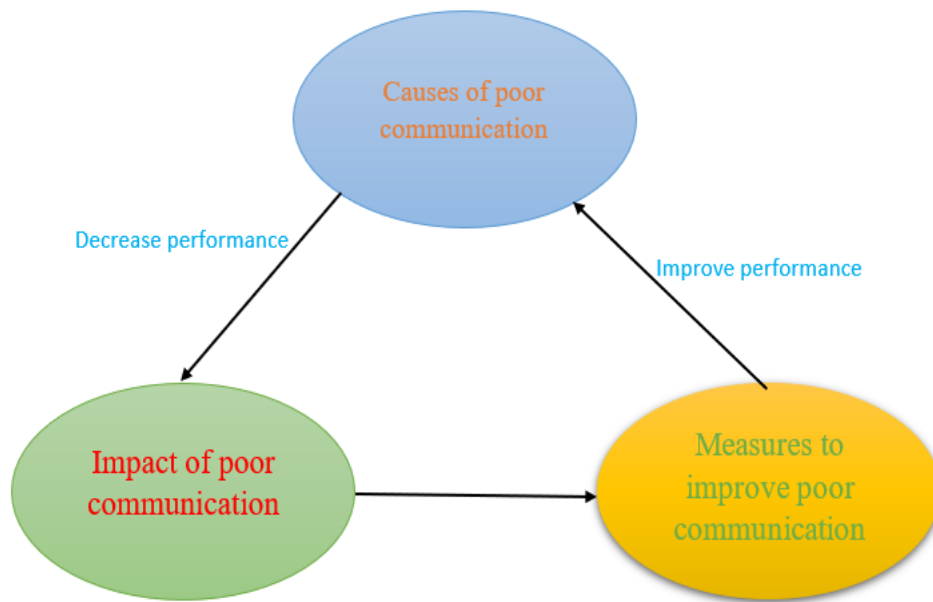


Fig 2. Relationship between the three categories

Table 1. List of causes of poor communication both from empirical data and literature review

Causes of poor communication	Source
personality	Empirical data, (A. Suleiman, 2022), (Ismail Abdul Rahman and Yaser Gamil, 2019), (Yaser Gamil et al, 2019)
Physical barrier	Empirical data, (Mahmoud A. Hussain et al, 2018), (Demudu Naidu Jureddi and N.Brahmaiah, 2016)
Language barrier	Empirical data, (A. Suleiman, 2022), (Mahmoud A. Hussain et al, 2018), (Ismail Abdul Rahman and Yaser Gamil, 2019), (Demudu Naidu Jureddi and N.Brahmaiah, 2016), (Semra Comu et al, 2011), (Yaser Gamil et al, 2019)
Cultural and social behavior	Empirical data, (Mahmoud A. Hussain et al, 2018), (Semra Comu et al, 2011)
Negligence and casualness	Empirical data, (Ismail Abdul Rahman and Yaser Gamil, 2019)
Lack of honesty and loyalty	Empirical data, (Mahmoud A. Hussain et al, 2018)
Educational background	Empirical data, (Mahmoud A. Hussain et al, 2018), (Yaser Gamil et al, 2019)
Personal conflict	Empirical data, (Julie L. Brockman, 2014)
Lack of communication skill	Empirical data, (Ismail Abdul Rahman and Yaser Gamil, 2019), (Yaser Gamil et al, 2019)

Lack of communication channel	Empirical data, (A. Suleiman, 2022), (Mahmoud A. Hussain et al, 2018), (Ismail Abdul Rahman and Yaser Gamil, 2019),
Consciously and unconsciously withholding of information	Empirical data
Consciously and unconsciously message distortion	Empirical data
Poor communication management	Empirical data, (A. Suleiman, 2022), (Mahmoud A. Hussain et al, 2018), (Ismail Abdul Rahman and Yaser Gamil, 2019), (Yaser Gamil et al, 2019)
Unclear division of tasks and responsibility	Empirical data, (Mahmoud A. Hussain et al, 2018)
Work pressure	Empirical data, (Mahmoud A. Hussain et al, 2018)
Frustration and stress	Empirical data, (Ismail Abdul Rahman and Yaser Gamil, 2019)
Fear of commitment	Empirical data, (Ismail Abdul Rahman and Yaser Gamil, 2019)
Lack of mutual trust among team members	Empirical data, (A. Suleiman, 2022), (Ismail Abdul Rahman and Yaser Gamil, 2019),
Slow communication flow among team members	Empirical data, (A. Suleiman, 2022), (Ismail Abdul Rahman and Yaser Gamil, 2019), (Yaser Gamil et al, 2019),

Table 2. List of impacts of communication from the empirical data and literature review

Impacts of poor communication	Source
Failure of project	Empirical data, (Ismail Abdul Rahman and Yaser Gamil, 2019), (Mahmoud A. Hussain et al, 2018)
Demotivated team members	Empirical data, (A. Suleiman, 2022), (Ismail Abdul Rahman and Yaser Gamil, 2019)
Low productivity	Empirical data, (A. Suleiman, 2022), (Mahmoud A. Hussain et al, 2018),
Time waste in clarification	Empirical data,
Redoing of work	Empirical data, (Mahmoud A. Hussain et al, 2018),
Poor teamwork and collaboration	Empirical data, (Mahmoud A. Hussain et al, 2018),
Unsatisfied team members	Empirical data, (A. Suleiman, 2022)
Delays in schedules	Empirical data, (A. Suleiman, 2022), (Ismail Abdul Rahman and Yaser Gamil, 2019)
Cost overrun	Empirical data, (A. Suleiman, 2022), (Mahmoud A. Hussain et al, 2018), (Ismail Abdul Rahman and Yaser Gamil, 2019)
Lack of clear objectives	Empirical data, (Yaser Gamil et al, 2019),

Focusing on problems and solution than focusing on production, time schedule and quality	Empirical data
Conflict among team members	Empirical data, (Julie L. Brockman, 2014)
Elevated stress in the workplace	Empirical data, (Ismail Abdul Rahman and Yaser Gamil, 2019)
Overlapping of information	Empirical data, (Ismail Abdul Rahman and Yaser Gamil, 2019)
Misunderstanding	Empirical data, (A. Suleiman, 2022), (Ismail Abdul Rahman and Yaser Gamil, 2019)
Poor interpretation	Empirical data, (Mahmoud A. Hussain et al, 2018),
Mistakes	Empirical data, (Mahmoud A. Hussain et al, 2018)
misinterpretation	Empirical data, (A. Suleiman, 2022), (Ismail Abdul Rahman and Yaser Gamil, 2019)

Table 3. List of improving measures of poor communication

Provide language courses and trainings
Establishing formal routing for discussion
Encouraging follow ups for confirmation
Making sure every member understands the message clearly
Repeat back for confirmation
Encouraging informal team building
Building common ground and unity
Clear division of tasks and responsibility
Clear communication channel
Developing positive attitude
Openness and honesty
Respect every team member culture
Making sure every member informed properly
Implementing job satisfaction measures
Developing informal communication

5. Discussion:

In this section the results of the research are discussed. It presents the main findings of the research and provide answers to the main research questions and sub research questions. Recall the main objective of this thesis is to find out the impacts of poor communication on the project performance among diverse project teams. Mostly communication create problem in construction site daily. If there are problems, very often they are due to a lack or bad communication. These problems could be as mentioned before, due to language differences among the diverse team and not everybody speaks fluently the medium of communication at the project site. This can create stress and frustration, can lead to arguments among them. Cultural and social behavioral difference among the teams could be a big factor for poor communication. Personality and diverse cultural background can have different ways of

expressing their thoughts and their ideas and this can lead to misunderstanding and misinterpretation.

Education and experience gap among team members can also be a factor of for poor communication. Influence of trust and interpersonal conflict on communication were considered. Formal and informal communication among diverse team on trust development process and conflict resolution process were also discussed. The answer to all these questions is discussed briefly and concisely below.

➤ **How does interpersonal conflict influence communication?**

Interpersonal conflict has a big impact on communication because people cannot talk openly, they avoid discussion and interaction, and then sometimes sub-consciously or consciously they reject good ideas from the other person or withheld information from the other person and try to look better than the other person. People have interpersonal conflicts don't like each other, then it is less likely to talk to each other. It is just some people don't admit their mistake and others they don't feel to start a conversation. This is not good, but some conflicts can be good because if it is constructive conflict, lots of ideas come when people challenge each other and often that has to lead to heated discussions and then afterward when that settles and put down better solutions and decisions come.

Interpersonal conflict depends on how the person reacts because some people turn over and leave home, others can be mad and turn away, and don't speak. This will reduce the workflow on the production. As a result, performance will go down. It's bad for the project performance. To overcome these challenges:

- Sometimes it is better to splitting up the tasks among them so that they don't have to talk to each other very often, but to minimize the consequences, if we know they are not going to talk, we give them tasks that they don't have to talk and then it does not matter. If it is clear they have to work afterward, it is better to clearly define who is what and who is where so that they cannot easily blame one other. This makes clear who is working what and where and, in this case, it can be managed. There can be also a chat with each person individually or if possible, together and ask them how they can improve the situation.
- If they don't want to work together and don't solve their situation through discussion, it is better to separate them into different teams or if there is a possibility to switch them to other teams in other construction site.
- You can have a morning meeting and you can tell everyone what to do and every day you have to go out to check on the workers and see what they are doing they are supposed to do.
- If team members had a conflict due to communication problems like language, culture, or another sort of argument, then the project manager has to sit with them for discussion and talk through to find out what is the cause of the problem and solve the situation or they have to be switched to other teams if necessary.

➤ **How does trust influence communication?**

Communication is important in construction project. The presence of trust among team members makes the communication better and effective. Trust is a gradual process, and it is

also sensitive. It must be mutual on both sides. If one does not trust the other team member or the other way round if other team member does not trust the one, then there will have a lot of bad communication and you may lose loyalty and so on. So, it is better having to be honesty and loyalty among team members. The more you trust someone or each other, the less likely you would have to communicate. You can be sure someone has understood what you have said, or you can be sure the other person would do what you ask them to do, then this certainly saves lots of time and there is less of a chance of something happening. On the other hand, if the trust is small, there will be much communication to make sure there is no miscommunication or misunderstanding. When there is no trust, though a small amount of trust, then a small effort, you have to communicate more often, you have to go double-check to follow up and the communication is more intensive.

When it is real trust and it is built up, and then the trust is there is evidence that says the trust is there then communication is for sure improved and reduced, it's more reliable and efficient. Of course, if you trust each other, you feel comfortable coming up with good ideas, and then decisions action is better. Trust is a good thing, and it is a key to getting things done efficiently. Things are smoother when people are trusting each other but if no trust they require more effort. it is more likely to have a trust issue in a diverse team, it takes more time and effort to build up.

The presence of little trust can have an impact on communication among team members. This could be due to cultural and social behavior. Team members can be from different country and may be these countries have culturally do not like one other. Then this creates trust issue between the team members. It is a bias and then these biases can lead the project manager to have hard to communicate with them, they don't get to know each other properly or they don't try to build that connection. In general, the more time you spent with someone the more trust you develop, or the trust is more accurately placed. the level of trust is more accurate to reality, given the more time you spend with someone.

If you trust someone but if they are not trustworthy, then you don't realize it yet, that is a problem and if you realize you are there at this level, then you act accordingly. Communication problems may lead to misunderstanding in which people may take someone as not trustworthy as someone misunderstanding something. So, complications with communication can certainly slow down the development of trust. If the trust among team members is small, you don't feel comfortable to share your ideas and thoughts, and it can prevent from openness. Even may have back talking. Things will not be smooth as they are supposed to.

Project managers need to have good communication with their workers, they have talk to them, and the workers will know how you are with them. Managers don't only sit on their office but out visiting the employees at the site, the employees will trust the manager because you are one of the guys, and they will trust you because you will solve problems and you can get a good project because you are the top boss of the project. Of course, trust is everything, and when thinking of the other part of the project, they have to trust you. If you try to fool them, they will be suspicious.

➤ **Does formal and informal communication influence the trust development process in diverse teams? How does it affect the conflict resolution process?**

With formal communication, there are much of problems that may be on consistency but in informal communication, you can develop trust potentially faster, or you can establish the trust

level faster. Informal communication helps to get inside the person rather than the formality around a certain issue. But when it comes to formal communication from the company or something like that, it is very important for trustworthiness for that communication to be clear and consistent because it is very important that communication is followed up because if it is not people will lose trust and that may take time to build it up in formal means.

Informally there might be some more members of a team can tolerate problems better like if one has something that negatively affects trust, it can recover faster from informal communication. Of course, project manager can give formal information through email or something like that. But through informal communication, you are talking to people out in the production and managing teams in an informal way, you will get trust, and they will like you as a person not as a boss. That is important.

Having formal communication will slow the trust development process. But informal trust is built faster as they get to know each other personally. However, if it is a message from the organization or the developers, it is better form the communication to follow a formal way through email. This will help to make sure that every member of teams in the project receives the message and there will not be missing information.

The impact of formal and informal communication on conflict resolution process depends on the level of informal communication between the people who are having conflict. If they have a high level of informal communication, for example, they have a good personal relationship or something like that, they can recover from conflict easily in a better and much faster rate. Once the conflict among the team members is solved quicker, this will save time and money that is spent for resolving the conflict and it will help for the project to move forward. Therefore, it is better to solve conflict among team members informally. If team members have trust on their manager, they believe that he/she will solve the problem. However, when things do not work out in an informal way, to show the seriousness of the project manager, formal communication can be utilized.

To resolve a conflict among team members, the attitude of the individual plays a vital role. A positive attitude is at least a signal that shows people are open to finding a way. You have a big barrier to cross when people have a negative attitude, you have to convince them that you can resolve the issue. Plus, you have to overcome the negative attitude before you come to a stage to resolving a conflict. People start with a positive attitude in the start, and if conflict develops in the process of working in the project, then you can deal directly with the conflict because the positive attitude is there, and they are already open to thinking that there would be a solution to this. Developing, building, and trying to maintain a positive attitude among everyone is certainly important in this regard and it definitely minimizes the amount of conflict because a positive attitude is more to let things down soft to you that may potentially benefit the conflict resolution process.

It is a question if you want to solve a problem or not. It is easier to have a positive result with a positive attitude, but it is not always easy. If you have a negative attitude, then you don't want any compromises. You don't want to solve the problems that both sides are satisfied with, you just think you are right, and that is it. It will take so much time to solve the case and it will reflect on the time which can impact productivity and performance. If you have a positive attitude, you are more open, and it is easier to solve the problem but also not always. It is important both the conflicting parties have positive attitude. Many times, it can affect the result

of the project. If we do not have good vibrations between the conflicting participants, it is difficult. Therefore, it is important to keep a positive attitude toward resolving a conflict among team members. Having a negative attitude can arise the issue of trust among members and they need to have a discussion with the manager. If they are not willing to compromise their difficulties, changing of team members can be a solution.

➤ **How does poor communication in diverse teams impact the productivity and performance of a project?**

Poor communication in diverse teams could be from diversity of the team members in culture, language, educational background and so on. One of the reasons can be educational and experience difference among team members. The more they have an educational and technical understanding among them, the less communication they need, they can describe the problem in less words but when they have people from different levels, sometimes they forget that these people don't understand in the same way or we have not given them enough information, this shows that educational, and experience difference can create communication problem. If something is easy for you to understand technically, but the other person with less level of experience and education understands it differently. It causes problems.

In some cultures when they discuss, it sounds like they are fighting, for example, you think they are angry when they are not and if other people are involved in that conversation, they will interpret it very differently and that can cause problems and conflict. There might be some cultural things, for example here in Norway people don't say often hello and goodbye or please and thank you all the time, and this is normal for them but in another country, they say that all the time, and it is normal when they are greeting people, this can create misunderstanding. If someone comes and that person is not doing as it seems, then they think what is wrong with them or that person does not like them, then that can create conflict. Cultural differences among diverse team are a big factor that can lead to many misunderstandings.

Having poor communication or lack of communication is just like the feeling of driving a car on a rocky road knowing that you will reach your destination, but it is not very comfortable at a much slower speed. With poor communication, it is not often actual poor communication the cause, but it is the consequence of the poor communication for example, if poor communication leads to not achieving concrete casting, then it causes delay by a couple of days, then rearrange all the work creates problem. It is the consequence of the poor communication that creates all this. If people start to blame each other, the mood goes down, and then that creates an environment that can create more chances for poor communication. This can be followed by mistakes in construction, lots of frustration and not good atmosphere in the team, there is also a much longer time of execution of projects and for same task, it creates much more complication than it should be. Impacts of poor communication are pointed out below.

- It reduces the productivity, efficiency, and effectiveness of the people.
- Failure of the project is the worst impact that poor communication produce
- Poor communication leads to rework. When the member of the team did the task wrongly, there is a need to redo the job which will cause waste of time, material and money.
- To spend more time clarifying things to make sure that everyone understand clearly.
- Demotivated team members
- Poor teamwork and collaboration

- Dealing with delays on time schedule and as a consequence of this cost overrun
- Something was not done because it was agreed or not agreed because there is a misunderstanding
- Low level of satisfaction among team members
- Low productivity and poor performance due to low production caused due to poor communication
- Poor communication negatively influences projects productivity and performance
- If you have poor communication, execution is much more difficult, it takes longer time, you have higher cost because you have to fix certain mistakes
- If the manager focusses on problems and struggle to get an agreement and solution, the focus on negative things and thoughts will reduce the focus of the manager and will not focus enough on the production, time schedule and quality
- Workers do things they should not do at first because of miscommunication. This leads to reworking of the task again which will require more time and extra expenses. Due to such miscommunication, it impacts highly on the production and performance of the project

On the other hand, having good communication is just like driving on a smooth, plane flat asphalt and you get to the same place at the end. You enjoy the ride on the road. So, it is certainly noticeable when you see the mood of the team so relaxed, happy to walk around the office and interact this much more and relaxed even accomplishing more work. It is like getting more important work done and spending less time being busy dealing with these issues. This will push forward and improve the performance of the project positively. Having good communication much easier to solve problems, you can avoid problems, much better atmosphere at work, which impacts on the project. If the project is to move forward, the project manager has to make sure everyone under his/her watch understood what you are told and expect from them.

➤ **What measures can be implemented to improve the communication level among the diverse teams?**

Communication is everything in construction project. It can keep the flow of work at speed and resulting in accomplishing the objectives of the project manager to deliver the project in time, on budget and with high standard quality. The role of the project manager in keeping the communication flow to the best interest of the project is probably the big part of the job description. The responsibility certainly does rely on the project manager and have to actively take time to think about it and monitor it and it is something managers have to be consciously thought about. It is the very tricky part of the job because managers have to keep in their mindset from managing things to managing people. Good communication means everything. Not only good communication but also having a positive way of talking, discussing and so on means so much for the workers and both in the production and managing if they have a positive vibration and if they think positive. With this, they can have even better understanding with good communication.

However, there is always communication problem among diverse teams in project due to many reasons. To overcome poor communication challenges, the under listed options can help to improve the level of communication in diverse teams:

- People have to go to language courses to make them understand the level of language that is used in the construction site. This will be more effective if the team members keep up working together for further projects. This can be achieved by providing language course that is implemented as a medium of conversation in the construction site and this could be efficient in the long run.
- Establish some formal routine for capturing certain information and discussion for example having a weekly meeting to ensure that all the people who need the information are there in the meeting
- Try to encourage following up with a written confirmation for documentation and simply clarifying by double-checking making sure there was not a misunderstanding.
- If the project is to move forward, the project manager has to make sure everyone under his watch understood what you are told and expect from them.
- Making people aware that communication is a challenge in a diverse team because people have a different understanding of language or things, so making people aware and they have to be conscious maybe speak slower or clearer or ask the person to repeat back to them.
- Encouraging some informal team building, social things, getting the team to act as a team or unit even though they come from different backgrounds.
- Helping the team build common ground and a feeling of unity
- Clear split of the level of responsibility and tasks.
- Make sure everyone knows who to talk to
- Talk to each other with positive attitude and open to discuss
- Try to have an understanding among the team members as a unit and to respect everyone's culture.
- Take care that everybody is informed properly
- it is better to ask them to repeat back and explain them back for more understanding of the task
- On the managerial level, make a job satisfaction measure by means of questionnaire survey periodically at the site and act accordingly
- At the beginning of the project, the manager should establish good teams and should give diverse teams the possibility to communicate with each other, for example by making organized meetings. General rules of communication and task should be split, and everything should be clear from the very beginning.
- If team members had a conflict due to communication problems like language, culture, or another sort of argument, then the project manager has to sit with them for discussion and talk through to find out what is the cause of the problem and solve the situation or they have to be switched to other teams if necessary.
- Developing informal communication for the people to get to know each other and encouraging people to speak up

6. Conclusion

Communication is everything in construction project. It is a vital tool that helps the information flow among team members. Whether team members communicate physically in-person or digitally, it must be precise and clear. Everyone should have the same level of understanding

on the objectives and should know their responsibility. However, communication problem always exists due to diversity of team members and leads to poor communication. Poor communication is a common problem amongst construction projects and is considered to be the main detrimental problem to project failure. Even though the number of respondents participating in this research is not as it should be, which can limit the number of options, plenty of options were discussed and suggestions that can be implemented for improving communication among divers teams for better performance and outcome of the project are presented. It is pointed out for better trust development and conflict resolution; informal communication is better and faster means of dealing with such issue. It is crucial to overcome vulnerable situations and emotions that impede communication skill among team members.

In conclusion, poor communication issue requires more attention from researchers and academicians to introduce effective methods and strategies to overcome the issue for the sake of augmenting the performance level and produce successful projects. The findings of this research can assist to define the impacts of poor communication in the construction industry and suggest effective resolution technics for improving communication among team members of project.

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