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**SKILLS IN TIME MANAGEMENT TO IMPROVE
EMPLOYEE PERFORMANCE IN
CONSTRUCTION PROJECTS**

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Master's Thesis

Supervisor

Assoc. Prof. Dr. Sepanta NAİMİ

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Ali ALSAEDI

Signature

DEDICATION

I commit and pledge this thesis work to my professors, who have been instrumental in guiding me during the thesis process, and my mother, my father, my dear friends, who have been a constant encouragement throughout this trying period.



ABSTRACT

SKILLS IN TIME MANAGEMENT TO IMPROVE EMPLOYEE PERFORMANCE IN CONSTRUCTION PROJECTS

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There are numerous perspectives on the passage of time among people. According to the traditional understanding, time is a dynamic condition that continually evolves and resets. Several societies believe that time is linear, with an unchangeable beginning and conclusion, and that actions and pursuits can only be accomplished in a finite length of time. Effective time management is an abstract concept that varies from person to person and job to profession. Their perspective on time is not a result of their upbringing, but rather the demands of their professions. Even if speed symptoms such as stress, acuity, anxiety, and discomfort are addressed, it is difficult for project management to rectify them since their values fluctuate as conditions and causes change. It was evident from how the workers performed their tasks, which in turn affected the project's success. Efficiency is crucial to a company's success because it enables personnel to perform their tasks more successfully. The significance of the work environment, corporate culture, and management style has been investigated. According to the allocated weights, each component has a distinct impact on capital gains. To further comprehend this, let's examine the impact of various leadership styles on the effectiveness with which tasks are accomplished. Studies have demonstrated, for instance, that organizations with more democratic management structures produce better outcomes. Culture also influences productivity, notably the frequency with which

individuals are encouraged to think creatively. Many variables influence the quality of work performed in any given workplace.

Keywords: Time Management, Construction Project, Employ Performance, Leadership Style, Effective Time.



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ABBREVIATIONS

CMA	:	Construction Management Association
CMC	:	Construction Management Company
CME	:	Construction Management and Engineering
CMEP	:	Construction Management and Engineering Project
CMIS	:	Construction Management Information System
CMP	:	Construction Management Plan
CPM	:	Construction Project Management
CPMO	:	Construction Project Management Office
EM	:	Engineering Management
PEM	:	Project Engineering Management
PM	:	Project Management
PMB	:	Project Management Body of Knowledge
PMO	:	Project Management Office
PMA	:	Project Management Approach
PMP	:	Project Management Professional
TC	:	Time Control
TMA	:	Time Management Application
TMC	:	Time Management for Construction
TMCB	:	Time Management for Construction Business
TME	:	Time and Motion Study in Engineering

TMM : Time and Motion Management

TMS : Time Management System

TMT : Time Management Techniques

TMTS : Time Management Tools and Systems

TMSA : Time Management Software Application

TMCM : Time Management Construction Management

TMD : Time Management and Delivery

TME : Time and Motion Study in Engineering

TMEP : Time Management and Estimating Project

1. INTRODUCTION

1.1 INTRODUCTION

Individuals have varying perspectives on time. The traditional view of time is that it is an eternal condition that alternates and is refreshed, with no end to the time cycle. As for the present view in diverse cultures, it is that time moves in a linear fashion with a beginning and an end that may be compensated for, and that activities and works have a finite life. Time management is a concept that varies according to the individual and their needs and the nature of their employment, and the nature of their jobs in relation to time is acquired behaviour rather than a product of their social environment and the values they have for dealing with time [1]. These values change as these conditions change and new motives emerge, and the relationship between time and performance is what causes the emergence of speed symptoms such as tension, acuity, anxiety, distress, and other symptoms that have become difficult for the project's management, even if the management improves them. This was directly reflected in the performance of the staff, which in turn had a direct impact on the project's progress and success [2].

According to construction management axioms, a project is considered successful if it accomplishes the following three goals:

- a. Constructing the structure to the desired standard of excellence.
- b. Construct the building on time.
- c. Construction completion on time and within budget.

In many circumstances, two out of three is doable, but three out of three is not attainable due to the intricacies of construction contracts, especially when numerous trades and professions are involved. Thus, time is the essence of construction [3], as it is the primary criterion for evaluating the project's performance and efficiency, and completion of the project benefits the owner by allowing it to benefit from the project's production over the time period (housing, renting, or selling). Additionally, the customer will be unable to benefit from the property or his money, and business operations will be impacted in all areas. Additionally, any delay in the completion of the project increases general and indirect expenses, as well

as additional payments to project employees and manpower, exposing the company to compensation claims [4].

1.2 THE GENERAL CONCEPT

Time management is a significant issue in contemporary society, where symptoms of speed, anxiety, and tension often manifest because of a failure to manage time optimally, hence increasing the level of strain on workers. Perhaps these symptoms are more prevalent in those who work in administrative sectors than in others. Whereas his position is focused on making judgments based on available data and information, some of which are readily available or partially available, he must attempt to distinguish between solutions and timely decisions. Of them in the time they have available and with the facts they have accessible, in addition to the personal diligence upon which the decision is founded [5]. The decisions made, and thus demonstrates the critical nature of time management for employees at the higher and middle management levels, as well as supervisors, given that they hold most of the responsibility for management and decision-making.

As a result, managers approach time management in two distinct ways:

- a. Going to make the right choice at the appropriate time: The timing of decision-making is a critical aspect in facilitating the choice process and achieving the desired results, because it is not possible to rely solely on the content of the decision, neglecting the time or time period and the necessary time for necessary actions: Executives conduct comprehensive research on one of the production difficulties in order to arrive at the ideal answer from both an executive and technical standpoint [6]. They suggest that delaying a choice may be more expensive than any improvement in return associated with the decision and expanded study.
- b. Taking care of difficulties and problems in the correct order and at the appropriate time: Executive managers are frequently preoccupied with adhering to the project schedule, which necessitates taking longer to complete the project, and they are unaware of the level of harm that can be done to the project whenever the deadline approaches [7]. What is necessary, which creates misunderstanding within the project and necessitates management taking an active part in time management through:

- a. Extending or contracting the scope of work
- b. Accelerating or decelerating work Concentrating on a few activities and distributing them without regard for others, and project management cannot, in most situations, take on a great deal on its own. Certain judgments are made due to a lack of time or an inability to predict the time required due to technical issues that make it difficult for any of them to know as much about the situation as someone closer to the amount of effort does. And indeed, the management of the any facility or project is concerned with ensuring that decisions are made at the appropriate time, within the appropriate context of knowledge, and by the relevant individuals.

1.3 TIME HAS DISTINCT QUALITIES

Including the following:

- a. The rate at which it elapses, as the clouds pass, and the first hour of a day passes, the entire day passes.
- b. What may have gone from it cannot be recovered; each day passes, each hour passes, and each hour is not feasible to reclaim or retain for use.
- c. It is the most valuable possession an individual has, as it is a valuable resource and a container for all work, performance, and creation.

1.4 TYPES OF TIME

There are four distinct time periods:

- a. It is the time period during which processes of thought, analysis, future planning, arranging work, and evaluating accomplishments take place; it is the time period during which administrative tasks take place.
- b. When the preparatory time preceding the commencement of the work activity is employed precisely and effectively, and the necessary inputs are available, it results in an improvement in productivity.

- c. Productive time: This is the time period required to complete the works and activities that were planned and prepared for during the creative time. If more time is given to routine labor than to creativity and preparation in a certain institution, this suggests that time allocated to creativity or preparedness, or both, is relatively small, implying that instances of all resources available, especially time, are not exploited.
- d. General or indirect time: It refers to the time spent on general subsidiary activities that have an effect on the future of the institution and its relationships with others, such as affiliation with bodies and institutions, or leading administrative presence at seminars, or responding to special invitations for individual behaviors, or the opening of institutions.

To maximize the use of his organization's resources, particularly time, by investing human energy in order to accomplish the intended goals.

As it turns out, an effective and productive leader should be committed to fully utilizing his organization's resources, particularly time, by investing human energy in order to accomplish the intended goals.

1.5 EFFECTIVE TIME MANAGEMENT LEVELS AND FUNDAMENTALS

They are represented by six phases that illustrate the ideal technique to manage time effectively: -

- a. The worker must review his or her goals, plans, and priorities, as this aids in the appraisal and evaluation process. Both, as the absence of specified and sequential goals organized according to a specific time sequence results in time waste and an inability to organize and manage it effectively.
- b. Maintaining a time plan or work program: The second step in effectively managing time is for the worker to create a time program (a notebook) outlining the work, tasks, and responsibilities he will accomplish [8], as well as the start and end dates for their completion, as well as his personal appointments and other commitments, and he must ensure that the personal diary is well organized and meets the worker's unique needs and requirements.

- c. Develop a daily achievement list: The third step in effectively managing time is for the worker to have a daily achievement list that imposes itself on him whenever he forgets or is lazy, and he must take several points in the person's daily life into account when creating the daily achievement list [9].
 - i. Elevating the list to the center of the individual's everyday life.
 - ii. Avoid exaggerating by include an excessive number of tasks on your daily to-do list.
 - iii. Implementation of the pareto principle to improve efficiency (pareto principle refers to identifying the two most important points in ten points and achieving these two points is equivalent to achieving 80 percent of the work of that day).
 - iv. Resting on weekends and holidays.
 - v. Being Adaptable, as the achievement list is really a means to an end.
- d. Closing escape routes: these are the routes through which employees can evade the obligations for which they were hired (such as: laziness, hesitation, procrastination, procrastination, etc.)
- e. Exploitation of marginal times [10]: This is what is meant by wasted time between commitments and work (e.g., driving, waiting at the doctor, flying, waiting for meals, anticipating visitors), and it increases the amount of time available for a person to spend organizing his life. Always take his time, then evaluate it, identify marginal moments, and devise a practical method to maximize his advantage.
- f. Not to succumb to urgent and superfluous matters: because they reduce a person to a tool in the programs and priorities of others (what they deem vital and necessary), sap his effectiveness and time (one of the most inefficient uses of time), muddle his priorities, and ultimately destroy him [11]. His self-organization diminishes his capacity for self-management.

1.5 TIME WASTAGE

There are numerous manifestations and distinct behaviors that contribute to time waste, and via observation and research on the manifestations of time waste during work performance [12], the most significant of these manifestations can be characterized as follows:

- a. The numerous gatherings, such as committee hearings and periodic meetings with subordinates or other leaders, without an agenda and often debating trivial topics.
- b. The high volume of visitors from both outside and within the project, as well as the confusion between personal and professional ties.
- c. Techniques for producing letters, reacting to receiving mail or notes, and extending them indefinitely
- d. The difficulty of collecting the information required to accomplish the work and the necessity of exerting some effort to do so.
- e. Inadequate internal structure inside the facility, overlapping and competing competencies, and the consequent conflicts that demand effort and time to resolve, and the absence of job descriptions for personnel, or their non-implementation, if accessible.
- f. Centralization of authority and decision-making, as well as the constant need to appeal to a higher level, as well as a lack of delegation of authority.
- g. The routine's control over procedures and work steps, rather than attempting to change or improve the systems and individuals that contribute to this.
- h. Giving telephone calls the utmost priority in terms of work and conversation.

1.6 PROBLEMS WITH REGULATORY AND ENVIRONMENTAL TIMING

The time problem is more acute in developing societies than in developed societies, and these issues become more apparent as the government strives to develop and modernize various enterprises and bodies [13]. In the time management problem, and it is, and the primary environmental and organizational reasons of the time problem are as follows:

- a. The prevailing social structure and its effect on worker behaviour, where individuals' attitudes about time vary according to their origin societies; those from agricultural or rural communities are influenced by the characteristics of These cultures exhibit characteristics such as reliance, a lack of planning, a commitment to norms and traditions, and frequently a disregard for time.
- b. The type of family and societal ties that establish the framework for coping inwardly, particularly those relationships in which time is irrelevant, because dedication to performance and specific or desirable behaviour takes precedence.
- c. Generality and de-specialization, as well as filling some jobs with individuals who do not satisfy the job requirements. Senior employees have always believed that they can participate in opinion and discussion simply because of their leadership positions, regardless of their lack of specialization or experience in the subject matter, and this is what we see in our daily lives when dealing with people who are in jobs they are not qualified for.
- d. Inadequate familiarity with or knowledge of the job description, resulting in difficulty defining responsibilities and rights, lines of communication and authority within the project's organizational structure, in addition to a lack of familiarity with applicable regulations and laws, which results in responsibility and humiliation, and frequently results in humiliation and humiliation. And then attempt to share it with others.
- e. A lack of interest in leading, advising, and teaching workers at the start of their careers on time management and time management abilities, leaving them reliant on transferring their prior experiences from their home societies when confronted with time constraints in their work relationships.

1.7 SYMPTOMS OF THE TIME PROBLEM

The time problem affects managers at all administrative levels, who struggle to do their tasks on time. Their tasks are increasing steadily, and they are available to do their duties [14]. The manager cannot raise his daily working time until he tackles the needs of his new tasks and duties, but he could still re-evaluate these expectations and execute what his new job requires without clinging to the old. Most project managers lack this capacity, causing work

overlap, buildup, and disruption, affecting the work and workers, and therefore the project's end results, and some managers utilize consultants or specialized specialists to research, offer opinion, and advise. So, they have enough time to review and make the essential decisions [15]. But they typically fail to build a successful approach for investing their advisors' experience and suggestions.

As shown above, time is a serious issue, with the following being the most critical:

The high pile of files and papers on the desks, which most often move extremely slowly, and always represent a significant mental and psychological pressure on them.

This involves accepting that some tasks are more important than others, but without taking into consideration the sequence and arrangement of these tasks, which impacts the efficiency of administrative labor [16]. Many topics become obsolete, resulting in direct or indirect losses owing to a failure to investigate or study them in time, and the necessity for extra work to deal with the damages.

1.8 TIME MANAGEMENT AND SELF MANAGEMENT

Time management is a concept that varies according to an individual's motives, demands, nature, and career, and changes by culture. And human behaviour toward time is acquired through the social environment as well as the values associated with time management. Human values are formed through time through a complex process; they are one of the traits most influenced by the surrounding situations, and all these values are influenced by changes in these settings and the creation of new reasons [17]. In general, the groups endeavor to coordinate and organize the essential humanitarian disaster in a timely manner, considering their own requirements and aims. And the administration views achievement in terms of a specific direction toward the specified time period, time constraints, and objectives. Speed-related symptoms such as tension, sharpness, anxiety, and discomfort occur when the pressures associated with performance tied to a specified schedule produce a condition of tension among the workforces.

1.9 TIME MANAGEMENT KEYS

The following is a summary of the most critical time management keys [18]:

- a. Time analysis: Because keeping a diary of daily activity for at least one week has been a necessary condition for conducting an effective time analysis
- b. Anticipatory action is more effective than therapeutic activity.
- c. Planning: Embracing the concept of Daily and long-term planning that occurs in preparation or early in same day, and is aligned with short-term objectives and events, are critical components of efficient personal time management.
- d. Aims and objectives: Generally, the most successful results are obtained by persistently pursuing the desired outcomes, not by chance.
- e. Deadlines: Setting deadlines and enforcing them helps the managers overcome indecision and hesitancy.
- f. Alternatives: The absence of viable alternatives in any given situation severely limits the ability of selecting the most effective approach.
- g. Effectiveness: Success could be described as performing the appropriate actions in the appropriate manner. And regardless of how efficient the effort is, it is usually unsuccessful if it is used on improper things at inopportune moments or resulting in unintended consequences.
- h. Eliminating routine and avoiding details: The requirement of combining, delegating, or reducing regular tasks that are unimportant to the project's overall objectives.
- i. Brevity: which improves clarity and comprehension.

1.10 TOOLS FOR TIME MANAGEMENT:

Time management requires a method of arranging time and identifying tools for rights and control [19]. To ensure that everything goes as planned.

Among the instruments and techniques that can be employed are the following:

- a. A panel for the project.
- b. The program of continuous improvement.
- c. Disposal of garbage scheme.
- d. Priorities-setting program.
- e. The weekly schedule.
- f. Office diary
- g. A reflection and re-evaluation program

1.11 THE ADVANTAGES OF TIME MANAGEMENT

In truth, if you manage your time well, you will accomplish a plethora of advantages and benefits. Numerous advantages and benefits accrue to the individual or business [20], which can be stated as follows:

- a. Striking a balance between life's necessities.
- b. Avoiding distractions Attempt.
- c. Set goals and work toward achieving them.
- d. Improving self-esteem. Consider your thoughts in a positive, productive manner.
- e. Stay focused on attainable goals.
- f. Be aware of possible opportunities.
- g. Carrying out tasks in an orderly and systematic manner.
- h. The capacity for effective compensation.
- i. Ensure the project's success within the constraints of available resources.
- j. The ability to handle meetings in such a way that no time is wasted.
- k. The implementation of the team spirit concept.

1.12 CONSEQUENCES OF NOT PLANNING YOUR TIME

There are various consequences of inadequate time management planning, which can be described as follows [21]:

- a. The manager's submission to the circumstances and management of others - allowing the manager to exercise control over influence and favoritism in his or her work.
- b. -Listening only to those who can influence him and disregarding opposing viewpoints.
- c. Discuss urgent things and issues, such as administrative and/or organizational problems, or those involving senior management, while ignoring subordinates' concerns, which are frequently tied to output.
- d. Making an extra effort to correct faults caused by a delay in researching and learning certain general topics.
- e. Failure to invest subordinates' energies and potentials due to a lack of time to engage positively with the management.
- f. The manager's anxiety and stress, as well as the impact on his connection with subordinates and small clients.
- g. The quickness with which superficial issues are discussed during decision-making
- h. The accumulation of documents - The manager's designation as having weak competencies.
- i. Documents and difficulties, as well as their impact on the workflow.

1.13 TIME MANAGEMENT TECHNIQUE

Time management is a contemporary strategic idea that arises from the organization's overarching vision of its mission. Each phase of the administration or manufacturing method for persons or machines is accompanied by the techniques and processes of this idea. In its broadest definition, time management strategy is defined as "a deliberate awareness of the art of time management and actual skills of how to use it effectively in order to boost

individual performance and productivity rates." The steps of the time management approach can be separated into three phases by breaking them into goals:

- a. Current or imminent.
- b. In the short term.
- c. in the long term.

These objectives must be defined, as without them, it is hard to determine either what you have been doing is effective or a waste of time. The long-term objectives serve as the foundation for strategic management. It enables the organization or business to forecast the future, whereas current and transitional goals are the necessary stages and steps for implementing the long-term goals, and these phases include establishing the achievement priorities, as unforeseen events and risks can shorten the time that can be avoided through planning. It is necessary to divide work schedules and become accustomed to completing one task at a time, to allocate uninterrupted time, and to allocate time to complete overdue tasks so that their concentration does not result in the project being obstructed, work being overlapped, and time being wasted in the long run.

1.14 THESIS PROBLEM

The relationship among both time management and human resource performance merits investigation. There was a need to investigate the issue of completing needed work (performance level) on time to improve the performance of construction enterprises by examining the impact of time aspects (time planning, time management, and time directing) on employee performance.

1.15 OBJECTIVES OF THESIS

- a. To shed light on the impact of time management elements (planning – organizing – directing control) on building projects.
- b. An attempt to demonstrate the role of project time construction and production project productivity.

1.16 THE IMPORTANCE OF THE RESEARCH

Becomes clear to me when it explains the importance of time management and its components, as well as reviews the importance of time and how to make the best use of it; on the other hand, it discusses the relationship between time practices on employee performance, and examine the impact of time management control (organizing and monitoring elements)

1.17 METHODOLOGY OF THESIS

Conducting a questionnaire survey of the study population in order to collect the required data and respond to questions that define the study's objectives, and then statistically analyzing the collected data.

1.18 THESIS LAYOUT

Chapter One: The fundamental characteristics of the thesis' main elements are emphasized. It describes the problem statement interface, the classification introductions, and a few groupings of factor aspects. Additionally, it describes the significant contributions made by use cases in terms of the applications and services that are anticipated to be supported in classification through performance characteristics like throughput or latency requirements.

Chapter Two: Issues related to the work developed in the thesis from academic theses, industry reports, and research standards are presented together with a thorough assessment of the literature and background studies and the state of the art.

Chapter Three: The third chapter, which is devoted to methods, presents the activities and techniques that will be used. These activities and techniques will be covered by the data gathered using the methods provided in this chapter and will be worked on in the fourth chapter.

Chapter Four: In this chapter, the conditions to be looked at in the model's reference parameters will be described in terms of metrics relevant to detection, identification, and classification.

Chapter Five: Concluding remarks and upcoming projects

2. LITERATURE REVIEW

2.1 INTRODUCTION

A project manager's role includes ensuring that construction project is completed on time. To get things done fast, everyone on site must cooperate. Coordination of activities with the builder's timetable and the client's goals can be made easier with time management strategies and project management software. Because these methods and tools are in use. To manage time for a variety of construction projects, strategic planning, scheduling, and prioritization are required. But first, let's speak about how vital time management is in construction [22].

Building what the customer wants takes a lot of expertise and experienced people. Since they are paid hourly, their remuneration is generally one of the highest. As a result, the client wishes to ensure that these assets are efficiently utilized on site. So, one method to ensure everyone is managing their time properly is to adopt time management. Time planning and management entails planning and scheduling tasks. This strategy's major purpose is to improve worker skills and productivity. While workers can arrange their own timetables, the construction manager should allot work time first. This is to ensure that all actions follow the planning process and are well-planned every day. Without a time limit, workers may be encouraged to take a short break when left alone [23].

2.2 APPROACHES FOR MANAGING YOUR TIME BETTER

Several construction projects are very busy. You might think that project teams always have to do a lot of work at the last minute, but there are two primary explanations for this. The first thing is that the work plan is too strict and is not possible to meet. Second, they don't use the right time management skills in their work, which is a bad thing. There are some groups that seem to be less stressed [24]. It might be that they got a simple project, but undoubtedly, they do well because project managers are good at keeping their teams organized and working hard, which leads to fewer mistakes.

- a. Time management is being used to reduce total construction costs by giving workers daily and weekly goals. This also ensures efficient use of energy during billing hours.

- b. Time management combines the client's allocated time frame into milestone schedules to achieve or beat the deadline.
- c. Because contractors are legally bound to a contract between the parties, delays can result in partial loss of profit or contract termination.
- d. Schedule management tactics help finish projects on time, impressing the client and earning great feedback for your construction organization. It may even gain the client's trust, resulting in a new project.

2.3 STRATEGIES OF TIME MANAGEMENT

There are some strategies to manage the time listed below:

- a. Plan for the project: Planning isn't just about listing important milestones and setting up a schedule for each task. The whole project also has to be planned out [25]. Make sure you can choose finest method of construction, get materials quickly from the store, and strategy when resources should have been on the site in order to get things done quickly. Even though planning is an important step that needs to happen before the construction can start, planning also remains to be accomplished before each day's activities start again. It's because you don't have complete control over how much you can get done in a single day, so therefore. There is a schedule, but, as we always tell you, things can happen that change the schedule [26]. During the first 10 minutes of every workday, look at what you did the day before and see if your plan for the next day is in line with your progress. If not, and after that make quick changes and tell the crew right away.
- b. Effective delegation: Give tasks to the right person on the crew. Give concreting jobs to people who are good at it. If you don't have someone like that, you can hire someone else [27]. Delegating work to the appropriate people can save time, avoid mistakes, and make sure that the work is done well. It's important for project managers to learn how to delegate the right way [28].
- c. Both project manager and even the people who work on the project should avoid distractions. Especially as for project manager, who must deal with a lot of different things at the same time [29]. If they don't get distracted by small tasks so that they can

focus on the much more important ones, that's fine Before you start your day's work, Figure out what is most important. To do this, put them in order of importance. Then, start with the most important tasks first.

- d. In the past, a lot of time was wasted on emails. In the past, it was the only way to share files. Older email services don't have filters to differentiate important emails from spam and other emails. Thanks to project management software like Pro Crew Schedule, information can be shared across the internet. This is good because it makes it easier to work together. This way, records can be organized in folders in a way that makes it easy for you to find the right report when you need it. This is also important for busy members of the crew who already have both hands full of tools and equipment, so this is even more important [30].
- e. Today, there is a lot of software that can help you set up a crew schedule. When you use construction schedule software, you'll be able to keep an eye on things like communication and cooperation [31]. Platform building project software is even more important for this. The bad news is that not all tools are going to work for your project, so be careful when you're looking for a building project software.
- f. Take note: We said previously that project managers must deal with a lot of different things and tasks every day. This is very likely because he has so many tasks. Taking notes of each job will assist him remember which ones are most important. He can write it down just on project management system and set up alerts so that no one will forget about it [32]. Crossing off tasks when they are done will also save time because you won't have to go over the list repeatedly. It can also give you a sense of accomplishment, which can help you work harder.
- g. You never know when a customer will call and ask for changes or your supplier will tell you that there isn't enough stock. You should set aside some time for these things. Because of this, the project manager should set aside a few minutes in a day for these types of unplanned interruptions, so you don't have to give up precious time set aside for other planned activities.
- h. Keep Chit-chats to a minimum: There are times when you can be rude, even if you want to develop a positive relationship with your crew. For example, you can check up on

your crew members' health. This is even more true if the project is already behind. So don't talk about things that aren't important when things are important. Focus on doing the job first, then have a quick chat with your friend after the shift.

- i. You do not even have to accept variation order or extra tasks if you know that they will cause problems or make the project take longer [33]. Project managers should learn to say no when they know that.
- j. Even a project manager who has done a lot of work has to ask for help sometimes. He might have a hard time coming up with a strategy on his own, so it might be better to do coming up with ideas with the middle management to get good ideas and help the process. If you work on a construction project, project managers are likely to do the most work. Leaving some of these tasks unfinished could cause problems for him, so he needs to be careful. Don't be ashamed to ask for some help. It's all about working together to build a good house.
- k. Do short, actionable meetings: Even though there is a project management methodology where the team can talk about important things [34].

2.4 LITERATURE REVIEW

2.4.1 Leader-Employee Productivity Time Management

- a. A leader is someone who can influence one or more followers and direct them to attain aims (Chetty & Phung, 2018). A leader must be able to understand their employees' weaknesses and strengths to build on their strengths and improve their weaknesses [35]. The leadership style of a responsible leader can also evolve (Rumokoy, Setyowati, Lambey, & 2018, Beshar, Almaamari, Alkadash, Jun Bo, & Mohsen Al-Absy, 2020).
- b. According to Stone and Gandolfi (2018), leadership style is not defined. However, everyone agrees on the importance of management style. Leadership style is a global topic, and many studies have been done on it (Raju, 2021). Principals might be autocratic, democratic, laissez-faire, transactional or transformational [36]. Each style has a different impact on productivity and sees things from various angles (Al-Maamari et al.,

2018; Abdulrab, Al-Tahitah, Zumrah, Almaamari, 2017; Muthaliff, Abdulrab, Al-Maamari, Al-Tahitah, & 2018).

- c. It places less emphasis on employee wellbeing. This approach believes in using authority to boost staff productivity. Also, this style is manager-focused, as all decisions and goals are made by the top managers (Faridi, Faisal, Javed, & Malik, Khan, 2020). Managers also create all work pathways and approaches to achieve goals. So, authoritarian leadership is official and follows a centralized system [37]. Overall, employees are dissatisfied, uncommitted, and disloyal since they can participate in anything (Almaamari, Alsaad & 2020; Hamdi, Massoudi & 2017, Raju, Al-Maamari & 2020;).
- d. The Delegation of Authority encourages employees to help set goals, solve problems, and build teams. This type of leadership sees workers as active participation in the organisation's success and operations, and they can give the feedback (Rehman et al., 2018).. The decision-making procedure is very flexible, which makes employees more motivated, accountable, dedicated, and satisfied. This class also doesn't get a fine [38].
- e. The Laissez faire Management Style respects employees' freedom. Under this method, employees can make their own decisions and set their own goals. People who work for this company can also use this method to get feedback about their work (Raju, 2021). Because employees have different wisdom, skills, training, and competence, not all choices are good ones [39]. Incorrect decisions will have a big impact on the productivity of your employees. Furthermore, this type of leadership could put the organization's long-term viability in jeopardy (Rehman et al., 2018).
- f. Leadership Style is based on the idea that you can charge for things that you do. This strategy encourages people to work more by satisfying them and fulfilling their needs. Staff members can be compensated if they work on the right path and when they need to, and they can get paid for it. If staff don't do what the leader wants, they will be disciplined by the person in charge [40]. This method also thinks that rewarding or trying to punish employees can help them be more motivated (Rehman et al., 2018).
- g. Those who work for the company are encouraged to improve their morale and drive to reach its goals. It tells about the organization's emerging developments, problems, issues, and formal and informal chances (Raju, 2018). This type of leadership also highlights

teaching staff members about risks resulting and difficulties, which helps them improve their conflict skills and see the bigger picture [41]. This also helped staff productivity because it encouraged and inspired them. It also makes for a pleasant work environment and helps people form emotional connections (Rehman et al., 2018).

- h. Leadership style has a big impact on productivity. There is no best way to be more productive at work because different styles work for different businesses because of things like culture. A Pakistani analysis revealed that authoritarian leader boosts short-term production, but democratic leadership boosts long-term production [42]. People who work for a Pakistani company were more productive when their bosses were laissez-faire or commercial or life changing (Rehman et al., 2018).

2.4.2 Employee Productivity and Workplace Culture

- a. Culture can be described as the common beliefs, values, and customs among employees of a certain organization. In truth, an organization's culture greatly influences its success. The culture of each organization influences all areas of the company, includes staff [43]. Overall, productivity impacts performance (Al-Harethi & Al-Maamari, 2018).
- b. According Mahdiyeh et al. (2016), the culture of an organization and how productive it is are linked. Studies on corporate cultures and productivity in one country can't help solving problems elsewhere, he says. Since each country has its own unique situation, influenced by its own cultural traits [44], research can't help solving problems in another country. Also, Rajaei and Arghavani (2016) performed research in Iran to find out how affects organizational how well people do their jobs. All these things, as well as how to handle disagreements, organizational engagement, company culture, and productivity [45], were looked at (Raju, 2021).
- c. Dispute, solidarity, innovative thinking, and goal clarity were found to have a big impact on productivity in only four ways: So, to improve the productivity, managers should pay attention to four main things [46]. Managers also need to think about the following things to build a positive company culture: (Al-Maamari et al., 2020).
- d. Engagement, consistency, flexibility, and mission are the four aspects that make up an organization's culture. Three indicators of involvement which can be measured are

empowerment, team working, and developmental capabilities. Consistency in adjustments is another characteristic. Staff behaviour modification is one of the most effective productivity boosters [47]. It is possible to quantify fundamental precepts, consensus, coordination, and coherence. The ability to change and learn from the past is referred to as adaptability. It is possible to assess customer orientation, organizational learning, and change. The last attribute is mission, which requires defining the organization's objective and goals. Also, evaluating corporate strategy [48], objectives, and mission can help provide an effective support for the business (Rajaei & Arghavani, 2016).

2.4.3 Workplace Factors Affecting Employee Productivity

- a. Environment, according to Awan and Tahir (2015), refers to all variables that affect human life. He describes the work environment as the environment in which a group of people collaborates to achieve a common purpose [49]. Employee productivity is influenced by their working environment. According to Omari and Okasheh (2017), the workplace has an impact on productivity. The work environment, for example, influences performance, happiness, social connections, and health. The writers list air, temperature, sound, light and color, and space as physical environment elements. Managers can fix and alter work environment variables to boost employee productivity, according to Awan and Tahir (2015) [50].
- b. A project is a temporary attempt intended to generate a unique product or service (PMI, PMBOK® Guide, 2000). Temporary means that each project has a start and finish date. Unique signifies that the initiative or service is distinct from all others [51]. Projects are described as "a set of acts constrained in time and space" by Declerck et al. (1983, 1997).
- c. Pollution and freshness in the air. Indoor air quality has a direct impact on one's health, comfort, and productivity. Because employees may spend up to 90% of their time indoors, air quality is crucial. Radon, asbestos, inorganic, smoking, and organics are examples of indoor contaminants [52]. Other contaminants may induce unhappiness among employees, lowering productivity and job effectiveness (Sanvictores, Baguio, 2021 & Al-Omari & Platon, Okasheh, Alarcon, Arzaga, 2017).

- d. The term "temperature" refers to how hot or chilly a location makes us feel. Employees perform badly in intellectual, physical, and perceptive activities when they have a high temperature, for example. High temperatures might also make you feel tense and fatigued. A skinny person, for example, may wish to increase temperature. The data shown, created by Al Omari and Okasheh (2017), depicts how temperature influences productivity [53].
- e. Noise, which includes pollution, is the third factor to be considered. Noise is the term for unwanted sound. To be clear, noise levels can have a significant impact on job performance. Nowadays, businesses seek to design their offices in an environment that enhances teamwork and coordination, with open areas where employees can freely talk. However, because of the discomfort and distraction, this design may produce excessive noise, limiting employee productivity [54]. Additionally, careers that require a lot of studying necessitate a tranquil setting for employees to focus and be productive. Employees, machines, printers, keyboards, and other sources of noise all contribute to the overall noise level (Rahman, Zahid, & Habib, 2019; Okasheh, and Al-Omari 2017).
- f. Color affects include sunlight, incandescent lighting, windows, and views. The importance of natural day light in the workplace cannot be overstated [55]. To explain, there is a substantial correlation between employee satisfaction and productivity and exposure to natural daylight. When creating a workspace, business must understand the type of actions that will be taken there. To elaborate, they should consider the tasks at hand, as well as whether they should be completed inside or outside and at what time of day [56]. As a result, it would aid in increasing employee productivity. Inappropriate lighting is a common source of tension and discomfort, which has a negative impact on productivity. Workplace illumination has an impact on alertness, productivity, task concentration, and mood. Color has an impact on productivity as well. Choosing the proper colors for the office, for example, can improve employee morale and productivity. Employees that are grouchy or depressed may benefit from cool colors. Warm colors [57], on the other hand, can stimulate and inspire employees (Al-Omari & Okasheh, 2017).

- g. The space element is vital to boosting staff efficiency. Space is used to structure the office, and nowadays organizations build their workplaces so that they are open to each other. This style increases and boosts communication. This design may also improve employee productivity in some firms [58]. However, the cramped conditions may cause tension and anxiety in some employees. It may also cause a lack of independence in some people, affecting their productivity and attention (Al-Omari & Okasheh, 2017).

2.4.4 Elements of a Successful Time Management Strategy

In dealing with time, there are three characteristics that demonstrate the significance of the accessibility of the three impacts that must be considered in looking at and going to deal with time, as even the aspects of successful time management appear to be effectiveness, efficiency, and satisfaction, and that there are three foundations that any individual should consider when dealing with his or her time, whether at work or at home. It was necessary to complete all of the work pertaining to excellent time management.

2.5 TIME MANAGEMENT PRINCIPLES

Time management is a method that entails duties such as planning, organization, and control. To be effective, time management necessitates the availability of management and coordination skills, as well as the ability to govern their use. And this detail is shown on the following [59]:

- a. Planning: Managers frequently avoid the trap of not planning because it takes much longer, but planning compensates. that time when the manager produces better results and saves work and time in the overall performance of the activities and time assigned to him. The administrative leader's most crucial responsibility is planning, and without it, he won't be able to see what he hopes to accomplish. Loss of planning causes plans to deteriorate or work to be completed late. The worker can complete more tasks in the time provided. Steps in the planning process:
 - i. Gathering information and data: The first step in planning is for the manager to carefully analyze how time is spent, as without this information, it is difficult to determine what changes he wishes to implement at work. The best method is for the manager to keep a daily time log that records the actual time spent on each task for

several days, with each hour divided into paragraphs of 15-20 minutes to record tasks and activities.

- ii. Defining objectives: The manager must establish the objectives he wishes to accomplish and divide them into long-term and short-term objectives, as well as assigning objectives to each objective.
 - iii. Prioritizing: Priorities must be defined in which the employee writes down the tasks he or she wishes to complete tomorrow and then categorizes them according to their importance A, B, C. This allows employees to focus on priority and initial tasks before their counterparts, so what is required as to initiate and postpone what does not have a hasty nature, and that which has a defined time, must act in its own time.
- b. Organizing: Each employee or manager must manage his or her time effectively between allocated obligations and varied tasks. And time management must consider that it is a component of relaxation, thinking, and recreation, for such soul is exhausted by the duration of effort, and what matters is not how much the employees are working, but rather that he accomplishes the correct work in time [60].

Fundamental Organizational Principles:

- i. The establishment of an organizational structure in which the management and employees are aware of their respective positions within the chart, hence establishing clear lines of power.
- ii. Divide labor into manageable chunks by splitting large jobs into manageable chunks.
- iii. Knowing how to organize work to increase discipline and time management performance, which includes the following:
 - i. Developing sound work habits.
 - ii. Setting aside lengthy, unbroken periods of time to complete the assignment
 - iii. Completing the initial task before beginning a new one.
 - iv. Being aware of the most pressing issues and prioritizing

- c. Control: The concept of time control is a cornerstone of successful establishment and significantly boosts its efficacy. Daily planning and follow-up are required for effective time management. Similarly, plan implementation is required for the control system, unless job can be performed. There was a strategy or standard against which the anticipated outcomes were assessed. Control is the process of modifying the plan, schedule, performance, and production in accordance with the objectives and following conceptual. Work supervision entails the following:
- i. Monitoring the timeline and keeping track of what has been completed and the roadblocks encountered throughout implementation
 - ii. Keeping track of the goals reached.
 - iii. Acquaintance with each work and its duration.
 - iv. Increasing employee performance: Organizations of all sizes and types are attempting to increase productivity and elevate employee performance to the highest possible levels in order to ensure their survival and continuation in their operations. Most notably, modern organizations place the greatest emphasis on performance, as well as how to maintain and improve it, because worker performance is seen as the organizations' practical tool for achieving their goals and as the most effective means of achieving those goals and fulfilling the organization's mission.

2.6 PERFORMANCE

According to the International Standards organization (ISO 9000) version 2000, performance is defined as efficiency and effectiveness together. The extent to which results are attained is referred to as effectiveness. In terms of efficiency, it refers to a relationship between the result and the resources utilized to get there [61][62].

Performance = ability * motivation, i.e., an individual's capabilities (mental, emotional, and physical capabilities) multiplied by encouragement (financial and moral motivation) for this being (individual) to satisfactorily perform the duties entrusted to him and satisfy him in his administrative performance. Performance assessment is the process of assessing an employee's job performance and growth, as well as assessing their hidden qualities that

qualify them for future advancement. Based on the foregoing, performance can be defined as the degree to which objectives are met by maximizing resource utilization, and as a comprehensive, integrated, and dynamic system, it necessitates a continuous improvement process, as it involves multiple standard processes such as cost, time, and quality [63].

2.7 MANAGEMENT OF PERFORMANCE

The principle of performance management is one of the more recent administrative concepts that emerged because of new management guidelines. With the early 1960s of the previous centuries. The impact of these elements on boosting employee performance is explained by the following five principles:

- a. Job security and stability
 - b. Strengthening the notion of Participatory Management and collective decision-making (MBP)
 - c. Increasing all organizational units' and members' levels of self-responsibility.
 - d. Developing precise and unambiguous control systems were based on a constant and continuous interchange of data.
-
- i. It is important to prioritize and show concern for both the organization's goals and the feelings of employees' families. Performance management is defined as an organized strategy that relies on the approach of focusing on accurate information and data to control and manage the work of employees and to increase the most significant levels of support in order to improve the environment. Traditional performance management should be replaced with a system that is based on several fundamental components that become clear through use of the system [64], which is based primarily on the coordination and collaboration of leaders and participants to achieve the goals, objectives, and all information has been agreed upon, as noted in the previous definition. Everyone possesses the abilities necessary to do it. Performance Management Goals: Performance management aims to achieve a variety of objectives in efforts to progress the performance of an organization as a whole by improving employee productivity by enhancing employee performance.

- a. Establishing an information system to track human resource performance and adjustments.
 - b. Providing an avenue for these resources and their leaders to share information, ideas, and experiences.
 - c. Assist supervisors in the direction and instruction of human resources.
 - d. Continuous evaluation of poor performance before it gets ingrained in human resource behaviour.
 - e. Emphasizing performance correction rather than performance evaluation for the sole purpose of reward and punishment.
 - f. Creating a conducive environment for problem-solving.
 - g. Assisting in the selection of leaders and delegating helpers.
- ii. Performance evaluation objectives: On the other side, performance evaluation objectives were discussed so that project management might increase performance and productivity. The following points outlined the objectives:
- a. Assisting with human resource planning in projects. Figure - Assessment of the selecting process and policy.
 - b. Evaluating the policy on training and development. - Analyzing incentive and wage policies.
 - c. Developing promotion, gradation, and career path policies and initiatives.
 - d. Show your communication abilities' flaws and deficiencies.
 - e. helping human resources in proactively addressing flaws and areas for improvement.

2.8 PERFORMANCE MANAGEMENT'S ASPECTS

The elements of performance management have a direct impact on employees, who then follow these elements to improve their own performance, which leads to an improvement in

the organization's overall performance [65]. The following points have been clarified as to how to increase the degree of performance management:

- a. Performance management, which entails:
 - i. Setting goals: This is the process of setting goals in order to achieve them.
 - ii. Current performance analysis: this examines the current state of the organization's performance.
 - iii. Determining the required performance: establishing dimensions for the desired level.
 - iv. Analysis of performance standards: Performance standards are examined in order to determine the required level of performance.
- b. Organizing performances, which entails the following:
 - i. Responsibilities and tasks: where responsibilities and tasks are assigned based on the job and level of experience.
 - ii. Communication channels: Activate communication routes between management and workers, as well as between workers and one another, to maximize time and eliminate bureaucracy in the organizational structure.
 - iii. Rules and laws: Adherence to the rules and laws that govern the workflow.
- c. Orienting performance covers the following:
 - Simplifying procedures: communication and decision-making procedures are simplified to save time.
 - i. Mentoring: Workers are coached by experienced senior and intermediate management levels at this stage.
 - ii. Feedback: relying on feedback to learn from past mistakes and experiences.
 - iii. Error correction: by utilizing the previous process and the information provided through feedback, errors can be easily and quickly addressed.
 - iv. A progress note is a document that tracks how far personnel have progressed in terms of their performance.

d. Evaluation of performance, which includes:

- i. Palaces of Performance: This level is defined by shortcomings that must be remedied.
- ii. Available skills: Make the most of the skills that are available to you.
- iii. Targeted talents: These skills have been identified and are ready to be used. - Employee justice and satisfaction: Increasing employee productivity and performance through achieving employee justice and satisfaction.
- iv. Decision-related data: When choices are made based on information about the project workers' performance and are shared with the competent department.
- v. Monitor and record performance: Progress is tracked in terms of performance and documentation via a Table that shows the previous level, current level, and the next level to be reached.
- vi. Rewards for positive conduct and progress toward goals: The rewards system aims to boost staff morale and productivity.
- vii. Access to enhancing individual and organizational performance: Individuals and regions are at the same level at this point.

2.9 PERFORMANCE THAT EXCEEDS QUALITY STANDARDS

Several strategies are used to establish accurate and unambiguous performance criteria, the most essential of which are [66]:

- a. Using brainstorming technology and creative thinking.
- b. Assigning priority to tasks based on their importance and difficulty.
- c. Prioritizing amongst the priorities.
- d. Formulating tasks and creating means to measure their implementation using the factors of quality, quantity, time, and process.

- e. Evaluate the extent of: Its usefulness in measuring job performance. - Review the prior performance criteria utilized and work on evaluating the extent of: Its usefulness in measuring work performance.
- f. Talking with supervisors about standards.

The performance standard is a short statement that specifies the final result that the manager is expected to achieve when completing his or her responsibilities. As soon as he becomes aware of the reasons for or flaws in the needed performance [67], he informs himself.

2.10 PERFORMANCE ANALYSIS

Before describing solutions, the approach of performance analysis includes understanding the areas that need improvement. There are two approaches to this:

- a. A way of diagnosing and treating a condition.
- b. Fast-acting therapy

The manager must meet certain conditions to conduct a good performance analysis, the most significant of which are [68]:

- a. The manager must be highly qualified in the team's process.
- b. Can deal with persons and gain their trust.
- c. Building trust and credibility in order to tackle the challenge of finding the best answer.
- d. Capabilities in terms of organization.
- e. The manager's charismatic leadership.
- f. To generate effective solutions, creativity and innovation are required.
- g. Adequate bravery.
- h. The capacity to see what is going on.

2.11 FACTORS IMPACTING WORKER PERFORMANCE

Many factors influence worker performance in general, and also the researchers cited a variety of elements and factors, which some effect an individual's performance directly and others indirectly. The following are the most essential aspects that influence an individual's level of performance [69]:

- a. The worker's aims and values, and how they relate to the company or organization's goals
- b. The individual's demographic attributes (age, gender, marital status).
- c. Personality qualities and mental ability.
- d. Incentive programs.
- e. Workplace relations.
- f. Technology and education
- g. Environmental factors such equipment, tools, lighting, and temperature.
- h. Organizational aspects, including supervision, organizational design, and policies.

The following are some of the factors that influence employee performance:

- i. There are educational programs available.
- ii. Characteristics of the job
- iii. Keep an eagle's eye on things.
- iv. The fourth point to mention is the wage and incentive structure.
- v. Demographic parameters such as gender, age, and level of work are taken into consideration.

According to the following, employees are affected by a multitude of environmental elements, the importance of which varies depending on the study's objective. Therefore, to profit from the findings of other academic researchers, this study concentrated on the impact

of the parts of (time planning, time management, and time monitoring) on employee performance. To increase the overall performance of the company.

2.12 THE IMPACT OF LEADERSHIP ON EMPLOYEES' PRODUCTIVITY

A leader is defined as a person who has an impact on one or more followers and can direct them to achieve certain goals through his/her responsibility (Chetty & Phung, 2018). The leader has many rules to do and one of them is being able to identify the weaknesses and strengths of their employees to boost the strengths and work on improving the weaknesses [70]. Also, a responsible leader can change his/her leadership style depending on context (Alkadash, Jun Bo, Beshar, Almaamari, & Mohsen Al-Absy, 2020; Setyowati, Lambey, & Rumokoy, 2018).

Gandolfi and Stone (2018), stated that there is no specific definition of leadership style. However, there is a common agreement of the great impact of leadership style. Leadership style has become a global topic and many research gave many studies about the topic (Raju, 2021). There are many leadership styles, but researchers have agreed on five main styles which are Autocratic Leadership Style, Democratic Leadership Style, Laissez-faire Leadership Style, Transactional Leadership Style, and Transformational Leadership Style. Each of the styles has a different impact on the productivity level and views several points from different perspectives (Abdulrab, Zumrah, Almaamari, & Al-Tahitah, 2017; Al-Maamari et al., 2018; Al-Tahitah, Muthaliff, Abdulrab, & Al-Maamari, 2018).

The Autocratic Leadership Style gives less emphasize on employees' welfare. This style focusses on exercising power for the purpose and believe that power would increase productivity of employees. Added to that, this style is manager-focused since all of the decision and goals are created by the top managers (Mali.k, Khan, Faisal, Javed, & Faridi, 2020). Also, managers are responsible for creating all the work paths along with ways of accomplishing the goals. So, the autocratic style is a formal type of leadership, and it is following a centralized system. All in all, this kind of leadership leads to employees' dissatisfaction, low level of commitment, and disloyalty since they cannot participate in anything (Al-Maamari & Raju, 2020; Alsaad & Almaamari, 2020; Massoudi & Hamdi, 2017).

The Democratic Leadership Style gives more emphasize on including and increasing the participation of the employees by having them participate in setting goals, solving-problems, and creating teams. This style believes in the significance of the participation as it views the employees as a direct participant in the functions and operations of the organization and can give effective feedback to make improvements [71]. As for decision-making, it is very flexible which contributes in increasing the productivity of the employees due to their feeling of motivation, responsibility, commitment, and satisfaction. Also, punishment is avoided in this type (Rehman et al., 2018).

The Laissez-faire Leadership Style takes the freedom of employees as the main way to deal with them. This style gives the total freedom to employees to take decisions and establish objectives. Also, this style has to deal with receiving feedback from the employees (Raju, 2021). However, employees have varied levels of intelligence, abilities, education, and competence therefore not all of decisions would be appropriate to the condition. As a result, this would negatively impact the productivity of the employees due to wrong decision. Moreover, this type of leadership style could harm the organization and puts its survival in danger (Rehman et al., 2018).

The Transformational Leadership Style encourages that subordinates enriching their morals and motivation for the purpose of achieving the organizational goals. It announces the objectives and goals estimating future trends, challenges, issues, and internal and external opportunities in the organization (Raju, 2018). In addition, this leadership style gives emphasize on teaching the employees about future challenges and threats which helps in enhancing employees problem-solving skills and vision. Besides that, this style increased the employees' productivity because it supports and inspire them [72]. Also, it offers comfortable work environment along with building strong emotional ties (Rehman et al., 2018).

2.13 CONCLUSION

Because it drives gains in job performance, productivity is seen as a vital part of an organization's success. The concepts of workplace environment, culture, and style of management were studied in this study. Each component has several sub-factors, each of which has a different effect on employee productivity. Furthermore, different leadership

styles have distinct effects on productivity. Democratic leadership, for example, may boost staff productivity. Furthermore, certain cultural elements, including such imagination, have been demonstrated to have an impact on productivity. Employee productivity is directly influenced by the workplace environment.



3. METHODOLOGY

This chapter discusses a description of the technique that was applied in the study, as well as a description of the study community, a description of the study instrument, and the variables that were examined during the study period.

3.1 TECHNIQUES USED IN SCIENTIFIC RESEARCH

The researcher chose to take a descriptive approach, in which the descriptive approach is based on the message of the situation or the situation as it exists in the situation, and it is determined as an accurate description that expresses how or how it describes the situation it describes its characteristics [73], or quantitative expression, and gives a numerical description indicating the magnitude or magnitude of this phenomenon and the degrees of its association with other different phenomena. The researcher chose to adopt this approach because the descriptive approach is based on the message of the situation or the situation as it Statistical analysis of sociological studies to investigate the nature of the connections between the different aspects of the research from a new angle.

3.2 DIRECTORS AND THE GENERAL STAFF

The board of directors and the General Staff of the construction sector in the state of Khartoum, and the board of directors and consultants of the private, public, and academic sectors, shall serve in leadership positions, and the board of Directors of the board of directors in addition, there are several companies, project managers, on-site executives and university professors.

3.3 THE SAMPLE SELECTION

After monitoring the general entities in the field of the construction industry through consulting offices, contracting companies and other public and private sectors as well as specialized academics in the field of civil engineering, the selection of the national sample is carried out in a voluntary manner from the national community. This is done after the selection of the national sample has been completed. The sample included several consultants, experts, and academics, each having a unique combination of practical experience and specialized knowledge pertaining to the field of building. a questionnaire

regarding the sample that was used is going to be given. Following the completion of the review, a total of two questionnaires will be disregarded to guarantee that the necessary requirements for the response to the questionnaire have been met; therefore, the total number of questionnaires that will be included in the survey will be cut down to 80 samples.

3.4 IDENTIFICATION AND CLASSIFICATIONS OF FACTORS IDENTIFIED

3.4.1 Factors Recognized Through Review of Literature

In order to identify the factors, a literature review was carried out. To narrow down the selection, we looked at a wide range of relevant and relevant research papers. The preliminary literature research indicated the following factors, which can be classified as follows. Various types of construction industry studies were considered, and many factors affecting worker productivity were discovered. They may be broken down into the following categories, making it simple to learn about them and even easier to come up with creative ways to improve productivity.

- a. Plants and machinery: Plant and equipment play a significant role in the building sector. If the construction equipment employed are of a different type, their technology, or their ease of use, the output will vary. It will make a difference if the workers have access to high-quality plant and equipment rather than limited and low-quality equipment. For this reason, this section looks at how plant and equipment-related factors affect worker productivity in Iraq, which is still a developing country; thus, construction technologies used vary greatly from site to site, Figure 3.1 [74].



Figure 3.1: Construction Machine Equipment [74].

- b. Composition: There is no construction without materials, and a high-quality construction cannot be achieved with substandard materials, Figure 3.2 [74]. If a task is completed with low-quality materials, the structure may fail, resulting in lower productivity for the workers. This shows that the quality of the materials has an impact on worker productivity.



Figure 3.2: Building Material [74].

- c. Administration: Certain types of tasks can be completed in several different methods while yet achieving the same end result. Time and money spent on the task will be variable depending on which strategy is used, Figure 3.3 [75]. Duplication of effort is one of the primary causes of lower productivity in the construction industry because of the negative impact it has on planning and design, coordination, and management.



Figure 3.3: Engineering Administration [75].

- d. Human Resources: The worker's productivity is greatly influenced by elements relating to manpower since the correct person can complete a task in a short period of time and in a professional manner. When attempting to raise the productivity of employees, aspects pertaining to human resources are of paramount importance, Figure 3.4 [75].



Figure 3.4 : Human Resources [75].

- e. The motivational aspect: Workers are more productive when they are inspired. The morale of employees is lowered as a result of late or inadequate payment of wages, Figure 3.5 [75].

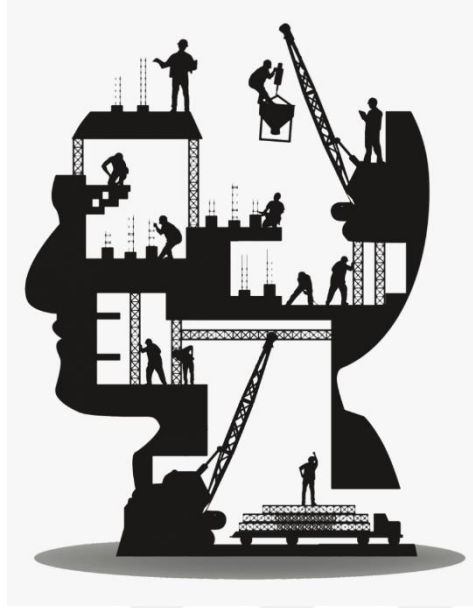


Figure 3.5: Motivational Aspect [75].

- f. Technically: A variety of techniques are employed in civil engineering construction projects. There is a substantial difference in output for a given amount of labor time because of the use of technology, Figure 3.6 [75].



Figure 3.6: Construction Projects Technical [75].

- g. Features of the Project: Conditions on the job site, the intricacy of the project, and challenges with construction capability can all affect worker productivity, Figure 3.7 [76].

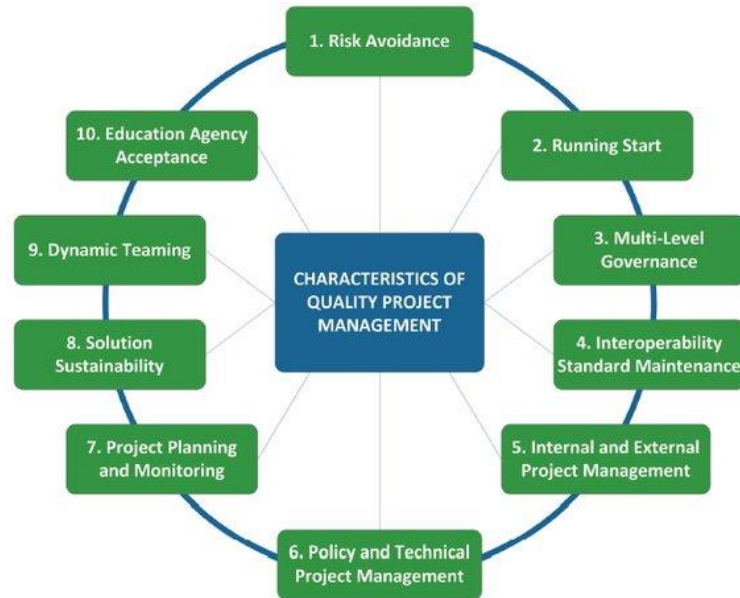


Figure 3.7 : Project Characteristics [76].

- h. Other: This category includes everything else that's tough to categorize in the ones listed above.

Finally, following analysis, a final questionnaire document was developed, which described each factor's relative importance (RII) based on the overall ranking of that factor in that research, whereas other research only noted the occurrence of that factor in their findings. This was carried out to ascertain all the variables that had an impact on the output of the workers. Prior to conducting a questionnaire survey [77], the most important factors should be determined. The survey results can then be ranked in order of importance.

- a. The factors got distilled down based on how frequent they appeared in scholarly articles as well as how prominently they were discussed in those papers.
- b. Some of the components were put into the same category as a result of their similarities.
- c. Several criteria were removed from the list because of their low frequency and bad ranks.
- d. The value of a rating improves in proportion to the decreasing weight of the scale.
- e. There is a citation for research supporting each of the factors in the Table.

- f. This can be found by taking a look at the number of times a particular component is mentioned in a variety of research.
- g. There's not an overall rating for the Research.

3.4.2 Construction of The Web Application

This website is intended to be utilized by project managers, main decision makers[78], and engineers in order to evaluate the current issues and challenges that are occurring from the also before the stage all the way through the completion of the project, in order to find solutions to these problems and increase the level of worker productivity on construction sites.

The primary objective is to make recommendations and proposals that will increase the efficiency of the worker. For each of the identified criteria, both conclusions and recommendations are presented below. An online tool was designed for the purpose of making the presentation of recommendations and ideas more straightforward. The Optimizer web tool serves four primary purposes, which are as follows [79]:

- a. Worker productivity in the user's construction site is assessed by providing the user with a questionnaire. Afterwards, the worker's productivity percentage is displayed. An evaluation of factors impacting Iraqi workers' productivity led to the development of this questionnaire. Based on your construction site, choose the best response. Do your best to answer each and every one of the questions. After submitting, the output will be evaluated and a percentage will be provided. The percentage of your site's performance will be shown below, and by clicking on a specific factor, you'll get the related suggestions and recommendations.
- b. Construction workers' productivity is affected by several elements, and these ideas and suggestions are listed here. There are resources that can help you find solutions to the problem.
- c. Materials for Training: Make it easier for staff to learn by providing them with instructional films. To avoid mistakes, it is critical to use the correct construction procedures. You can reference method statements.

- d. Method statements for each construction project are included in the documents. In order for construction employees to be more productive, they need to be well-trained. A good training can be offered to the workers by using the resources listed here. Connection between the research and Enhancer [80]:
 - i. The research was used to identify the factors in the Assess.
 - ii. Researchers used factor rankings to build the productivity equation.
 - iii. While collecting the data, the researchers looked to the literature and talked to experts in the field to come up with recommendations and suggestions.

3.5 QUESTIONNAIRE DESIGN

In addition, the method that will be used in this research to collect the data from the research sample is one of the means to collect the data from the research sample and to prepare it in a clear way, not to confuse, in order to enable the researcher to access the user's vision in a direct manner. This will be accomplished by the method that will be used in this research to collect the data from the research sample [81]. The survey was carried out after a number of trips to design, prepare, disseminate, and recover it, as well as to take into consideration the length of the finished survey and the restrictions of the quality of the sought data, as well as the approximate time of the survey.

3.6 DESIGN STAGES OF A QUESTIONNAIRE FOR A RESEARCH PROJECT

- a. Examine the user's data, which is sent to the research site and is immediately influenced by the hypotheses and questions of the response, both of which are evaluated to ensure that they are honest and reliable.
- b. Create a rough draft of the survey copy, and then give out part of the sample, so that you can obtain some insight into the factors that lead to inactivity and failure based on my experience and knowledge.
- c. The design of the questionnaire will be modified based on the findings of the survey sample, and it will be amended to ensure that it is valid for the purpose of data collection via distribution in response to the research sample.

When conducting a research study, it is important to conduct a survey of the research population in order to gather relevant data.

3.7 TOOLS OF STUDY

There was a mechanism included in the paper to measure the impact of time management on public performance in the Sudanese construction sector, separated into six sectors and in planning project time, time management for projects [82], including planning, providing direction, monitoring, and ensuring that projects stay on schedule [83]. It was necessary to study the theoretical framework and prior submissions to generate a list of time management and performance aspects in the form of a questionnaire that was then used to develop the project's time management and production tool [84].

3.8 HONESTY AND TOOL STABILITY

The researcher's presentation of the drawing tool to a group of arbitrators, including university professors, did not reflect on the tool's suitability for measuring the impact of time management on public performance and output in Iraq's construction sector, nor did the demand from the judges or any proposed amendments, as requested by the arbitrator in relation to the outcome of the project planning of the construction sector. Project time management includes regulating, guiding, and controlling project time in relation to the project's success. Project Time and productivity management (which assesses the effect of time management on productivity) The arbitrator and across observations are considered following the change of the review tool, as the observations have been focused on taking into account and implementing parts of the jurisprudence into the review tool.

3.9 HONESTY AND STABILITY OF TOOLS

The researcher's presentation of the drawing tool to a group of arbitrators, including university professors, did not reflect on the appropriateness of the tool to measure the impact of time management on public performance and output in the construction sector in Sudan, as did the demand from the judges and any proposed amendments, as requested by the arbitrator to determine the outcome of the project time Planning Project, Time Management, Project Time Guidance, Project Time Control, Project Time Management, Project Time

Control, public performance in the project, Project Time and Output Management), which measures the impact of time management on the performance of the public, the extent to which the subject matter of the project is considered, and the comprehensiveness of the individual subject matter and, after the revision of the instrument, the consideration of the arbitrator & apos; s observations; where the observations focused on and incorporated some of the provisions in the tool and the drafting of the draft decision, where the tool for planning the project time in the final form came out of the tool also came out of the tool for planning the project time in the final form of the organization of Project Time in its final form consisting of Part ‘the project time control measure instrument has a final output of, as the output of the overall performance measure of the project time control measure instrument has a final output of the the project is made up of paragraphs, while the output of the project's time and output management tool is made up of paragraphs.

3.10 RESEARCH FACTORS AND VARIABLES

In time management, there is no such thing as a dependent variable; rather, the process is dissected into its component pieces, which are as follows: scheduling, organizing, directing, and managing the flow of time. The entire performance of Iraq's construction sector is the variable in question here, Figure 3.1.

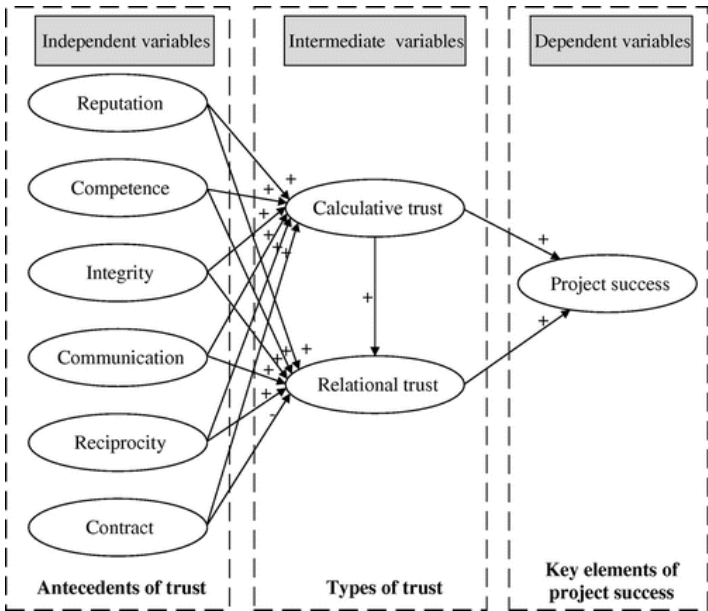


Figure 3.8: Variable in construction management.

3.11 STATISTICAL TREATMENTS AND THEIR USES

Answering queries from students and interviewers alike, the researcher selected a term for the statistical evidence that ranged anywhere from:

- a. Data were subjected to a Kolmogorov-Smirnov test.
- b. To answer the questions of the study, it is necessary to calculate averages and standard deviations.
- c. The Cronbach alpha used by the researcher.
- d. This is done so that the independent and follow-up studies may be compared.
- e. The following scale is used to determine the amount of influence and performance:

$$\text{Category length} = \frac{\text{Upper limit} - \text{lower limit}}{\text{Number of levels}} \quad (3-1)$$

$$\text{Category length} = \frac{5 - 1}{3}$$

Thus, the low level is 1 – less than 2.333.

The intermediate planar between 2333-3366

The Max Value 3.367 in high level

3.12 PROCEDURES FOR THE APPLICATION OF THE DOCUMENT

- a. Construction professionals from all around the world, including engineers, consultants, and academics, as well as the complete construction industry.
- b. The following are the steps involved in getting the tool ready to use:
 - i. Needs to be familiar with the theoretical context and the prior drawings.
 - ii. A preliminary stage of the doc tool's development is currently being carried out.
 - iii. To establish the credibility and reliability of the learning tool so that it can be implemented as an industry standard.

4. RESULT AND DISCUSSION

4.1 INTRODUCTION

This chapter shows the Results and discussions of the collected data from the questioner that published to the specialist.

4.2 PART ONE: GENERAL INFORMATION

A. Academic achievement:

Table 4.1 : Academic Achievement.

Academic achievement	B.Sc.	M.Sc.	Ph.D.	Higher Diploma	Total
Iteration	73	36	4	2	115
Percentage	63%	31%	3%	2%	100%

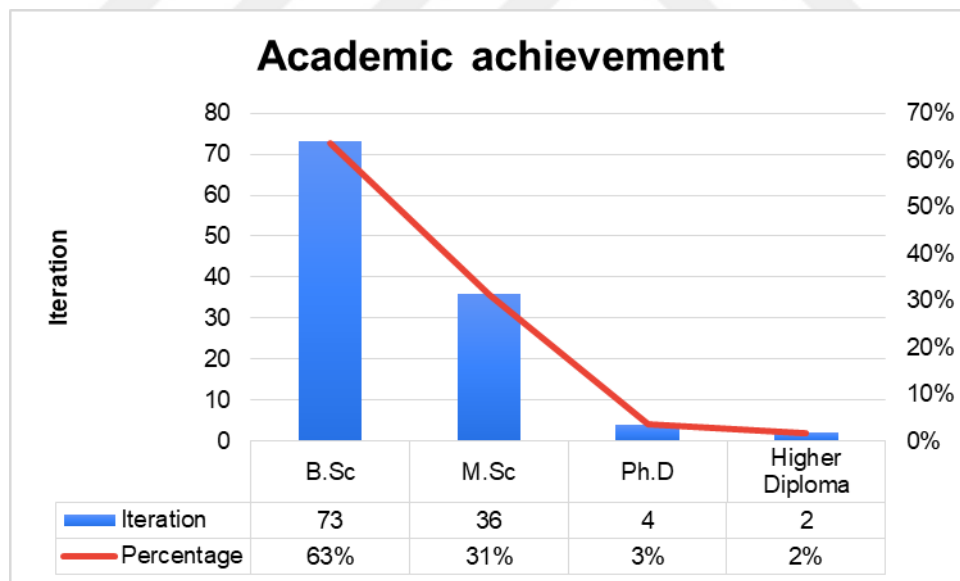


Figure 4.1: Academic Achievement Chart.

Through the above Table 4.1, Figure 4.1 and the frequency of the sample members, it is clear that the academic achievement was B.Sc. represents (63%) of the sample, M.Sc. represents (31%) of the sample , Ph.D. represents (3%) of the sample and Higher Diploma represents (2%) of the sample .

B. Nature of work

Table 4.2: Nature of Work.

Nature of work	Engineer	Consultant	Contractor	Owner	Total
Iteration	90	14	10	1	94
percentage	78%	12%	9%	1%	100%

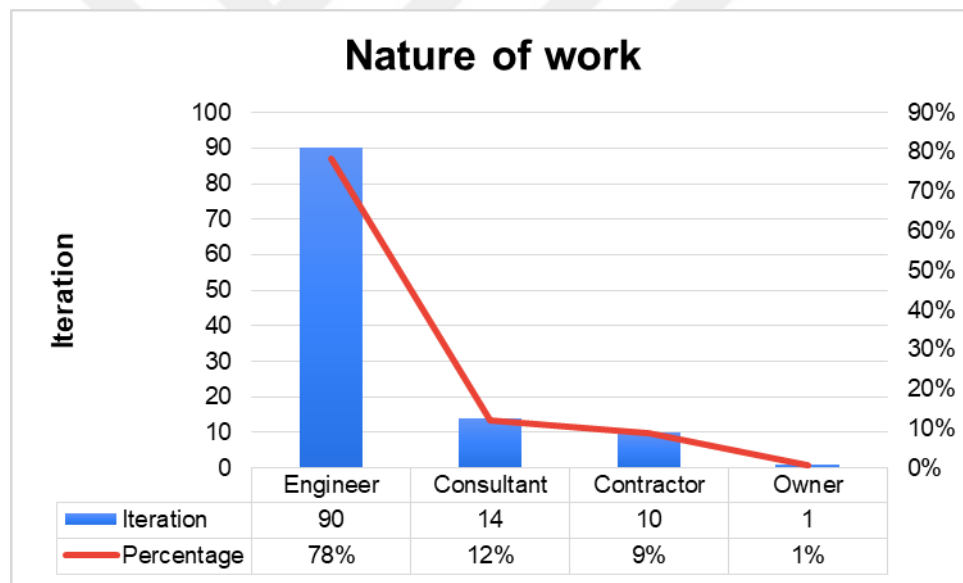


Figure 4.2: Nature of Work.

Through the above Table 4.2, Figure 4.2, and the frequency of the sample members , it is clear that the nature of work was as the following so 78% of the sample work as Engineer , 12% of the sample work as Consultant , 9% of the sample work as Contractor and 1% of the sample work as Owner .

C. Type of work

Table 4.3: Type of Work.

Type of work	Government sector	Private sector	Common sector	Total
Iteration	49	31	14	94
percentage	52%	33%	15%	100%

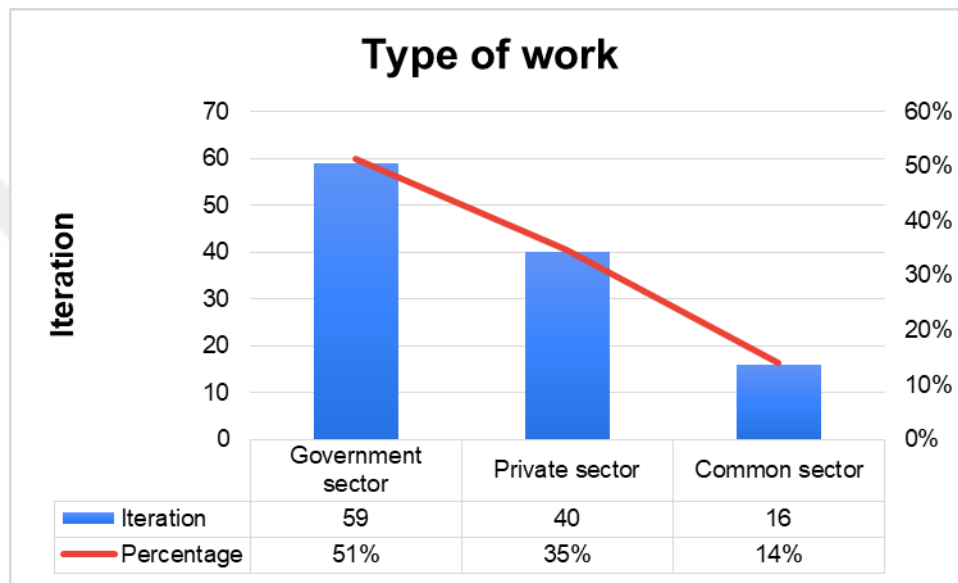


Figure 4.3: Type of Work Chart.

Through the above Table 4.3, Figure 4.3 and the frequency of the sample members , it is noticeable that the type of work was as the following so 52% of the sample work type was government sector, 33% of the sample work type was Private sector and 15% of the sample work type was common sector.

D. Specialization

Table 4.4: Specialization.

Specialization	Civil	Architect	Electrical	Mechanical	Total
Iteration	79	15	14	7	115
percentage	69%	13%	12%	6%	100%

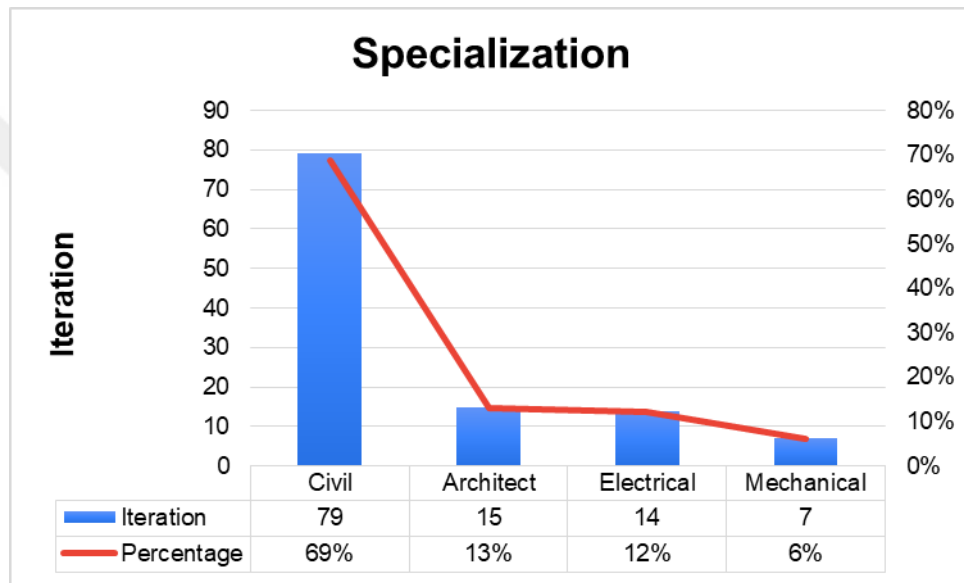


Figure 4.4: Specialization Chart.

Through the above Table 4.4 , Figure 4.4 and the frequency of the sample members , it is noticeable that the specialization of work was as the following so 69% of the sample work type was Civil , 13% of the sample work specialization was Architect , 12% of the sample work specialization was Electrical and 6% of the sample work specialization was Mechanical .

E. Number of years of experience

Table 4.5: Year of Experiences.

Number of years of experience	Less than 5	6 to 10	11 to 15	16 to 20	20 and over	Total
Iteration	15	44	30	19	7	115
percentage	13%	38%	26%	17%	6%	100%

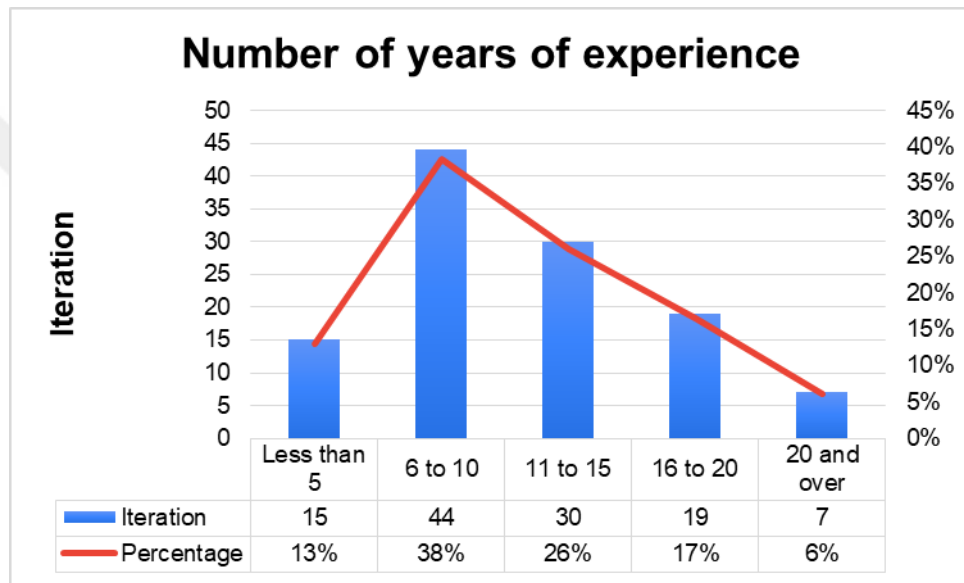


Figure 4.5: Number of Year of Experiences.

Through the above Table 4.5, Figure 4.5 and the frequency of the sample members , it is noticeable that the Number of years of experience was as the following so 13% of the sample was Less than 5 years , 38% of the sample was (6 to 10) years , 26% of the sample was (11 to 15) years , 17% of the sample was (16 to 20) years and 6% of the sample was 20 years and over .

F. Number of projects implemented annually by the company

Table 4.6: No of Project

Number of projects implemented annually by the company	Less than 5	6 to 10	11 to 15	Over 16	Total
Iteration	43	53	16	3	115
percentage	37%	46%	14%	3%	100%

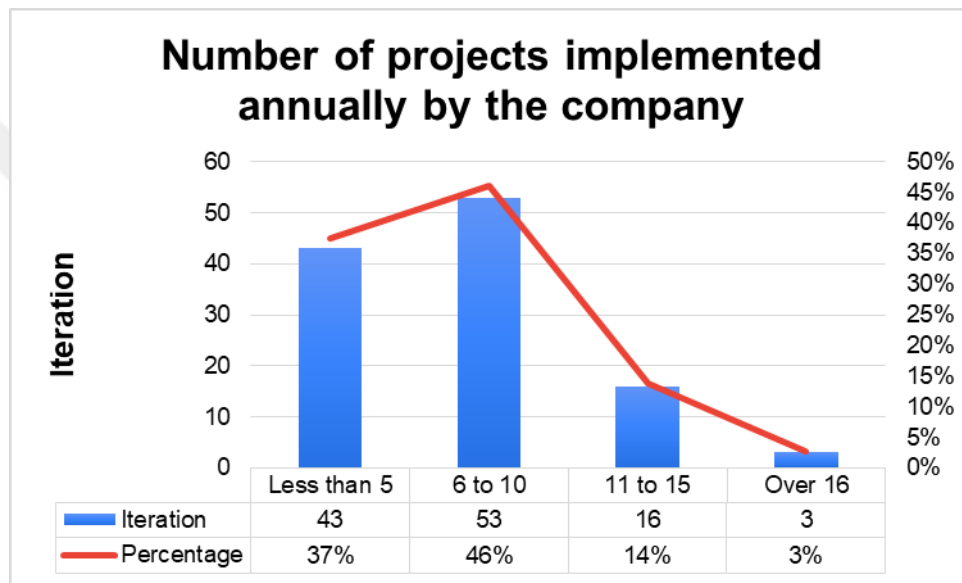


Figure 4.6: No of Projects Implemented.

The Table 4.6 above , Figure 4.6 and the frequency of the sample members show that the Number of projects implemented annually by the company was as the following so 37% of the iteration was Less than 5 projects , 46% of the iteration was (6 to 10) projects , 14% of the iteration was (11 to 15) projects and 3% of the iteration was over 16 projects annually.

4.3 PART TWO

- a. Daily planning of time in the project increases the concentration of workers, resulting in the completion of the tasks assigned to them on time.

Table 4.7: Daily Planning.

Daily planning of time in the project increases the concentration of workers, resulting in the completion of the tasks assigned to them on time	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	55	42	9	8	1	115
percentage	48%	41%	8%	7%	1%	100%

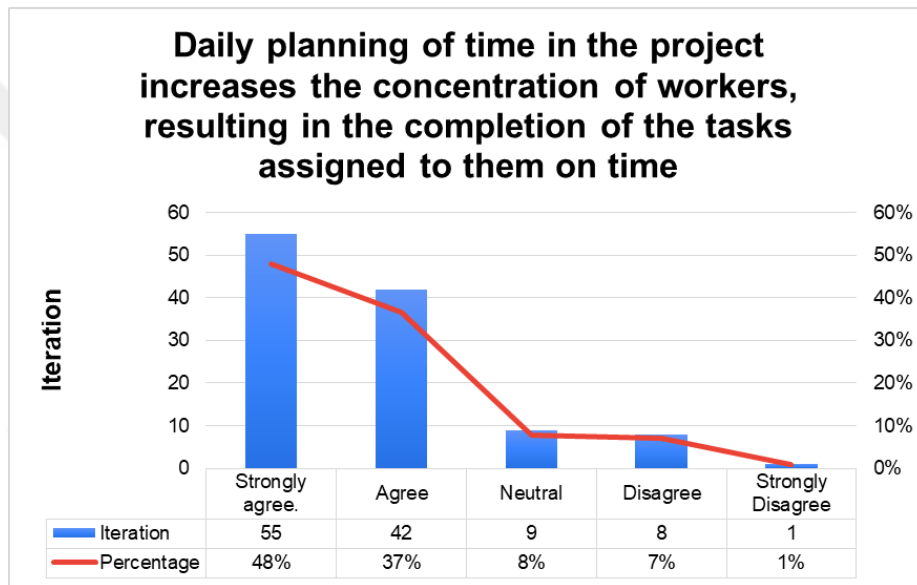


Figure 4.7: Daily Planning Project.

After reviewing the answers as shown in each of the above Table 4.7 and Figure 4.7 , we note that the respondents about the (Daily planning of time in the project increases the concentration of workers, resulting in the completion of the tasks assigned to them on time) were as following 48% of iteration sided with strongly agree , 41% of iteration sided with agree , 8% of iteration sided with neutral , 7% of iteration sided with disagree and 1% of iteration sided with strongly disagree , that One of the most important goals of time management and planning is to focus on specific tasks to achieve the optimal investment of time, and thus accomplish more tasks within less time, which increases the productivity of the project, As a result, the two categories (strongly agree and agree) They came at the forefront of the highest frequency .

- b. Prioritizing activities to be implemented is one of the most important stages of time planning in construction projects

Table 4.8: Stages of Time Planning.

Prioritizing activities to be implemented is one of the most important stages of time planning in construction projects	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	45	49	10	8	3	115
percentage	39%	43%	9%	7%	3%	100%

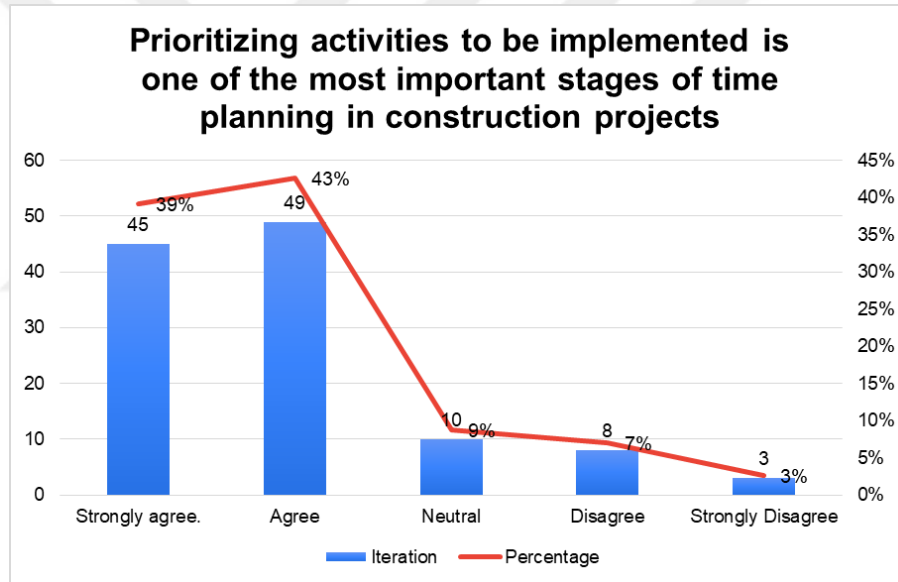


Figure 4.8: Stages of Time Planning Charts.

Through results in the Table and Figure above, it is clear to us that 39% of the iteration sided with strongly agree, 43% of the iteration sided with agree , 9% of the iteration sided with neutral , 7% of the iteration sided with disagree and 3% of the iteration sided with strongly disagree. The highest iteration go with (Agree), This proves the correctness of the statement that was asked about since the Determining the priorities of activities helps to set the time schedule necessary to implement the work paragraphs within the time period specified for

them, and this is what makes it one of the most important stages of time planning in construction projects.

- c. Project time planning helps complete work and tasks that were time-consuming in less time.

Table 4.9: Project Time Planning

Project time planning helps complete work and tasks that were time-consuming in less time.	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	53	41	11	9	1	115
percentage	46%	36%	10%	8%	1%	100%

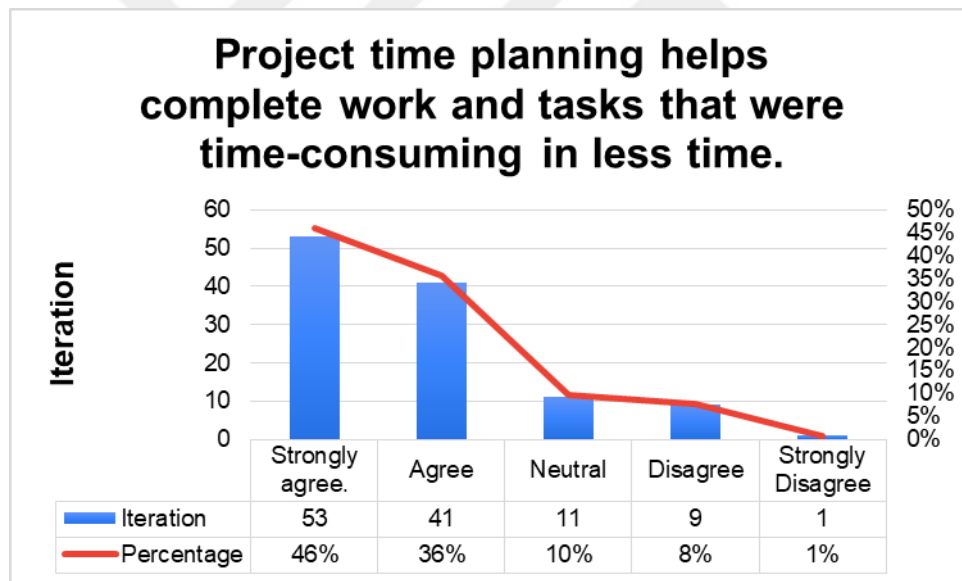


Figure 4.9: Project Time Planning Charts.

Through results in the Table and Figure above, it is clear to us that 46% of the iteration sided with strongly agree, 36% of the iteration sided with agree, 10% of the iteration sided with neutral, 8% of the iteration sided with disagree and 1% of the iteration sided with strongly disagree. The highest iteration goes with (strongly agree), This has a positive indicator, as most of the sample members realize the benefits of time planning and its close relationship with work and tasks completion in less time.

- d. Project time planning must be flexible and suitable for workers' capabilities to ensure that activities are completed on time

Table 4.10: Project Time Planning Flexible

Project time planning must be flexible and suitable for workers' capabilities to ensure that activities are completed on time	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	44	49	12	8	2	115
percentage	38%	43%	10%	7%	2%	100%

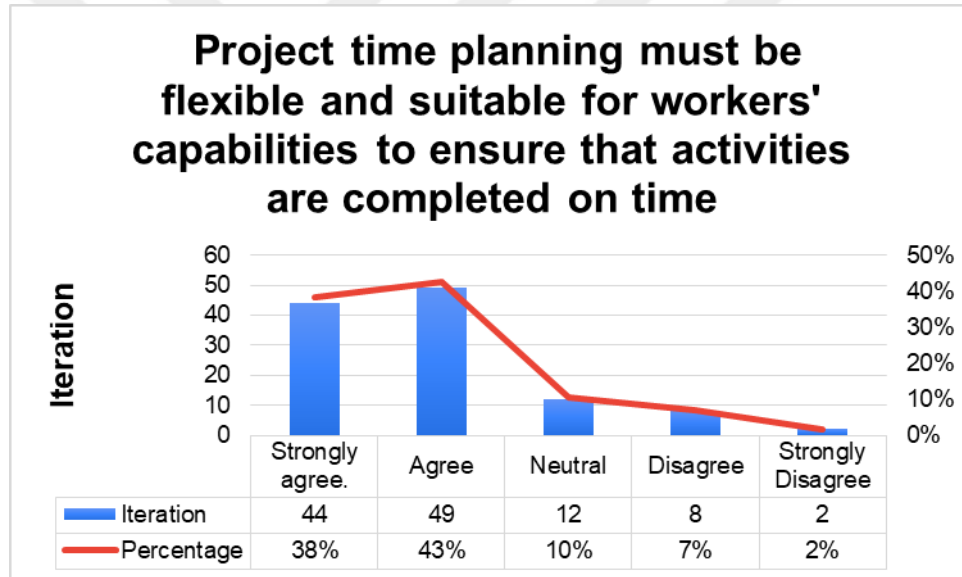


Figure 4.10: Project Time Planning Flexible.

Through results in the Table and Figure above, it is clear to us that 38% of the iteration sided with strongly agree , 43% of the iteration sided with agree , 10% of the iteration sided with neutral , 7% of the iteration sided with disagree and 2% of the iteration sided with strongly disagree As most of the sample members support the validity of the statement that was questionnaire about, as estimating the capabilities of the workers and assigning them in proportion to their efficiency reflects the role of effective time management and optimal planning to achieve the goals on time.

e. Project timeline reduces the effort required to complete project tasks

Table 4.11: Project Timeline Reduces.

Project timeline reduces the effort required to complete project tasks	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	36	58	9	10	2	115
percentage	31%	50%	8%	9%	2%	100%

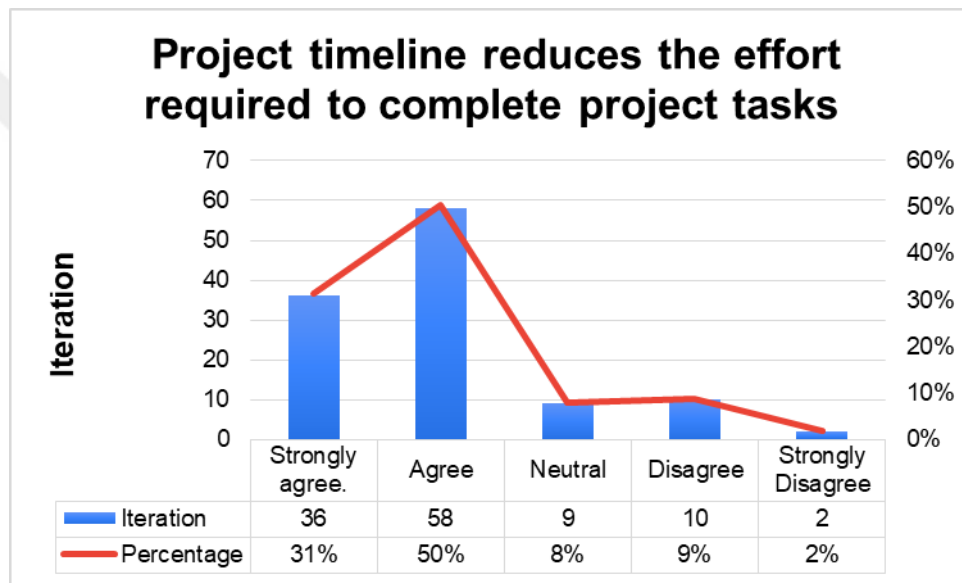


Figure 4.11: Project Timeline Reduces.

Through results in the Table and Figure above about the statement (Project timeline reduces the effort required to complete project tasks), it is clear to us that 31% of the iteration sided with strongly agree , 50% of the iteration sided with agree , 8% of the iteration sided with neutral , 9% of the iteration sided with disagree and 2% of the iteration sided with strongly disagree, Since the highest percentage of the sample that sided with agree corresponds to 50% And that's what confirms the validity of the phrase above. The project timeline determines the resources required to optimally complete each project activity, Which avoids the workers the burden of additional work and the consequent delay in the workflow and additional costs that must be avoided, and this is one of the most important benefits of the project timeline.

f. Project time organization allows ample space to accurately review completed tasks

Table 4.12: Project Time Organization

Project time organization allows ample space to accurately review completed tasks	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	25	68	9	10	0	115
percentage	22%	61%	8%	9%	0%	100%

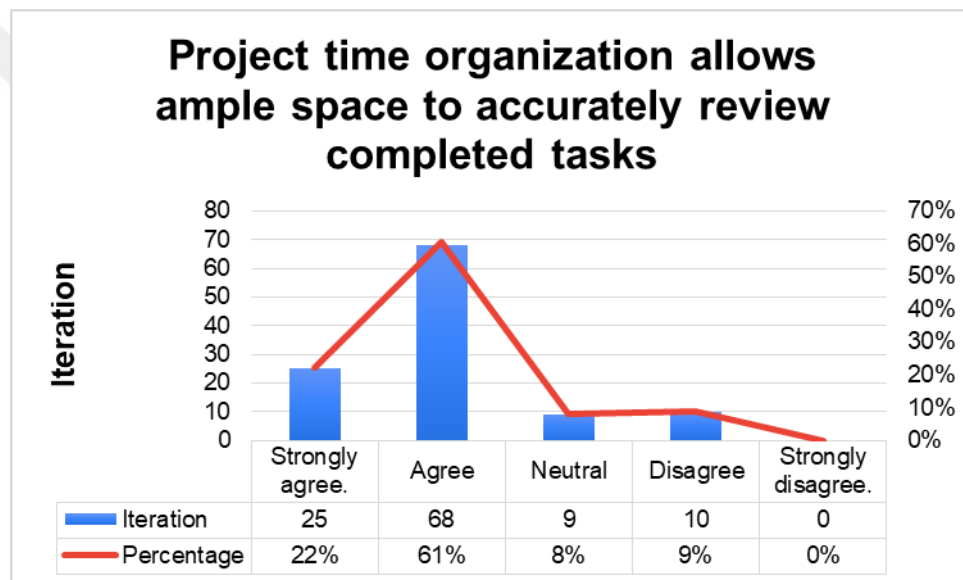


Figure 4.12: Project Time Organization.

Through results in the Table and Figure above about the statement (Project time organization allows ample space to accurately review completed tasks) , it is clear to us that 22% of the iteration sided with strongly agree , 61% of the iteration sided with agree , 8% of the iteration sided with neutral , 9% of the iteration sided with disagree and 0% of the iteration sided with strongly disagree, Since the highest percentage of the sample that sided with agree corresponds to 50% And that's what confirms the validity of the phrase above.

- g. Project time is organized based on the importance of activities in the daily schedule of the project

Table 4.13: Project Time and Daily Schedule.

Project time is organized based on the importance of activities in the daily schedule of the project	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	31	61	8	13	2	115
percentage	27%	53%	7%	11%	2%	100%

Through results in the Table and Figure above about the statement (Project time is organized based on the importance of activities in the daily schedule of the project) , it is clear to us that 27% of the iteration sided with strongly agree , 53% of the iteration sided with agree , 7% of the iteration sided with neutral , 11% of the iteration sided with disagree and 2% of the iteration sided with strongly disagree, Since the highest percentage of the sample that sided with agree corresponds to 53% And that's what confirms the validity of the phrase above . As long as there is a diversity of tasks and the role of each of them in the project, here is the unique potential of the project manager in how to apply project management professionally and highly by adopting a comprehensive and accurate schedule with the agreement of the members of the working team on the project to determine the priorities and risks and how to address them.

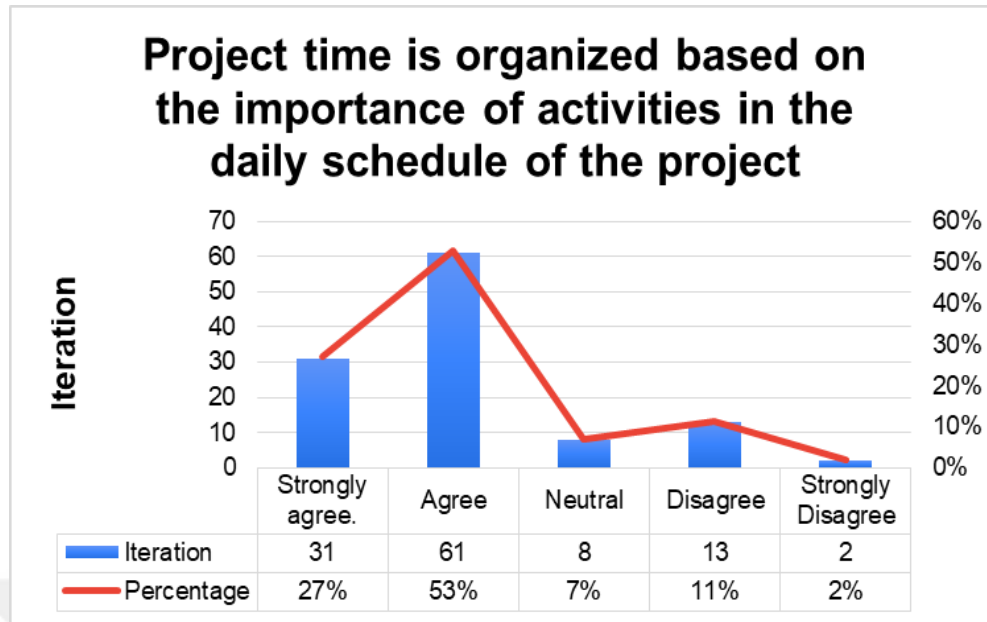


Figure 4.13: Project Time and Daily Schedule.

Through results in the Table and Figure above about the statement (Project time is organized based on the importance of activities in the daily schedule of the project) , it is clear to us that 27% of the iteration sided with strongly agree , 53% of the iteration sided with agree , 7% of the iteration sided with neutral , 11% of the iteration sided with disagree and 2% of the iteration sided with strongly disagree, Since the highest percentage of the sample that sided with agree corresponds to 53% And that's what confirms the validity of the phrase above . As long as there is a diversity of tasks and the role of each of them in the project, here is the unique potential of the project manager in how to apply project management professionally and highly by adopting a comprehensive and accurate schedule with the agreement of the members of the working team on the project to determine the priorities and risks and how to address them.

- h. The division of tasks for the project plays an important role in organizing project time in the best way, resulting in effective project time management

Table 4.14: The Division of Tasks For The Project.

The division of tasks for the project plays an important role in organizing project time in the best way, resulting in effective project time management	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	37	55	10	12	1	115
percentage	32%	48%	9%	10%	1%	100%

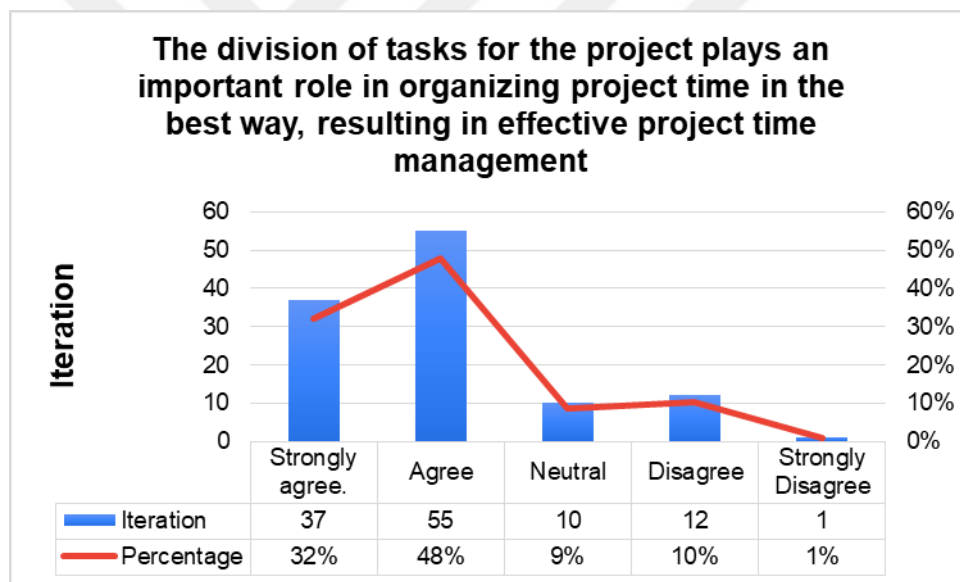


Figure 4.14: The Division of Tasks For The Project.

Through results in the Table and Figure above about the statement (The division of tasks for the project plays an important role in organizing project time in the best way, resulting in effective project time management), it is clear to us that 32% of the iteration sided with strongly agree, 48% of the iteration sided with agree, 9% of the iteration sided with neutral, 10% of the iteration sided with disagree and 1% of the iteration sided with strongly disagree. Since the highest percentage of the sample that sided with agree corresponds to 48% And that's what confirms the validity of the phrase above.

- i. The focus should be on the time available for critical activities in the project without neglecting the rest of the project activities.

Table 4.15: Critical Activities in The Project.

The focus should be on the time available for critical activities in the project without neglecting the rest of the project activities	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	31	61	8	13	2	115
percentage	27%	53%	7%	11%	2%	100%

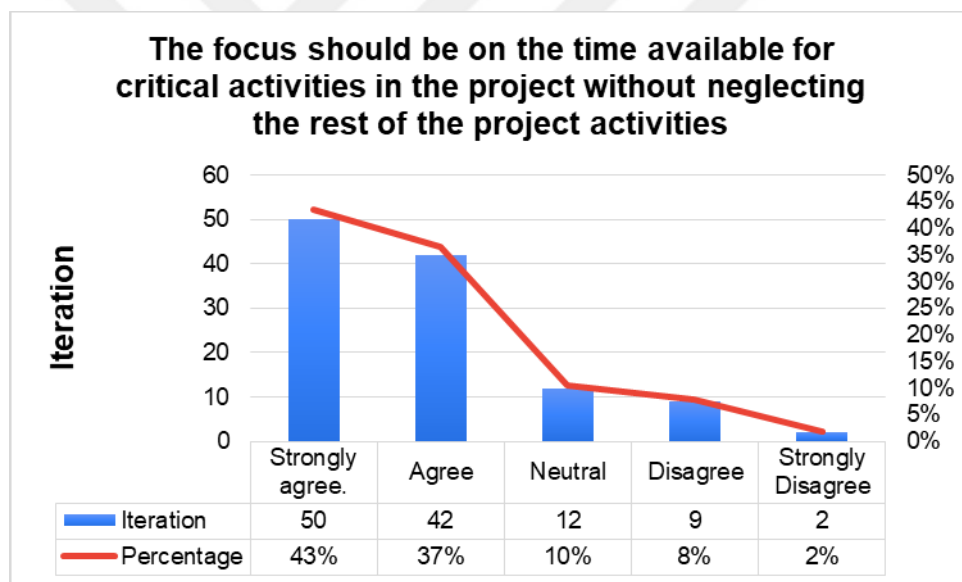


Figure 4.15: Critical Activities in The Project.

Through results in the Table and Figure above about the statement (The division of tasks for the project plays an important role in organizing project time in the best way, resulting in effective project time management), it is clear to us that 27% of the iteration sided with strongly agree, 53% of the iteration sided with agree, 7% of the iteration sided with neutral, 11% of the iteration sided with disagree and 2% of the iteration sided with strongly disagree. Since the highest percentage of the sample that sided with agree corresponds to 53% And that's what confirms the validity of the phrase above. Emphasis on giving the activities on

the critical path additional attention, as they are more important than the other project activities, by following up and making an inventory of all activities and events on a daily and weekly basis to ensure that no change occurs in the critical project path and to control it if it occurs

j. Project time management helps meet the challenges the project may face.

Table 4.16: Project Time Management.

Project time management helps meet the challenges the project may face	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	50	43	8	13	1	115
percentage	43%	37%	7%	11%	1%	100%

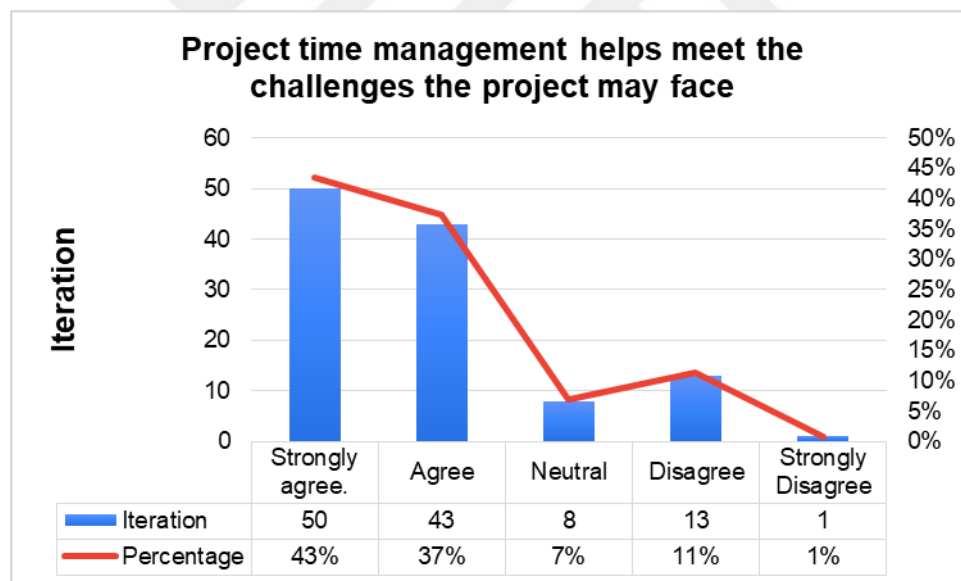


Figure 4.16: Project Time Management.

The Table above , Figure and the frequency of the sample members about the statement (Project time management helps meet the challenges the project may face) show that 43% of the iteration sided with strongly agree , 37% of the iteration sided with agree , 7% of the iteration sided with neutral , 11% of the iteration sided with disagree and 1% of the iteration sided with strongly disagree, Since the highest percentage of the sample that sided with

strongly agree corresponds to 43% And that's what confirms the validity of the phrase above . This reflects the extent of the research sample's awareness of the importance of project time management in facing problems and challenges and addressing them through the ability to prepare and organize an accurate and comprehensive timeline to facilitate the implementation of project activities and achieve the desired goals.

- k. Decisions that can be postponed must be distinguished from those that cannot be postponed in the project

Table 4.17: Postponed in the Project.

Decisions that can be postponed must be distinguished from those that cannot be postponed in the project	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	34	58	11	8	4	115
percentage	30%	50%	10%	7%	3%	100%

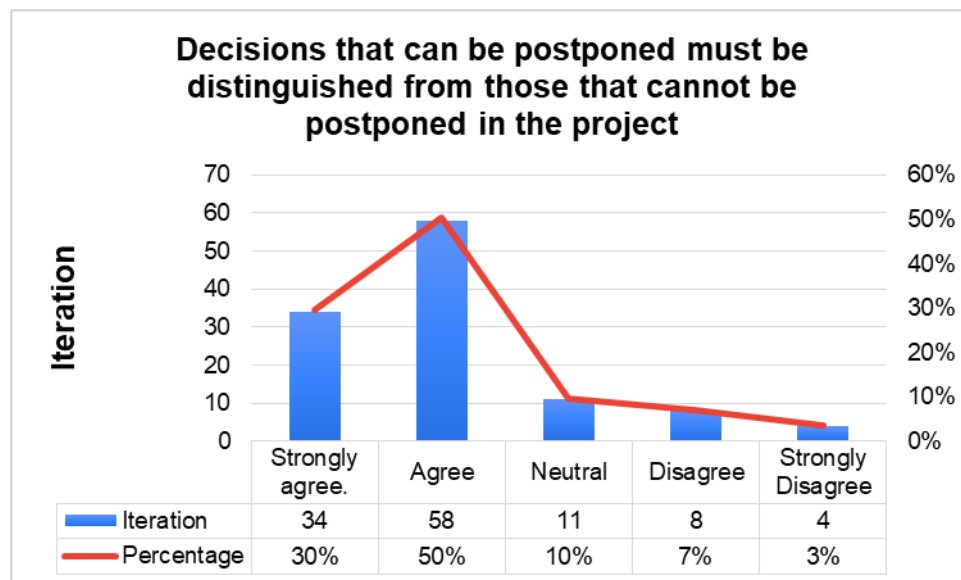


Figure 4.17: Postponed in the Project.

The Table above , Figure and the frequency of the sample members about the statement (Decisions that can be postponed must be distinguished from those that cannot be postponed in the project) show that 30% of the iteration sided with strongly agree , 50% of the iteration sided with agree , 10% of the iteration sided with neutral , 7% of the iteration sided with disagree and 3% of the iteration sided with strongly disagree, Since the highest percentage of the sample that sided with agree corresponds to 50% And that's what confirms the validity of the phrase above , As the sample sided with the approval of the statement based on their ability to determine what decisions can be postponed and what cannot be postponed and the consequent delay in completing the project and deciding what needs to be resolved in order to ensure the progress of work .

1. Clarifying the activities to be implemented contributes to guiding project time towards the shortest route and the best results

Table 4.18: Clarifying the Activities.

Clarifying the activities to be implemented contributes to guiding project time towards the shortest route and the best results	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	37	56	8	12	2	115
percentage	32%	49%	7%	10%	2%	100%

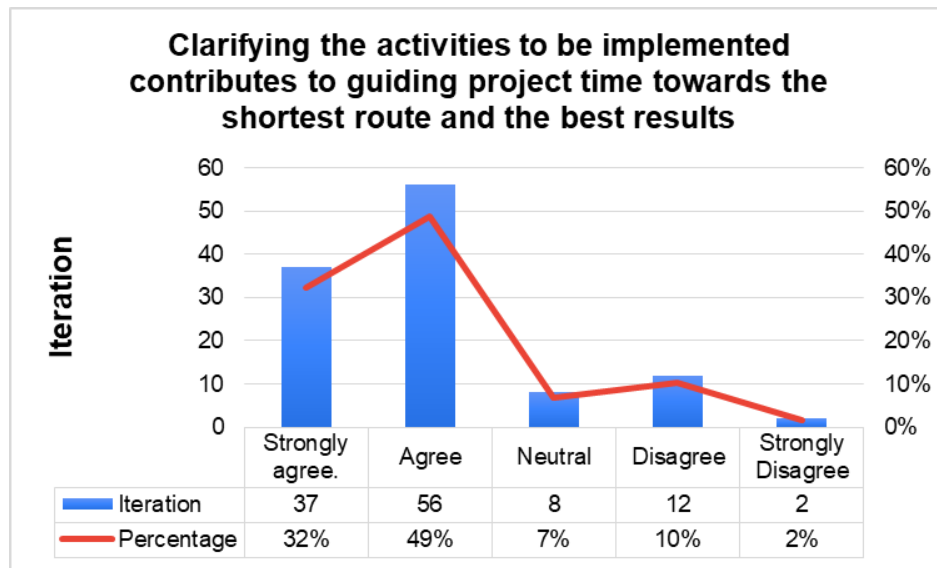


Figure 4.18: Clarifying the Activities.

The Table above , Figure and the frequency of the sample members about the statement (Clarifying the activities to be implemented contributes to guiding project time towards the shortest route and the best results) show that 32% of the iteration sided with strongly agree , 49% of the iteration sided with agree , 7% of the iteration sided with neutral , 10% of the iteration sided with disagree and 2% of the iteration sided with strongly disagree, Since the highest percentage of the sample that sided with agree corresponds to 49% And that's what confirms the validity of the phrase above .

- m. Balancing activities to be carried out with the time needed to implement them contributes to better project time management

Table 4.19: Balancing Activities.

Balancing activities to be carried out with the time needed to implement them contributes to better project time management	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	24	69	8	13	1	115
percentage	21%	60%	7%	11%	1%	100%

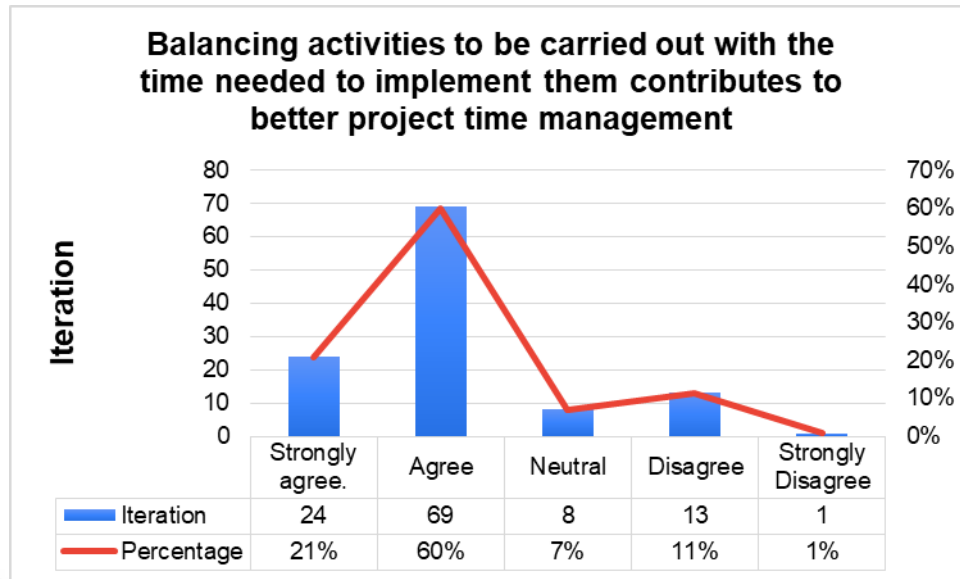


Figure 4.19: Balancing Activities.

The Table above , Figure and the frequency of the sample members about the statement (Clarifying the activities to be implemented contributes to guiding project time towards the shortest route and the best results) show that 21% of the iteration sided with strongly agree , 60% of the iteration sided with agree , 7% of the iteration sided with neutral , 11% of the iteration sided with disagree and 1% of the iteration sided with strongly disagree, Since the highest percentage of the sample that sided with agree corresponds to 60% And that's what confirms the validity of the phrase above , Some activities can be carried out sequentially and some can be carried out simultaneously, all depends on the skill in balancing activities and project managers must work to balance activities in the timeline in a way that uses project resources efficiently and effectively that contributes to better project time management .

n. Reducing paperwork to better guide project time towards the desired goals

Table 4.20: Reducing Paperwork.

Reducing paperwork to better guide project time towards the desired goals	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	35	41	15	21	3	115
percentage	30%	36%	13%	18%	3%	100%

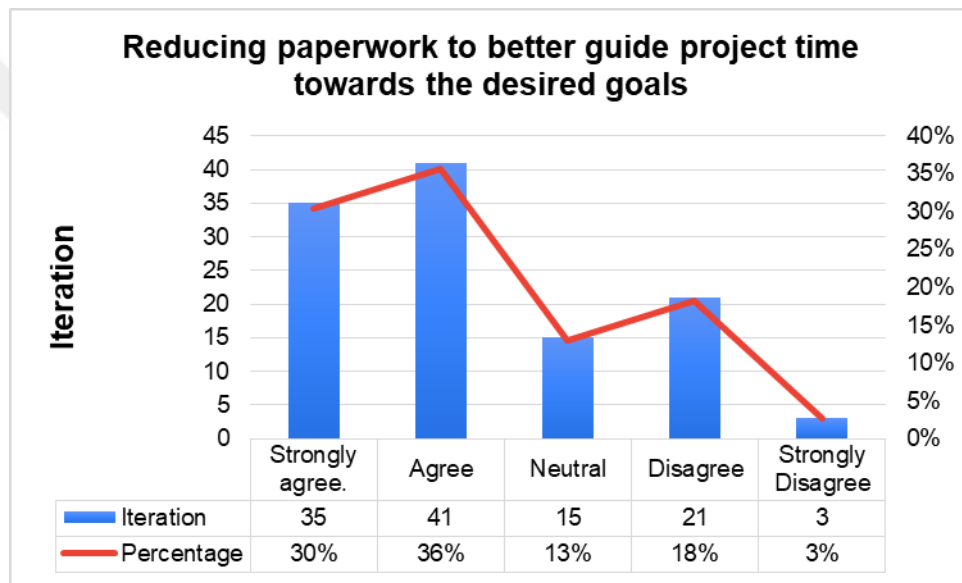


Figure 4.20: Reducing Paperwork.

The Table above , Figure and the frequency of the sample members about the statement (Reducing paperwork to better guide project time towards the desired goals) show that 30% of the iteration sided with strongly agree , 36% of the iteration sided with agree , 13% of the iteration sided with neutral , 18% of the iteration sided with disagree and 3% of the iteration sided with strongly disagree, Since the highest percentage of the sample that sided with agree corresponds to 36% so the answers to the above statement varied, but most of the sample members agreed with the statement. This discrepancy is due to the different workplaces of the sample members, the different nature of their work, the administrative procedures followed by them, the extent of the development of the systems adopted in their institutions

in management, and the optimal use of available resources to better guide project time towards the desired goals.

- o. Employee autonomy leads to better results for project time management.

Table 4.21: Employee Autonomy.

Employee autonomy leads to better results for project time management	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	31	47	18	15	4	115
percentage	27%	41%	16%	13%	3%	100%

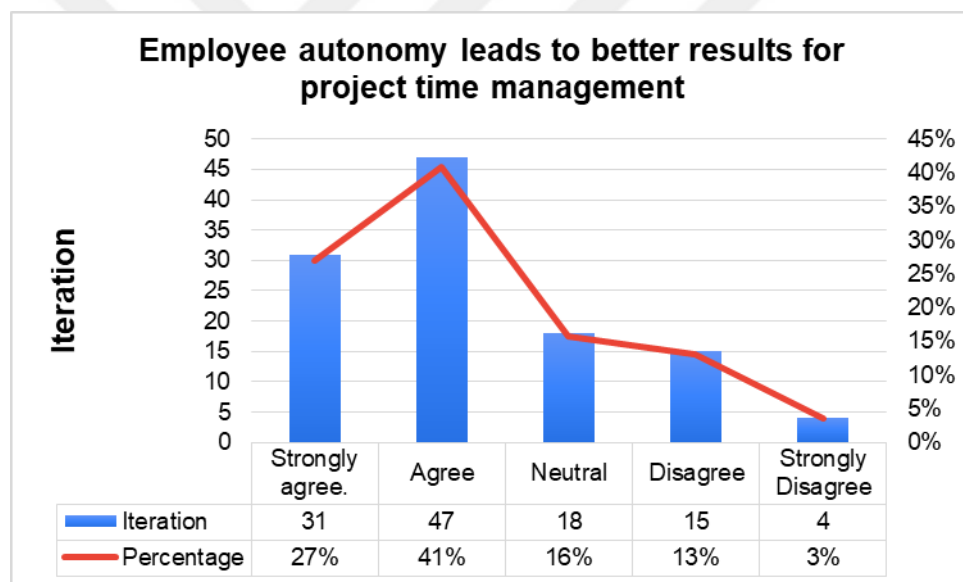


Figure 4.21: Employee Autonomy.

The Table above , Figure and the frequency of the sample members about the statement (Employee autonomy leads to better results for project time management) show that 27% of the iteration sided with strongly agree , 41% of the iteration sided with agree , 16% of the iteration sided with neutral , 13 % of the iteration sided with disagree and 3% of the iteration sided with strongly disagree, the highest percentage of the sample that sided with agree corresponds to 41% However, this requires the selection of competent employees who have

the self-motivation to increase the effort and productivity when giving them autonomy, and thus achieve better results in managing the time of the project.

- p. The task of monitoring project time is manifested by comparing the current performance of the project with the previously planned performance.

Table 4.22: The Task of Monitoring Project Time.

The task of monitoring project time is manifested by comparing the current performance of the project with the previously planned performance	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	43	50	9	13	0	115
percentage	37%	43%	8%	11%	0%	100%

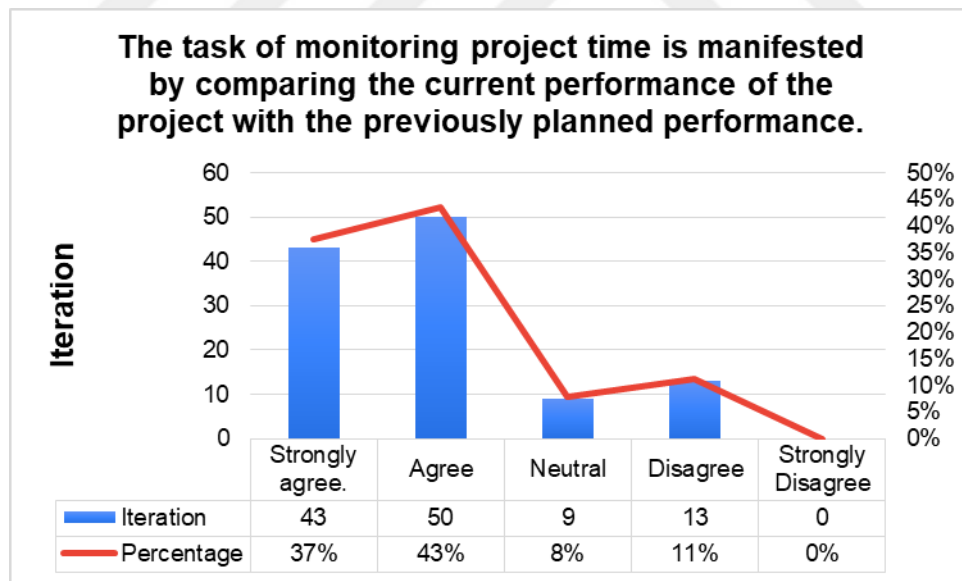


Figure 4.22: The Task of Monitoring Project Time.

The Table above , Figure and the frequency of the sample members about the statement (The task of monitoring project time is manifested by comparing the current performance of the project with the previously planned performance) show that 37% of the iteration sided

with strongly agree , 43% of the iteration sided with agree , 8% of the iteration sided with neutral , 11 % of the iteration sided with disagree and 0% of the iteration sided with strongly disagree, Since the highest percentage of the sample corresponds to 43% that sided with agree , This is a positive indicator in the sample members' awareness of the role of project monitoring in comparing the non-performance with the previous planned performance to assess the proper progress of implementation and to ensure that the work is taking place within what is planned

- q. The purpose of project time control is to correct the deviation in the project schedule and not to impose fines because of delays.

Table 4.23: The Purpose of Project Time Control.

The purpose of project time control is to correct the deviation in the project schedule and not to impose fines because of delays	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	53	39	11	11	1	115
percentage	46%	34%	10%	10%	1%	100%

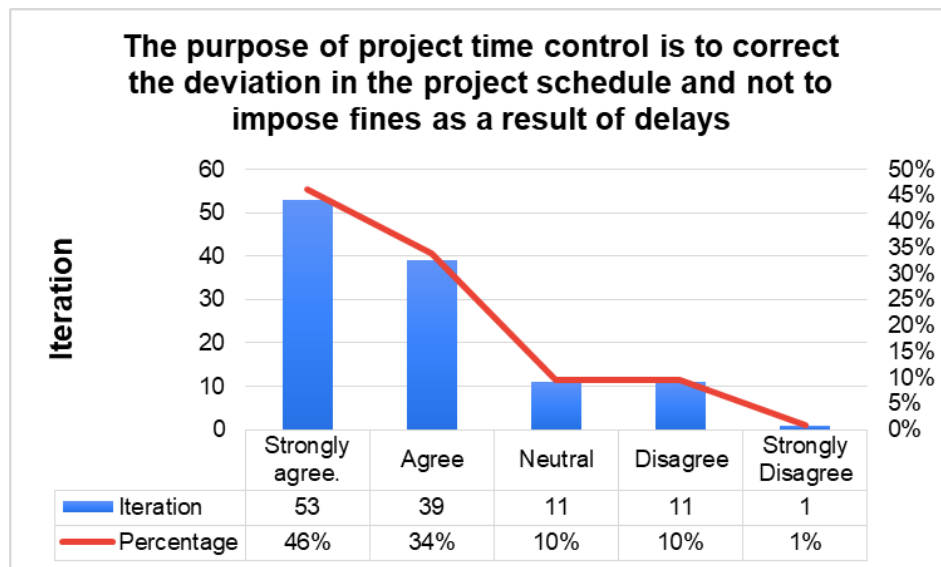


Figure 4.23: The Purpose of Project Time Control.

The Table above , Figure and the frequency of the sample members about the statement (The purpose of project time control is to correct the deviation in the project schedule and not to impose fines as a result of delays) show that 46% of the iteration sided with strongly agree , 34% of the iteration sided with agree , 10% of the iteration sided with neutral , 10 % of the iteration sided with disagree and 1% of the iteration sided with strongly disagree, Since the highest percentage of the sample corresponds to 46% that sided with strongly agree, so that requires that control be synchronized with work to monitor the deviation in the event of its occurrence and correct it to return the project to its planned course and get rid of the risk of delay penalties .

- r. The existence of an incentive system for employees increases project time control, ensuring that activities are implemented in accordance with agreed controls and specifications.

Table 4.24: The Existence of An Incentive System.

The existence of an incentive system for employees increases project time control, ensuring that activities are implemented in accordance with agreed controls and specifications	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	51	33	14	16	1	115
percentage	44%	29%	12%	14%	1%	100%

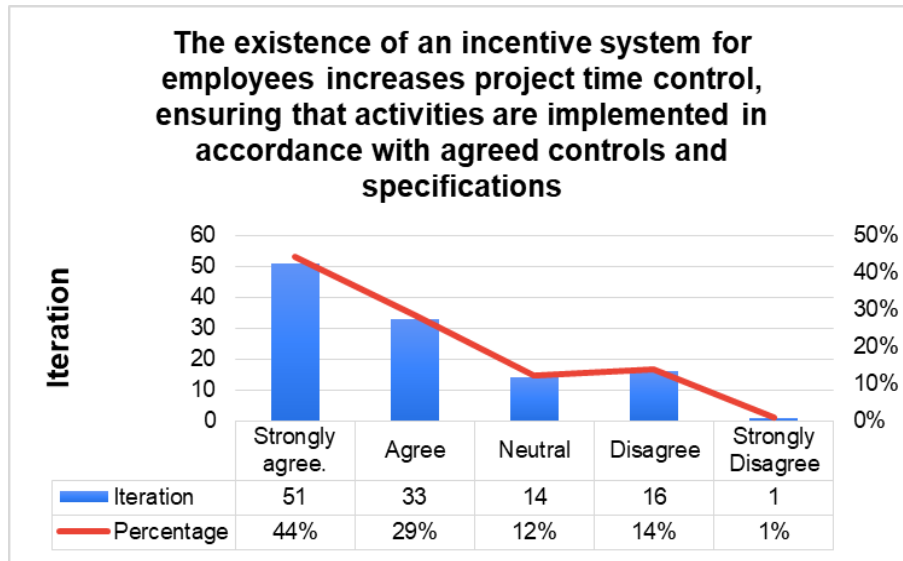


Figure 4.24: The Existence of An Incentive System.

The Table above , Figure and the frequency of the sample members about the statement (The existence of an incentive system for employees increases project time control, ensuring that activities are implemented in accordance with agreed controls and specifications) show that 44% of the iteration sided with strongly agree , 29% of the iteration sided with agree , 12% of the iteration sided with neutral , 14% of the iteration sided with disagree and 1% of the iteration sided with strongly disagree, As it is one of the most important factors of time management is to encourage employees and motivate them to complete their tasks on time, so most of the sample members sided with strongly agree .

s. Effective project control improves staff performance.

Table 4.25: Effective Project Control Improves Staff Performance.

Effective project control improves staff performance	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	34	58	13	7	3	115
percentage	30%	50%	11%	6%	3%	100%

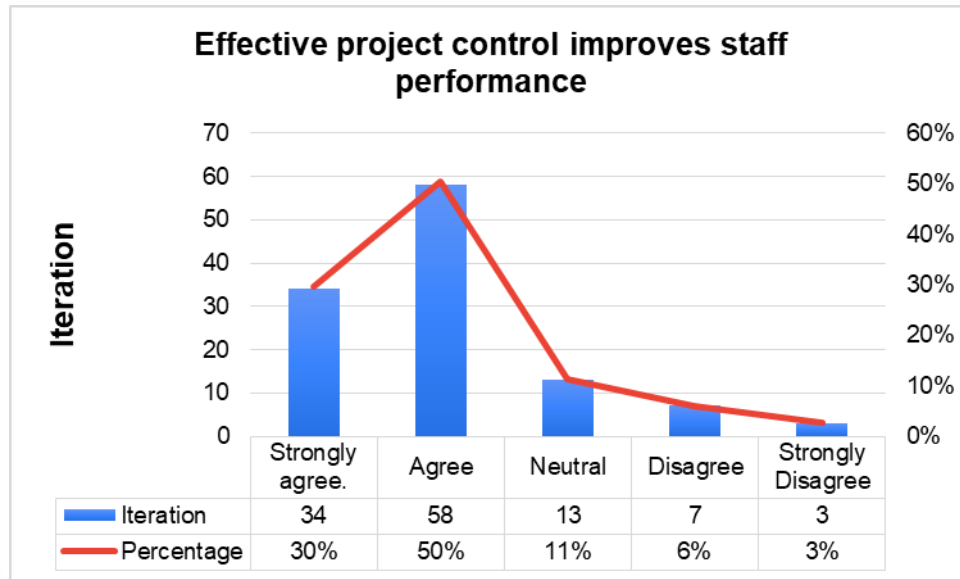


Figure 4.25: Effective Project Control Improves Staff Performance.

After reading the results in the Table and Figure above, we notice that the sample members distributed their answers about (Effective project control improves staff performance as follows) that 30% of the iteration sided with strongly agree , 50% of the iteration sided with agree , 11% of the iteration sided with neutral , 6% of the iteration sided with disagree and 3% of the iteration sided with strongly disagree . The highest percentage of the sample members agreed strongly with the above statement, as the experience of the individual among them enables him to realize that employees perform their duties to the best of their abilities when there is support, training and appropriate selection of the employee in his workplace in line with his capabilities according to the nature of the work to excel and excel in completing the tasks assigned to him on time. This and more happens when there is effective control over the project Planning and auditing for the purpose of reaching the project to its desired goals on time.

t. Project time control must be controlled by workers in self-monitoring manner

Table 4.26: Workers in Self-Monitoring Manner.

Project time control must be controlled by workers in self-monitoring manner	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	30	54	10	18	3	115
percentage	26%	47%	9%	16%	3%	100%

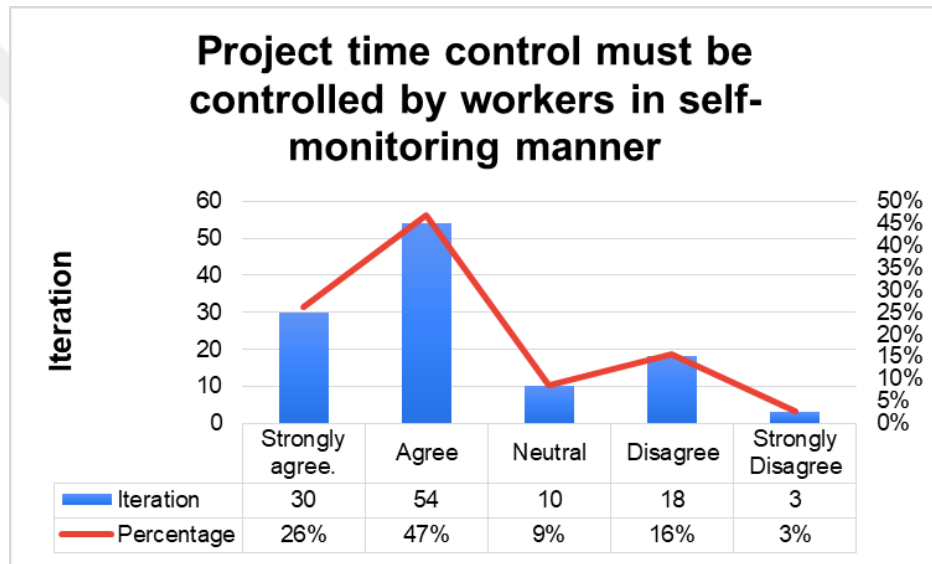


Figure 4.26: Workers in Self-Monitoring Manner.

After reading the results in the Table and Figure above, we notice that the sample members distributed their answers about (Project time control must be controlled by workers in self-monitoring manner) that 26% of the iteration sided with strongly agree , 47% of the iteration sided with agree , 10% of the iteration sided with neutral , 16% of the iteration sided with disagree and 3% of the iteration sided with strongly disagree . The highest percentage of the sample members agreed with the above statement , As long as giving the workers self-monitoring increases the factor of trust between the management and the workers themselves, when there is good effective control that improves the selection of workers in the appropriate places and in proportion to their abilities and constantly monitors their performance within the period specified for them

- u. The closer the actual completion of the project workers to the planned completion, the higher the level of completion in the project.

Table 4.27: Planned Completion.

The closer the actual completion of the project workers to the planned completion, the higher the level of completion in the project.	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	58	36	11	8	2	115
percentage	50%	31%	10%	7%	2%	100%

After reviewing the results in the Table and Figure above, we notice that the sample members distributed their answers about (The closer the actual completion of the project workers to the planned completion, the higher the level of completion in the project.) that 50% of the iteration sided with strongly agree , 31% of the iteration sided with agree , 10% of the iteration sided with neutral , 7 % of the iteration sided with disagree and 2% of the iteration sided with strongly disagree . The highest percentage of the sample members strongly agreed with the above statement that indicates the extent to which the sample members are aware of the importance of comparing the actual achievement with the planned one to determine the efficiency of the project with the completion in its planned time with the least possible deviation from the schedule prepared for the project and the least possible number of spare orders and additional periods.

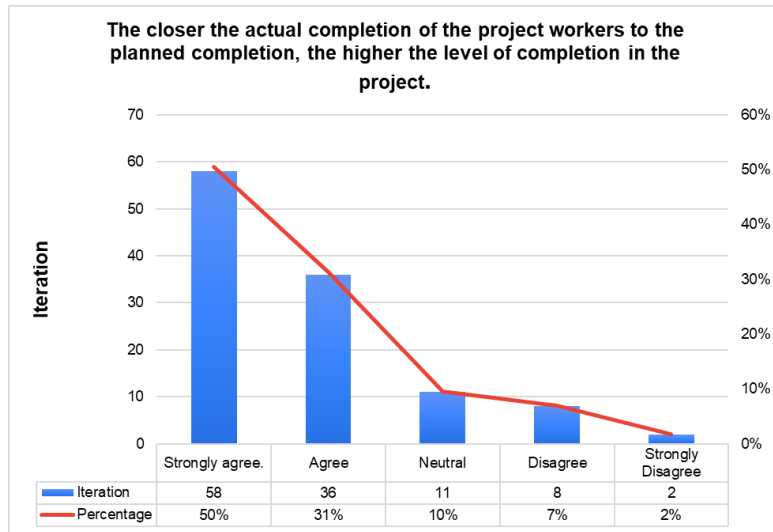


Figure 4.27: Planned Completion.

- v. Identifying the reasons for workers' poor work achievement can help address deviation in the project schedule in order to increase the efficiency of their performance

Table 4.28: Identifying the Reasons For Workers' Poor Work Achievement.

Identifying the reasons for workers' poor work achievement can help address deviation in the project schedule in order to increase the efficiency of their performance	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	50	42	8	13	2	115
percentage	43%	37%	7%	11%	2%	100%

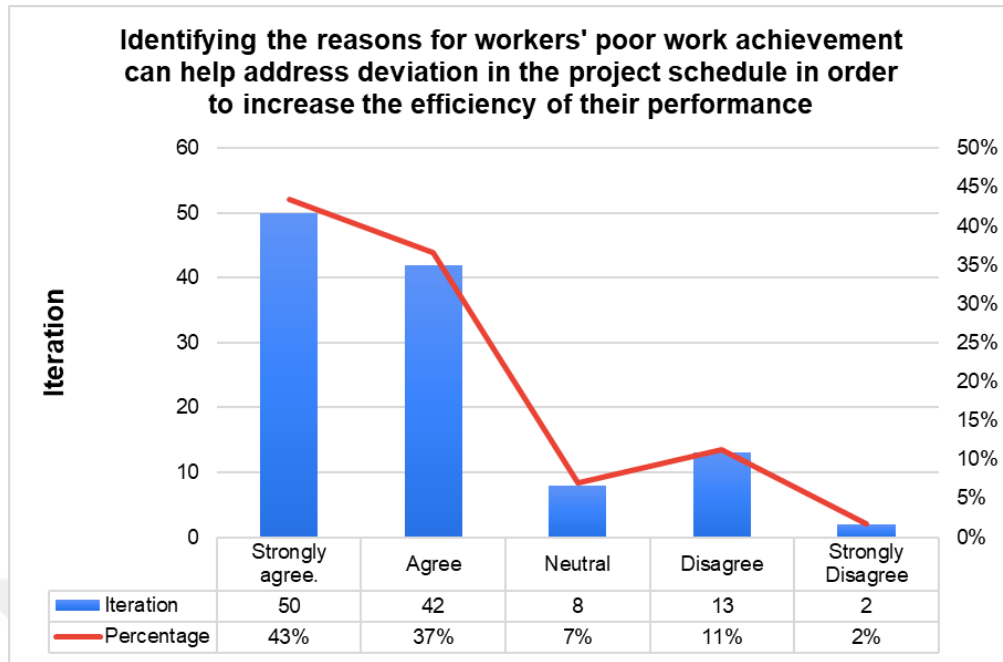


Figure 4.28: Identifying the Reasons For Workers' Poor Work Achievement.

After reviewing the results in the Table and Figure above, we notice that the sample members distributed their answers about (Identifying the reasons for workers' poor work achievement can help address deviation in the project schedule in order to increase the efficiency of their performance) that 43% of the iteration sided with strongly agree , 37% of the iteration sided with agree , 7% of the iteration sided with neutral , 11% of the iteration sided with disagree and 2% of the iteration sided with strongly disagree . The highest percentage of the sample members strongly agreed with the above statement , that is a positive indicator that characterizes the sample members in managing the performance of employees to complete their tasks in their planned time.

w. The level of completion of project workers is directly affected by the successful management of project time

Table 4.29: The Successful Management of Project Time.

The level of completion of project workers is directly affected by the successful management of project time	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	42	53	3	15	2	115
percentage	37%	46%	3%	13%	2%	100%

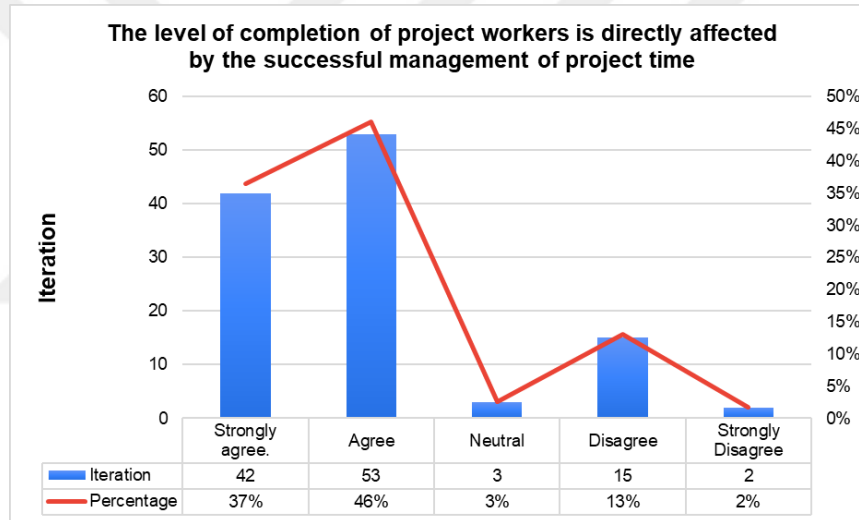


Figure 4.29: The Successful Management of Project Time.

After reviewing the results in the Table and Figure above, we notice that the sample members distributed their answers about (The level of completion of project workers is directly affected by the successful management of project time) that 37% of the iteration sided with strongly agree , 46% of the iteration sided with agree , 3% of the iteration sided with neutral , 13% of the iteration sided with disagree and 2% of the iteration sided with strongly disagree Most of the sample members by a percentage of 46% agreed with the above statement in that getting the project to the completion stage is considered a measure of successful time management, which is based mainly on the comprehensive accurate scheduling and setting the priorities and the desired goal without any waste of any resource in the project .

- x. Senior project management raises workers' performance by training them to manage project time properly.

Table 4.30: Manage Project Time Properly.

Senior project management raises workers' performance by training them to manage project time properly	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	35	57	8	11	4	115
percentage	30%	50%	7%	10%	3%	100%

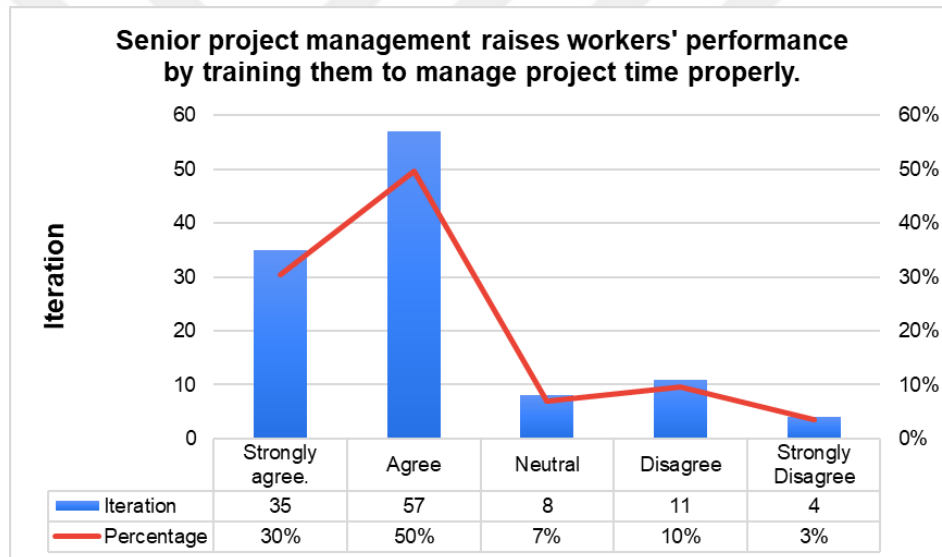


Figure 4.30: Manage Project Time Properly.

After reviewing the results in the Table and Figure above, we notice that the sample members distributed their answers about (Senior project management raises workers' performance by training them to manage project time properly) that 30% of the iteration sided with strongly agree , 50% of the iteration sided with agree , 7% of the iteration sided with neutral , 10 % of the iteration sided with disagree and 3% of the iteration sided with strongly disagree Most of the sample members by a percentage of 46% agreed with the above statement .

- y. Successful project management must consider the human component of workers to increase the efficiency of their work, ensuring the progress of the project.

Table 4.31: The Human Component of Workers.

Successful project management must consider the human component of workers in order to increase the efficiency of their work, ensuring the progress of the project.	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	41	50	10	12	2	115
percentage	36%	43%	9%	10%	2%	100%

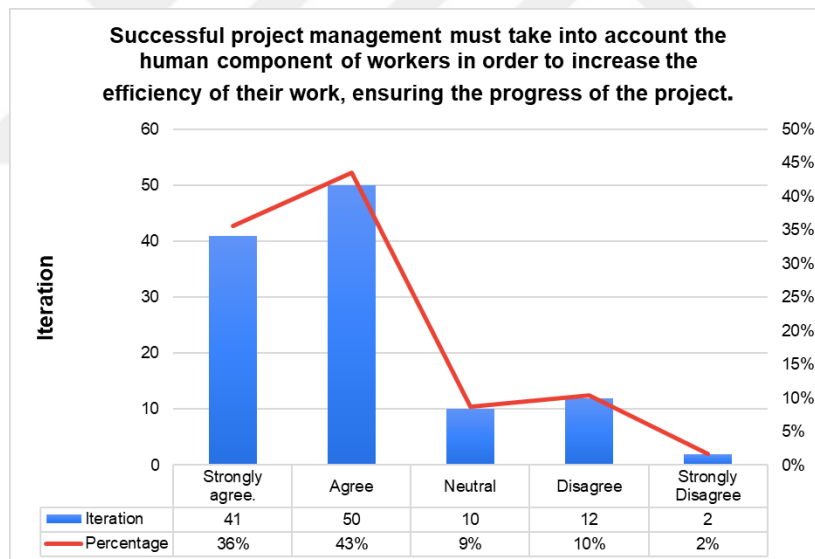


Figure 4.31: The Human Component of Workers.

After reviewing the results in the Table and Figure above, we notice that the sample members distributed their answers about (Successful project management must take into account the human component of workers in order to increase the efficiency of their work, ensuring the progress of the project) that 36% of the iteration sided with strongly agree , 43% of the iteration sided with agree , 9% of the iteration sided with neutral , 10 % of the iteration sided

with disagree and 2% of the iteration sided with strongly disagree Most of the sample members by a percentage of 43% agreed with the above statement , As good management and the right leadership of the project work to make the project workers work as one unit and maintain their enthusiasm and development to increase productivity and efficiency throughout the life of the project .

- z. Organizing the time of staff and management and educating them in the field of time management care increases the productivity of the project.

Table 4.32: Staff and Management and Educating.

Organizing the time of staff and management and educating them in the field of time management care increases the productivity of the project.	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	49	44	11	10	1	115
percentage	43%	38%	10%	9%	1%	100%

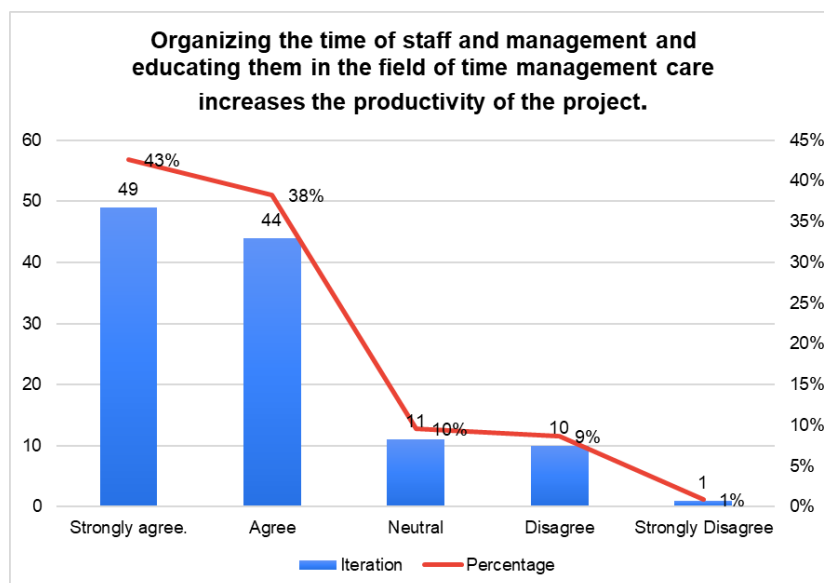


Figure 4.32: Staff and Management and Educating.

After reviewing the results in the Table and Figure above, we notice that the sample members distributed their answers about (Organizing the time of staff and management and educating them in the field of time management care increases the productivity of the project) that 43% of the iteration sided with strongly agree , 38% of the iteration sided with agree , 10% of the iteration sided with neutral , 9 % of the iteration sided with disagree and 1% of the iteration sided with strongly disagree Most of the sample members by a percentage of 43% strongly agreed with the above statement . Organizing the time of employees and management and educating them in the field of time management care increases the productivity of the project through the conscious organization of time and knowing the time needed to complete the activities on time with the highest efficiency and the least possible time by training and using the necessary expertise in the field of project planning and scheduling to increase its productivity.

- aa. Project time management demonstrates the authority and responsibility of the project workers, and this reflects positively on the productivity of the project, but poor management negatively affects productivity.

Table 4.33: The Authority and Responsibility of The Project Workers.

Project time management demonstrates the authority and responsibility of the project workers, and this reflects positively on the productivity of the project, but poor management negatively affects productivity.	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	53	39	13	9	1	115
percentage	46%	34%	11%	8%	1%	100%

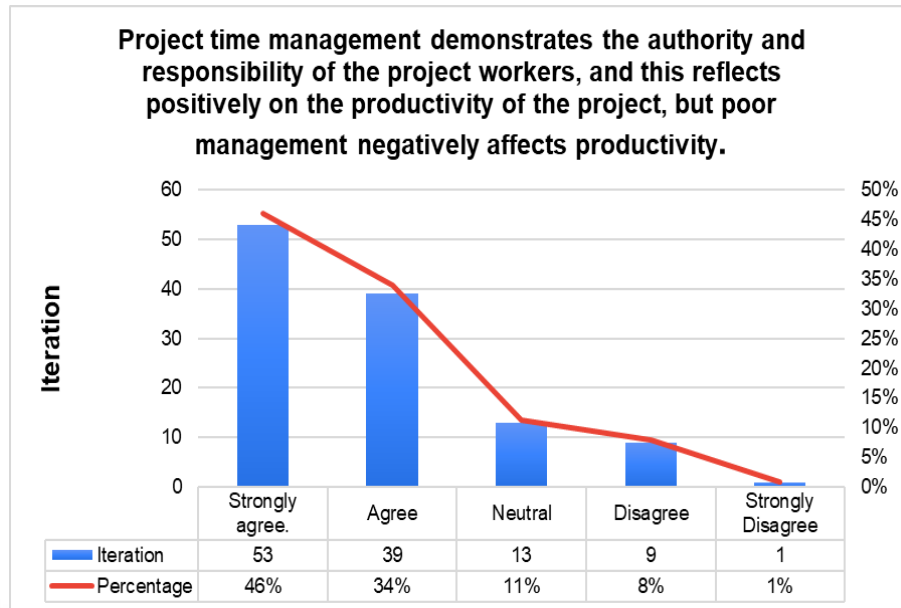


Figure 4.33: The Authority and Responsibility of The Project Workers.

After reviewing the results in the Table and Figure above, we notice that the sample members distributed their answers about (Project time management demonstrates the authority and responsibility of the project workers, and this reflects positively on the productivity of the project, but poor management negatively affects productivity) that 46% of the iteration sided with strongly agree , 34% of the iteration sided with agree , 11% of the iteration sided with neutral , 8 % of the iteration sided with disagree and 1% of the iteration sided with strongly disagree Most of the sample members by a percentage of 46% strongly agreed with the above statement .

bb. Effective project time monitoring detects the difficulties and problems workers face in carrying out their tasks, leading to increased productivity.

Table 4.34: Effective Project Time Monitoring.

Effective project time monitoring detects the difficulties and problems workers face in carrying out their tasks, leading to increased productivity	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Iteration	47	47	5	13	3	115
percentage	41%	41%	4%	11%	3%	100%

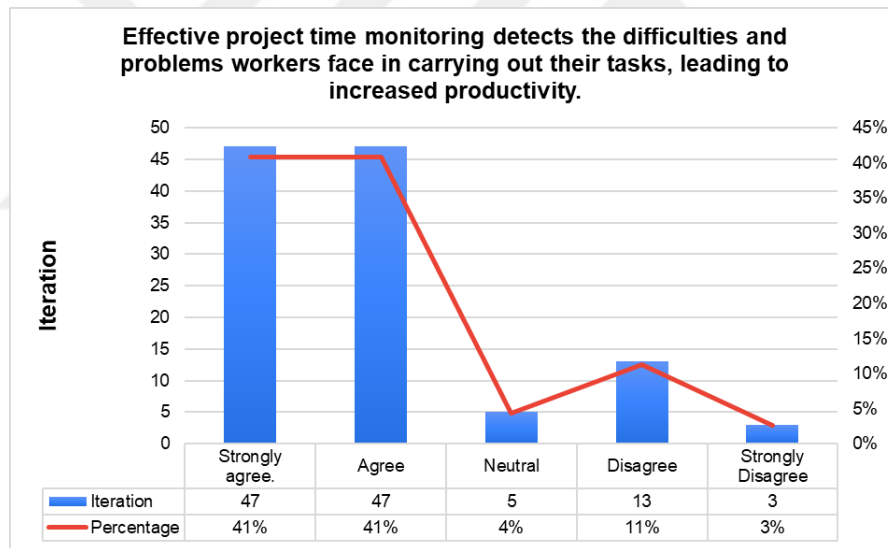


Figure 4.34: Effective Project Time Monitoring.

After reviewing the results in the Table and Figure above, we notice that the sample members distributed their answers about (Effective project time monitoring detects the difficulties and problems workers face in carrying out their tasks, leading to increased productivity) that 41% of the iteration sided with strongly agree , 41% of the iteration sided with agree , 4% of the iteration sided with neutral , 11 % of the iteration sided with disagree and 3% of the iteration sided with strongly disagree Most of the sample members by a percentage of 41%

strongly agreed with the above statement , To stave off problems, overcome difficulties and reduce the risks of delays in completing work and the consequent claims and disputes that impede the progress of work and cause many losses and affects the productivity of the project

.



5. CONCLUSION AND FUTURE WORKS

5.1 CONCLUSION

After a thorough investigation of the crucial role that efficiency plays in the success of businesses in the construction sector, this study has shed light on the significance of staff performance and time management abilities. Organizations can reach the required levels of productivity and profitability by taking a holistic strategy that considers a variety of elements, including the work environment, the culture of accountability, leadership styles, and micromanagement. According to this survey, businesses should put a high priority on training employees in time management skills and putting good productivity-boosting measures in place. They can get better project results, greater client happiness, and an industry competitive advantage by doing this.

This study also highlights the need for additional research into the efficiency of leadership and time management philosophies in the construction sector. Organizations need to be flexible and innovative to stay competitive in the market as the sector develops further. By underlining the importance of effectiveness, time management, and personnel performance, this study contributes significantly to the field of construction project management. Organizations can put themselves in a position for future success, and sustained growth, by taking a proactive stance that prioritizes these criteria.

5.2 FUTURE WORKS

- a. When it comes to the management of time in construction projects, focusing on the most important issues is analogous to establishing a solid foundation for a structure; it not only establishes the stage for success but also guarantees that the project will proceed easily.
- b. The Enhancer tool acts as a reliable companion that guides employees through the treacherous landscape of effective time management by delivering to them the insights and recommendations, they need to improve areas of their performance that are not meeting expectations.

- c. The findings of the study are transformed from a simple collection of data into a road map for the success of building projects when employees are provided the opportunity to take control of their own time management abilities through the Enhancer application.
- d. The Enhancer database serves as a veritable treasury of information for staff members, providing them with specific guidance and recommendations that are important for developing the company. It is the equivalent of having access to an experienced mentor who can guide employees through the ups and downs of time management in the construction business, so assisting them in achieving their goals and optimizing the levels of productivity at which they operate.



REFERENCES

- [1] Abdulrab, M., Zumrah, A. R., Almaamari, Q., & Al-Tahitah, A. (2017). Transformational Leadership and Psychological Empowerment in Malaysian Public Universities: A Review Paper. *development*, 7(24).
- [2] Ahmed, F., & Almaamari, Q. (2020). Understanding the Relationship Between Training, Motivation and Working Environment and Employee Performance in the Banking Sector in Bahrain. *International Journal ofIntellectmal Human Resource Management (InHRM)*, 1(01), 64-68.
- [3] Al-Harethi, A. A. M., & Al-Maamari, Q. A. (2018). The Impact of Strategic Planning on Improving Institutional Performance at Limkokwing University of Creative Technology in Malaysia. *International Journal of Psychology and Cognitive Science*, 4(3), 112-129.
- [4] Al-Maamari, Q. A., Al-Absy, M. S., Alkadash, T., Alzgool, M. R., Abdullah, M. A., & Bojiah, J. (2020). THE MODERATING EFFECT OF ORGANIZATIONAL CULTURE ON THE RELATIONSHIP BETWEEN TOTAL QUALITY MANAGEMENT PRACTICES AND INDIVIDUAL READINESS FOR TQM IMPLEMENTATION AT YEMEN OIL UNIT. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 17(7), 6204-6230.
- [5] Al-Maamari, Q. A., Kassim, R.-n. M., Raju, V., Al-Tahitah, A., Ameen, A. A., & Abdulrab, M. (2018). Factors affecting individual readiness for change: A conceptual framework. *International Journal of Management and Human Science (IJMHS)*, 2(1), 13-18.
- [6] Al-Maamari, Q. A., & Raju, V. (2020). Does Organizational Commitment affect Individual Readiness for Total Quality Management (TQM) Implementation?
- [7] Al-Omari, K., & Okasheh, H. (2017). The influence of work environment on job performance: A case study of engineering company in Jordan. *International Journal of Applied Engineering Research*, 12(24), 15544-15550.

- [8] Al-Tahitah, A., Muthaliff, M. M.A., Abdulrab, M., & Al-Maamari, Q. A. (2018). Paper Review on the Relationship Between Transformational Leadership and Readiness for Change. *International Journal of Energy Policy and Management*, 3(1), 1-7.
- [9] Alaghbari, W., Al-Sakkaf, A. A., & Sultan, B. (2019). Factors affecting construction labour productivity in Yemen. *International Journal of Construction Management*, 19(1), 79-91.
- [10] Alarcon, A. L., Arzaga, L. J. O., Baguio, L. B., Sanvictores, M. S. L. O., & Platon, J. R. (2021). THE IMPACT OF WORK ENVIRONMENT ON THE PRODUCTIVITY AND JOB SATISFACTION OF THE EMPLOYEES IN BPO COMPANIES IN QUEZON CITY. *Business and Management*, 13(1).
- [11] Alkadash, T. M. (2020). Theory of transformational leadership towards employee performance as sequence of supply chain model: The mediating effect of job autonomy in Palestine Banks during covid- 19 pandemic. *International Journal of Supply Chain Management (IJSCM)*[ISSN 2050-7399 (Online), 2051-3771 (Print)].
- [12] Alkadash, T. M., Jun Bo, S., Beshar, B., Almaamari, Q., & Mohsen Al-Absy, M. S. (2020). CONCEPTUAL FRAMEWORK ON JOB BURNOUT OF THE EMPLOYEES AND ITS CORRELATIVE FACTORS IN CHINA DURING COVID-19.
- [13] Alsaad, L. H., & Almaamari, Q. A. (2020). A SEMI LITERATURE REVIEW OF FACTORS INFLUENCING EMPLOYEE'S PERFORMANCE AT BANKING SERVICE. *International Journal of Management (IJM)*, 11(8).
- [14] Awan, A. G., & Tahir, M. T. (2015). Impact of working environment on employee's productivity: A case study of Banks and Insurance Companies in Pakistan. *European Journal of Business and Management*, 7(1), 329-345.
- [15] Chetty, V. R. K., & Phung, S. P. (2018). Economics Behind Education: Elements of Development Outcomes through Political Involvement. *Eurasian Journal of Analytical Chemistry*, 13(6), 146-157. <http://www.eurasianjournals.com/Economics->

Behind-Education-Elements-of-Development-Outcomes- through-Political-Involvement,104468,0, 2.htm.

- [16] Durdyev, S., Ismail, S., & Kandymov, N. (2018). Strnctural equation model of the factors affecting constrction labor productivity. *Journal of Constrnction Engineering and Management*, 144(4), 04018007.
- [17] Gandolfi, F., & Stone, S. (2018). Leadership, leadership styles, and servant leadership. *Journal of Management Research*, 18(4), 261-269.
- [18] Mahdiyeh, M., Nakhaei, H., & Kebriaei, A. (2016). Impact of Organizational Culture on Productivity: A Study among Employees of Ministry of Youth and Spo11s, Iran. *INTERNATIONAL JOURNAL*, 3(3).
- [19] Malik, A., Khan, N., Faisal, S., Javed, S., & Faridi, M. R. (2020). AN INVESTIGATION ON LEADERSHIP STYLES FOR THE BUSINESS PRODUCTIVITY AND SUSTAINABILITY OF SMALL MEDIUM ENTERPRISES (SME'S). *International Journal of Entrepreneurship*, 24(5), 1-10.
- [20] Massoudi, A. H., & Hamdi, S. S. A. (2017). The Consequence of work environment on Employees Productivity. *IOSR Journal of Business and Management*, 19(01), 35-42.
- [21] Raju, V. (2018). Theory of Lim law: Leadership style. *Eurasian Journal of Analytical Chemistry*, 13(6), 125-136. <https://www.scopus.com/record/display.uri?eid=2-s2.0-85063l83042&origin=inward&txGid=1105711cl91f9c273lbc76l2fdb1ffae>
- [22] Raju, V. (2021). Implementing Flexible Systems in Doctoral Viva Defense Through Virtual Mechanism. *Global Journal of Flexible Systems Management*, 22(1). <https://doi.org/https://doi.org/10.1007/s4017l-02l-00264-y>
- [23] Rajaei, Z., & Arghavani, A. (2016). INVESTIGATING THE IMPACT OF ORGANIZATIONAL CULTURE O EMPLOYEES'PRODUCTIVITY. *Iioab Journal*, 7, 242-249.
- [24] Rehman, S., Rahman, H. U., Zahid, M., & Asif, M. (2018). Leadership styles, organizational culture and employees' productivity: Fresh evidence from private

- banks of Khyber-Pakhtunkhwa, Pakistan. *Abasyn Journal of Social Sciences*, AICTBM-18, 1-15.
- [25] Rehman, S., Zahid, M., Rahman, H. U., & Habib, M. N. (2019). A Partial Least Squares Approach to the Leadership Styles, Organizational Culture, and Employees' Productivity: A Case of Pakistan Banking Industry. *International Journal of Asian Business and Information Management (IJABIM)*, 10(1), 55-64.
- [26] Setyowati, R., Lambey, L., & Rumokoy, F. S. (2018). THE EFFECT OF LEADERSHIP, WORK ENVIRONMENT, AND DISCIPLINE ON EMPLOYEES' PRODUCTIVITY AT PT. AMRI MARGATAMA CAPITAL. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi*, 5(3).
- [27] Abiola Odutola, (2021), Builders may consider substandard materials as cost of building materials rises over 20% in 6 months, *Real Estate and Construction*, nairametrics, <https://nairametrics.com/2021/09/09/builders-may-consider-substandard-materials-as-cost-of-building-materials-rises-over-20-in-6-months/>
- [28] AbouRizk, S.M., and Zhang, X. (2013). Decision support system for workforce planning and scheduling in construction projects. *Journal of Construction Engineering and Management*, 139(9), 1131-1142.
- [29] Suliman Saleh Al Freidi, (2014), "Determinants of the Best Practices for Successful Project Management", *International Journal of u- and e- Service, Science and Technology*, Vol.7, No.3 pp.173-186
- [30] Al-Mutairi, N.F., and Al-Ghassani, A.M. (2019). The impact of time management on project success in construction industry. *Journal of Construction in Developing Countries*, 24(2), 19-35.
- [31] Al-Sabah, S., and Suresh, S. (2018). Time management in construction projects. In *Proceedings of the 2018 International Conference on Sustainable Energy and Green Technology (SEGT)* (pp. 187-191). IEEE.

- [32] Alshawhi, M., and Bahaj, A.S. (2014). Investigating the impact of construction project management skills on project success in Saudi Arabia. *Journal of Construction Engineering and Management*, 140(3), 04013031.
- [33] An, M., and Wang, X. (2010). Developing a practical and effective construction labor productivity estimation model. *Journal of Construction Engineering and Management*, 136(8), 880-888.
- [34] Atkinson, R. (1999). Project management: cost, time and quality, two best guesses and a phenomenon, its time to accept other success criteria. *International Journal of Project Management*, 17(6), 337-342.
- [35] Azizi, S., and Aram, S. (2013). Factors affecting the success of construction projects in Iran. *International Journal of Project Management*, 31(1), 28-39.
- [36] Bakar, A.H.A., Baharum, M.R., and Ismail, M.A. (2017). Time management practices among project managers in construction industry. *Journal of Built Environment, Technology and Engineering*, 2, 43-53.
- [37] Barman, P., and Chakrabarty, P. (2018). Effectiveness of time management in construction projects: A case study of an Indian construction company. *Journal of Construction Engineering and Management*, 144(3), 04017118.
- [38] Belout, A., and Gauvreau, C. (2004). Factors influencing project success: the impact of human resource management. *International Journal of Project Management*, 22(1), 1-11.
- [39] Boussabaine, A., and Kirkham, R. (2004). *Project management in construction*. Routledge.
- [40] Bryde, D.J. (2008). *Project management: planning and control techniques* (5th ed.). Ashgate.
- [41] Bubshait, K.A. (2012). Construction project success factors: The Saudi context. *Journal of King Abdulaziz University: Engineering Sciences*, 23(2), 75-88.

- [42] Chan, A.P.C., and Kumaraswamy, M.M. (1997). A comparative study of causes of time overruns in Hong Kong construction projects. *International Journal of Project Management*, 15(1), 55-63.
- [43] Chua, D.K.H., and Kog, Y.C. (1999). Critical success factors for different project objectives. *Journal of Construction Engineering and Management*, 125(3), 142-150.
- [44] Dainty, A.R.J., and Neale, R.H. (1999). Risk management practice in the UK construction industry. *Journal of Construction Research*, 1(1), 57-72.
- [45] Datta, S.K., and Mukherjee, A. (2014). Time management in construction projects: A case study in India. *Journal of Engineering and Applied Sciences*, 9(3), 221-228.
- [46] De Toni, A.F., and Tonchia, S. (2003). Project management in new product development: A comparative study of the USA and Japan. *International Journal of Project Management*, 21(7), 519-524.
- [47] Deloitte. (2017). Global human capital trends: Rewriting the rules for the digital age. Retrieved from <https://www2.deloitte.com/global/en/pages/human-capital/articles/introduction-global-human-capital-trends.html>
- [48] Ebeid, E., and Abdallah, A. (2019). Time management and its impact on construction project success. *International Journal of Engineering Research and Technology*, 12(3), 280-288.
- [49] El-Mashaleh, M.S., and Halawani, J.A. (2015). Time management practices in construction projects in Saudi Arabia. *International Journal of Construction Engineering and Management*, 4(4), 95-102.
- [50] El-Sayegh, S.M., and El-Mashaleh, M.S. (2011). Time management and productivity in construction projects: A case study in Saudi Arabia. *International Journal of Project Management*, 29(6), 671-680.
- [51] El-Sokkary, R.H., and El-Diraby, T.E. (2017). Exploring factors affecting construction project management productivity: Egyptian context. *Journal of Construction Engineering and Management*, 143(7), 04017017.

- [52] Esmaeili, B., and Al-Tabtabai, H. (2013). An empirical study of factors affecting project performance in the UAE construction industry. *Journal of Construction Engineering and Management*, 139(9), 1240-1248.
- [53] Fink, A. (2013). *Conducting research literature reviews: From the internet to paper* (4th ed.). Sage Publications.
- [54] Frimpong, Y., and Oluwoye, J. (2003). Causes of delay and cost overruns in construction of groundwater projects in a developing countries; Ghana as a case study. *International Journal of Project Management*, 21(5), 321-326.
- [55] Gann, D.M., and Salter, A.J. (2000). Innovation in project-based, service-enhanced firms: The construction of complex products and systems. *Research Policy*, 29(7-8), 955-972.
- [56] Gao, R., Sun, Y., and Hwang, B.G. (2018). Project management competence and performance: A bibliometric review. *International Journal of Project Management*, 36(1), 161-174.
- [57] Geraldi, J.G., Thuesen, C., and Oehmen, J. (2016). Relations between project management and innovation in project-based firms. *Project Management Journal*, 47(2), 3-17.
- [58] Goetsch, D.L., and Davis, S.B. (2014). *Quality management for organizational excellence* (8th ed.). Pearson.
- [59] Golmohammadi, D., Ardeshir, A., and Doloi, H. (2016). Time management in construction projects: The case study of Iran. *Journal of Construction Engineering and Management*, 142(8), 05016005.
- [60] Gray, C.F., and Larson, E.W. (2018). *Project management: The managerial process* (7th ed.). McGraw-Hill Education.
- [61] Griffin, M.A., and Neal, A. (2000). Perceptions of safety at work: A framework for linking safety climate to safety performance, knowledge, and motivation. *Journal of Occupational Health Psychology*, 5(3), 347-358.

- [62] Haas, C.T., and Kaplan, S. (2017). The role of project managers in construction safety: Examining knowledge, attitudes, and performance. *Journal of Construction Engineering and Management*, 143(10), 04017072.
- [63] Han, S.H., Kim, S.W., and Park, S.K. (2012). Investigating the relationship between leadership styles and safety performance in Korean construction industry. *Journal of Management in Engineering*, 28(3), 302-309.
- [64] Hapsari, R.D., and Pribadi, K.S. (2017). The importance of time management in construction project management. *Procedia Engineering*, 171, 1032-1039.
- [65] Hartmann, A., and Dorfner, J. (2013). Managing risks in construction projects using the principles of fuzzy logic. *Journal of Construction Engineering and Management*, 139(10), 1263-1273.
- [66] Hayes, R.W., and Flowers, W.C. (2017). *Sustainable construction: Green building design and delivery* (3rd ed.). Wiley.
- [67] He, X., and Wang, Y. (2017). Time management in construction projects. *Journal of Construction Engineering and Management*, 143(10), 04017073.
- [68] Huang, T., and Lin, Y.C. (2017). The influence of teamwork on safety performance in construction projects: A social network analysis approach. *Journal of Construction Engineering and Management*, 143(8), 04017040.
- [69] Jha, K.N., Shankar, R., and Yadav, S.S. (2016). Project management performance drivers in construction: An empirical study. *International Journal of Project Management*, 34(5), 761-779.
- [70] Kerzner, H. (2017). *Project management: A systems approach to planning, scheduling, and controlling* (12th ed.). Wiley.
- [71] Kim, Y.W., and Ballard, G. (2014). The impact of project complexity on schedule forecasting accuracy. *Journal of Construction Engineering and Management*, 140(2), 04013039.

- [72] Klemetti, M., and Isoherranen, V. (2018). Developing project management competencies in a construction company. *International Journal of Construction Management*, 18(3), 242-254.
- [73] Koehn, E., and Maqsood, T. (2016). A comparison of construction project management practices among countries of different development status. *Journal of Construction Engineering and Management*, 142(2), 04015077.
- [74] S. Mahal and S. Naimi, "IMPACT OF PROJECT MANAGEMENT ON SUCCESS CRITERIA", *International Journal on "Technical and Physical Problems of Engineering" (IJTPE)*, Issue 54, Volume 15, Number 1, pages 318-326, March 2023.
- [75] T. Shaker and S. Naimi, "PRODUCTIVITY IN CONSTRUCTIONS WITH ROLE OF SITE EFFECT AND COMPLEXITY VARIABLES", *International Journal on "Technical and Physical Problems of Engineering" (IJTPE)*, Issue 54, Volume 15, Number 1, Page 327-333, March 2023.
- [76] S. Naimi and O. Peker, "Deprem Etkileri Altındaki Farklı Tiplerde Çelik Yapıların StaSTEEL ve SAP2000 Kullanılarak Karşılaştırılması", *Journal of the Institute of Science and Technology*, Vol. 12, Issue 3, PP. 1577-1591, 2022.
- [77] Y. Dehqan Nezhad and S. Naimi, "Numerical investigation of precast reinforced concrete beam-to-column joints by replaceable damper", *Journal of Sustainable Construction Materials and Technologies*, Vol. 7, Issue 2, PP. 81 – 87, 2022.
- [78] L. Alfayyadh; S. Naimi; F. Mizban; N. Al-Hamami and M. Alguraibawi, "Verification of Reaching the Regulatory Limit for the Release of Radioactive Liquid Waste in Nuclear Medicines", *Journal of Ecological Engineering*, Vol 24, Issue 5, pp. 329–336, 2023.
- [79] S. Naimi and H. Hrizi, "Risk Analysis of Slaving Floor in Construction Sites", *International Journal of Electronics, Mechanical and Mechatronics Engineering*, Volume 9, Issue 1, Pages1637-1645, 2019.

- [80] S. Naimi and M. Celikag, "Problems of Reinforced Concrete Building Construction in North Cyprus", 12th International Conference on Inspection, Appraisal, Repairs & Maintenance of Structures, pages 23-25, 2010.
- [81] S. Naimi and M. A. Karimi, "Pavement Management System Investigation in Case of Afghanistan", Cumhuriyet Science Journal, Vol. 40, Issue 1, pages 221-232, 2019.
- [82] T. Vardar, M. F. Altan and S. Naimi, "Economic and Technological Evaluation of Transportation System, New Trends", Journal of Sustainable Construction Materials and Technologies, pages 83-88, 2017.
- [83] L. AL Musawi and S. Naimi, "The management of construction projects in Iraq and the most important reasons for the delay", Acta logistica, Vol. 10, Issue 1, Page 61-70, 2023.
- [84] A. R. Mohammed and S. Naimi, "The Effectiveness of Thermal Insulation of the Exterior Composite Walls of Buildings in Iraq Based on Different Materials and Climate Regions using Engineering Applications", International Journal of Intelligent Systems and Applications in Engineering, Vol. 11, Issue 4s, Page 594-601, 2023.

APPENDIX A

SCIENTIFIC QUESTIONNAIRE

1. Academic achievement

- B.Sc
- M.Sc
- Ph.D
- Higher Diploma

2. Nature of work

- Engineer
- Consultant
- Contractor
- Owner

3. Type of work

- Government sector
- Private sector
- Common sector

4. Specialization

- Civil
- Architect
- Electrical
- Mechanical

5. Number of years of experience

- Less than 5
- 6 to 10
- 11 to 15
- 16 to 20
- 20 and over

6. Number of projects implemented annually by the company

- Less than 5
- 6 to 10
- 11 to 15
- Over 16

7. Daily planning of time in the project increases the concentration of workers, resulting in the completion of the tasks assigned to them on time

- Strongly agree.
- Agree
- Neutral
- Disagree
- Strongly Disagree

8. Prioritizing activities to be implemented is one of the most important stages of time planning in construction projects

- Strongly agree.

- Agree
- Neutral
- Disagree
- Strongly Disagree

9. Project time planning helps complete work and tasks that were time-consuming in less time.

- Strongly agree.
- Agree
- Neutral
- Disagree
- Strongly Disagree

10. Project time planning must be flexible and suitable for workers' capabilities to ensure that activities are completed on time

- Strongly agree.
- Agree
- Neutral
- Disagree
- Strongly Disagree

11. Project timeline reduces the effort required to complete project tasks

- Strongly agree.
- Agree
- Neutral

- Disagree
- Strongly Disagree

12. Project time is organized based on the importance of activities in the daily schedule of the project

- Strongly agree.
- Agree
- Neutral
- Disagree
- Strongly Disagree

13. The division of tasks for the project plays an important role in organizing project time in the best way, resulting in effective project time management

- Strongly agree.
- Agree
- Neutral
- Disagree
- Strongly Disagree

14. The focus should be on the time available for critical activities in the project without neglecting the rest of the project activities

- Strongly agree.
- Agree
- Neutral
- Disagree
- Strongly Disagree

15. Project time management helps meet the challenges the project may face

- Strongly agree.
- Agree
- Neutral
- Disagree
- Strongly Disagree

16. Decisions that can be postponed must be distinguished from those that cannot be postponed in the project

- Strongly agree.
- Agree
- Neutral
- Disagree
- Strongly Disagree

17. Clarifying the activities to be implemented contributes to guiding project time towards the shortest route and the best results

- Strongly agree.
- Agree
- Neutral
- Disagree
- Strongly Disagree

18. Balancing activities to be carried out with the time needed to implement them contributes to better project time management

- Strongly agree.

- Agree
- Neutral
- Disagree
- Strongly Disagree

19. Reducing paperwork to better guide project time towards the desired goals

- Strongly agree.
- Agree
- Neutral
- Disagree
- Strongly Disagree

20. Employee autonomy leads to better results for project time management

- Strongly agree.
- Agree
- Neutral
- Disagree
- Strongly Disagree

21. The task of monitoring project time is manifested by comparing the current performance of the project with the previously planned performance.

- Strongly agree.
- Agree
- Neutral
- Disagree

- Strongly Disagree

22. The purpose of project time control is to correct the deviation in the project schedule and not to impose fines as a result of delays

- Strongly agree.

- Agree

- Neutral

- Disagree

- Strongly Disagree

23. The existence of an incentive system for employees increases project time control, ensuring that activities are implemented in accordance with agreed controls and specifications.

- Strongly agree.

- Agree

- Neutral

- Disagree

- Strongly Disagree

24. Effective project control improves staff performance

- Strongly agree.

- Agree

- Neutral

- Disagree

- Strongly Disagree

25. Project time control must be controlled by workers in self-monitoring manner

- Strongly agree.
- Agree
- Neutral
- Disagree
- Strongly Disagree

26. The closer the actual completion of the project workers to the planned completion, the higher the level of completion in the project.

- Strongly agree.
- Agree
- Neutral
- Disagree
- Strongly Disagree

27. Identifying the reasons for workers' poor work achievement can help address deviation in the project schedule in order to increase the efficiency of their performance

- Strongly agree.
- Agree
- Neutral
- Disagree
- Strongly Disagree

28. The level of completion of project workers is directly affected by the successful management of project time

- Strongly agree.
- Agree

- Neutral
- Disagree
- Strongly Disagree

29. Senior project management raises workers' performance by training them to manage project time properly.

- Strongly agree.
- Agree
- Neutral
- Disagree
- Strongly Disagree

30. Successful project management must take into account the human component of workers in order to increase the efficiency of their work, ensuring the progress of the project.

- Strongly agree.
- Agree
- Neutral
- Disagree
- Strongly Disagree

31. Organizing the time of staff and management and educating them in the field of time management care increases the productivity of the project.

- Strongly agree.
- Agree
- Neutral
- Disagree

- Strongly Disagree

32. Project time management demonstrates the authority and responsibility of the project workers, and this reflects positively on the productivity of the project, but poor management negatively affects productivity.

- Strongly agree.

- Agree

- Neutral

- Disagree

- Strongly Disagree

33. Effective project time monitoring detects the difficulties and problems workers face in carrying out their tasks, leading to increased productivity.

- Strongly agree.

- Agree

- Neutral

- Disagree

- Strongly Disagree