MAKERERE UNIVERSITY

A COMPARATIVE ANALYSIS OF PRODUCTIVITY RATES BETWEEN PIECEWORK AND DAILY RATES IN CONSTRUCTION SITES. A CASE OF ENGINEERING MINISTRIES INTERNATIONAL UGANDA.

NALUKENGE ETHEL DORCUS

2023/HD06/22411U

A RESEARCH REPORT SUBMITTED TO THE COLLEGE OF BUSINESS AND MANAGEMENT SCIENCES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE MASTERS DEGREE OF PUBLIC INFRASTRUCTURE MANAGEMENT OF MAKERERE UNIVERSITY

PLAN B

SEPTEMBER 2025

DECLARATION

I, **NALUKENGE Ethel Dorcus**, hereby declare that this dissertation is my original work done by myself as a result of my research and that no portion of it has ever been submitted by any person to Makerere University or any other institution of learning for any academic award. Due acknowledgement has accordingly been done in form of citations, quotations and references to other people's ideas where used.

NAME; NALUKENGE ETHEL DORCUS

Signature; .....

Date; 08.10.2025.....

APPROVAL

This is to confirm that this dissertation has been submitted for examination with the approval of the university supervisor;

Dianah L K Ssekiboobo (Dr.)

Lecturer/Assistant Coordinator, School of Business

COBAMS, Makerere University

Signed: .....

Date: .....8/12/2025.....

DEDICATION

I dedicate this dissertation to my lovely parents who have worked tirelessly to see me through to where I am today, and to my supervisors, brothers, and friends who have provided me with motivation and guidance throughout the whole research process through to the writing of the dissertation.

Thank you for all the love, prayers, support and encouragement.

ACKNOWLEDGEMENT

I would like to extend my sincere appreciation to all individuals who helped me in one way or another throughout this study and the entire program.

I sincerely thank my lecturers and supervisors for their professional guidance, inspiration, encouragement, and support they provided me throughout this study. I appreciate their timeless guidance throughout the process of this study. I pray that God further blesses the work of their hands.

Special thanks and appreciation go to my friends whose encouragement, love, and support were exceptional. Thank you for the financial, physical, spiritual, and moral support and everything you sacrificed to ensure my wellness, May the good Lord reward you abundantly.

I thank all the respondents who sacrificed time from their busy schedules to fill out the questionnaires. My friends and family, thank you so much for bearing with me during busy schedules when I had to give you divided attention.

Above all, am greatly obliged to the Almighty God to whom I give back all the glory for such an opportunity. May his name be praised and glorified throughout the days of my life.

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LIST OF ACRONYMS

EMI	Engineering Ministries International
PW	Piece Wage
SPSS	Statistical Package of Social Scientists
TW	Time wage
UBOS	Uganda Bureau of Statistics
UGX	Uganda Shillings
USD	United States Dollars

ABSTRACT

The study aimed to undertake a comparative analysis of productivity rates between piecework and daily rates in construction sites using a case of Engineering Ministries International Uganda. Specifically, to compare effectiveness of piecework and daily work payment systems on worker productivity; compare the challenges associated with implementing piecework and daily rate payment systems and recommend the best payment system for EMI Uganda balancing productivity, cost efficiency, and worker satisfaction. The study was undertaken while using quantitative research method relying on 90 workers from EMI Uganda. The study used the stratified random sampling from a total population of 85 workers. Questionnaire was employed during data collection, whilst STATA in data analysis. The study findings indicated that there is no significant difference between the workers paid under piece wage and those paid under time wage after majority of the KPI giving a p-value > 0.05. It is evident that workers' satisfaction, training and education, safety committees, risk assessments, incident reporting, hazard identification, safety equipment availability, supervision, safety leadership effectiveness, workers' use of personal protective equipment (PPE), sleep quality, and PPE maintenance rate are critical factors influencing labor health, safety, and wellbeing. Key finding of the study is that daily-wage workers are at a disadvantage to those who are paid on piece wage rate. A number of recommendations have been made to deal with these problems. These suggestions include enhancing work-life balance, increasing compensation and benefits, establishing safety committees, providing thorough training programs, conducting regular risk assessments, improving incident reporting systems, promoting hazard identification, ensuring the availability and proper use of safety equipment, improving supervisory training, providing access to thorough workers' compensation, creating health education programs, and investing in safety technology.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

The global construction industry is a pivotal component of economic development, contributing significantly to the gross domestic product (GDP) of many nations. According to the World Bank, the industry, encompassing construction activities, accounts for a substantial portion of the GDP in various economies (World Bank, 2023). This sector involves a wide range of activities, from residential and commercial building to infrastructure development, employing millions worldwide. As the industry evolves, various payment structures have been implemented to compensate labor, primarily categorized into piecework and daily (or time-based) rates (Dang & Low, 2015). Piecework payment systems remunerate workers based on the quantity of work completed, incentivizing higher productivity by directly linking earnings to output. Conversely, daily or time-based rates provide wages based on the amount of time worked, offering income stability but potentially distinguishing effort from compensation. The choice between these payment methods significantly impacts labor productivity, project costs, and overall efficiency (Lazear (2000).

In Africa, the construction sector plays a pivotal role in infrastructure development and economic growth. However, the industry often grapples with challenges such as low productivity, skill shortages, and informal labor practices. Payment structures across the continent vary, with both piecework and daily rates in use, influenced by regional labor laws, cultural norms, and project-specific considerations. (Afolabi et al.,2018). Focusing on East Africa, the construction industry has experienced substantial growth, driven by urbanization and public infrastructure projects. In Uganda, the construction sector contributes approximately 7% to the national GDP (Uganda

Bureau of Statistics, 2018). The industry employs a diverse workforce, including building construction laborers and construction managers, with varying compensation structures. However, there is a lack of comprehensive data on the impact of these payment methods on labor productivity within the Ugandan construction context. This study aims to conduct a comparative analysis of productivity rates between piecework and daily rate payment systems on construction sites, focusing on Engineering Ministries International Uganda as a case study. By examining the effects of these payment structures on worker productivity, the research sought to provide insights that could inform more effective labor management strategies in Uganda's construction industry.

1.2 Study Background

The construction industry is a fundamental sector that significantly contributes to economic growth and development worldwide. It encompasses a wide range of activities, including residential, commercial, and infrastructural development, all of which require a substantial workforce (Wang et al., 2023). Due to its labour-intensive nature, the industry relies heavily on different payment systems to compensate workers efficiently and ensure optimal productivity. The choice of payment methods influences not only workers' motivation but also overall project efficiency, cost management, and completion timelines (Riyadi, Tjendani & Wulandari, 2025). The piece wage system has a long history, with roots dating back to the Industrial Revolution (Petersen, Frederiksen & Bronke, 2024). In this system, workers are paid based on the number of units they produce, rather than the amount of time they work (Bake & Makinde, 2021). The time wage system, on the other hand, is a more recent development, emerging in the 20th century as a way to pay workers for their time rather than their output (Peterson et al., 2024).

There has been debate about which of these systems is more beneficial when it comes to productivity, cost efficiency, and worker satisfaction (Bamfo-Agyei, Thwala & Aigbavboa, 2022).

Some argue that the piece wage system creates an incentive for workers to work faster and more efficiently, leading to fewer accidents and injuries (Riyadi et al., 2025). Others argue that the time wage system allows for more rest and recovery time, which can be important for the productivity and work satisfaction (Teklu, 2021). With some arguing that the piece wage system can be exploitative, as it can create pressure for workers to work faster and harder without adequate rest or recovery time (Teklu, 2021). Some studies have also found that workers on the piece wage system may be more likely to experience pain, stiffness, swelling, limited range of motion, weakness, numbness or tingling, clicking or popping sounds in joints and other health problems related to repetitive strain and poor ergonomics (Bamfo-Agyei, et al., 2022). Some studies have also found that workers on the time wage system may experience higher levels of stress and job dissatisfaction compared to workers on the piece wage system (Memon et al., 2023).

In order to assess the impact of these two wage systems on the productivity, cost efficiency, and worker satisfaction, it is important to consider a range of key performance indicators (Bake & Makinde, 2021). These might include safety concerns, quality, work stability, earning potential, measures of absenteeism and presenteeism (e.g., the number of days missed due to illness or injury), the frequency and severity of accidents and injuries, and measures of overall health and well-being (e.g., self-reported stress levels, mental health, and physical health) (Ali & Anwar, 2021). It is also important to consider the specific context in which the wage systems are being implemented. Factors such as the type of industry, the level of worker training and support, and the overall culture of the organization can all influence the productivity, cost efficiency, and worker satisfaction and may need to be considered when comparing the performance of the piece wage and time wage systems (Parviz & Khazar, 2021).

Uganda's construction sector employs a diverse workforce, including skilled and unskilled labourers, who are compensated through different wage structures (Uganda Bureau of Statistics, 2024). Specifically, Engineering Ministries International (EMI) Uganda, a key player in the Ugandan construction sector, uses both piecework and daily rate payment systems. However, there is limited empirical evidence on how these payment methods influence worker productivity in Uganda's construction industry. Understanding the impact of these systems is essential for optimizing labour efficiency and ensuring cost-effective project execution. This study sought to compare the productivity rates between piecework and daily rate payment systems in construction sites, focusing on EMI Uganda.

1.3 Problem Statement

The transition to piecework payment system in addition the earlier daily rate payments in Uganda's construction sector including EMI Uganda was done with an aim of balancing productivity, cost efficiency, and worker satisfaction (EMI Uganda Strategic Plan, 2022; Mutikanga, Kayondo & Akita, 2023). However, despite these transition, EMI Uganda is continuing to face challenges related to escalating costs and project delays (EMI Uganda Annual Performance Report, 2024). This study aimed to fill this research gap by investigating whether Engineering Ministries International Uganda's transition to piecework payment effectively improved productivity at construction sites. By comparing the outcomes of this move against the previous daily rate payment method, the study was able to determine the most appropriate payment system the effectively create a balance towards productivity, cost efficiency, and worker satisfaction at EMI Uganda.

1.4 Purpose of the Study

The purpose of the study was to undertake a comparative analysis of productivity rates between piecework and daily rates in construction sites using a case of Engineering Ministries International Uganda.

1.5 Objectives of the Study

1. To compare effectiveness of piecework and daily work payment systems on worker productivity at EMI Uganda's construction sites.
2. To compare the challenges associated with implementing piecework and daily rate payment systems at EMI Uganda
3. To recommend the best payment system for EMI Uganda balancing productivity, cost efficiency, and worker satisfaction.

1.6 Research Questions

1) How does worker productivity differ between piecework and daily rate payment systems at EMI Uganda?
2) What challenges are associated with implementing piecework and daily rate payment systems at EMI Uganda?
3) What is the most effective payment system for EMI Uganda to optimize productivity, cost efficiency, and worker satisfaction?

1.7 Significance of the study

This study is important for several key stakeholders, including construction firms, policymakers, project managers, and workers within the Ugandan construction industry. By comparing the productivity rates of workers under piecework and daily rate payment systems at Engineering

Ministries International (EMI) Uganda, the study provides valuable insights into how different wage structures influence worker motivation, efficiency, and overall project success.

For construction companies, the findings will help in selecting the most effective payment model to enhance productivity, reduce labour costs, and improve project timelines. If piecework is found to be more effective, strategies for its optimization will be recommended, ensuring fairness and sustainability in its implementation.

For policymakers and industry regulators, the study offers data-driven recommendations on best labour compensation practices, contributing to labour policies that balance worker welfare with economic efficiency.

For workers, the research highlights how payment structures impact their earnings, job satisfaction, and performance expectations. This understanding can lead to better working conditions, fairer wage policies, and increased job motivation.

Additionally, the study contributes to **academic literature** by addressing a research gap on the impact of payment models on construction worker productivity in Uganda. It provides empirical evidence that can guide future studies and inform best practices in labour management within the construction sector.

1.8 Justification of the study

The construction industry was a critical driver of economic development, particularly in emerging economies like Uganda, where infrastructure projects are central to national growth. However, labour productivity remains a persistent challenge, often linked to the payment structures used to compensate workers. While both piecework and daily-rate systems are widely employed in the sector, there is limited empirical evidence on their relative effectiveness in enhancing productivity,

particularly within Uganda's construction landscape. This study sought to bridge that knowledge gap by providing a comparative analysis of the two payment methods within Engineering Ministries International (EMI) Uganda.

1.9 Scope of the Study

1.9.1 Content Scope

This study focused on analysing and comparing the productivity rates of construction workers under piecework and daily rate payment systems at Engineering Ministries International (EMI) Uganda. The research examined construction projects managed by EMI Uganda in the period 2018-2024, assessing how different payment structures influence productivity, cost efficiency and worker satisfaction.

1.9.2 Geographical Scope

Geographically, the study was limited to EMI Uganda's construction sites, ensuring an in-depth understanding of its payment models within the Ugandan construction sector. The research was primarily targeting construction workers, project managers, site supervisors, and administrative staff involved in labour payment and productivity assessment.

1.9.3 Time Scope

The study was exploring effective payment models in construction at EMI Uganda for periods between 2018 and 2024. This is because piece rate system of payment was introduced at EMI Uganda sites in 2018 and it was important for us to consider periods when both daily rate and piece rate systems were being used at the construction sites.

1.10 Chapter Conclusion

This chapter has laid ground on background, problem and operationalization of study variables. An introductory overview on the comparative analysis of productivity rates between piecework and daily rate payment systems on construction sites, focusing on Engineering Ministries International Uganda as a case study has been provided.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter looks at different scholars that have done research on a comparative analysis of productivity rates between piecework and daily rates in construction sites. The literature is mainly sourced from previous studies, online journals, reports, textbooks and internet sources. The research focused on the definition of key concepts, theoretical review and empirical review which focuses on effectiveness of piecework and daily work payment systems on worker productivity; the challenges associated with implementing piecework and daily rate payment systems.

2.2 Definition of Key Concepts

2.2.1 Piece Rate system

Piecework payments, on the other hand, compensate workers based on their output or the quantity of work completed (Piece Work Pro, 2025). This means payment is tied to what workers actually produce or accomplish. For example, a worker is paid based on completing a specific number of tasks or producing a certain amount of work. This system can be motivating for workers as they directly see their efforts reflected in their pay (Hawkeye Construction, 2023). Kladana (2025) argues that this system also encourages efficiency, as workers may aim to complete tasks faster to earn more.

2.2.2 Daily Rate system

Daily rates involve compensating workers based on the number of hours they work each day. This is a straightforward system where workers receive a set rate for each hour. For instance, an employee working eight hours would be paid for eight hours (Checkatrade (2023). The International Labour Organisation (ILO, 2018) argues that this method offers stability and

predictability for workers, providing certainty about their earnings for their time. However, Construction Dive (2022) argues that daily rates may not always sufficiently incentivize workers to be as productive as possible because they receive payment regardless of the amount of work accomplished, potentially leading to less motivation to work efficiently.

2.3 Theoretical Review

The theoretical framework is derived from motivational theory which includes major and important theories to this study and that is; expectancy theory, equity theory, goal setting theory and agency theory. These theories help explain how workers respond to systems like piecework and daily rates, and why their performance might change depending on how they are paid.

One useful theory is Expectancy Theory by Victor Vroom (1964). It suggests that people are more motivated when they believe their effort will lead to good performance, and that this performance will result in a reward they value. Piecework payments often create a strong link between effort and reward because workers are paid based on how much work they complete. This can encourage them to work harder (PieceworkPro, 2025). However, if the expected reward seems too difficult to reach or unfair, motivation can drop—so it's important that the system sets fair and realistic goals (WallstreetMojo, 2025).

Another relevant theory is Equity Theory, developed by John Stacey Adams (1963). This theory says that people compare how much effort they put into work and what they get in return, especially compared to others. If a worker sees others doing less but earning the same pay under a daily-rate system, they may feel the system is unfair and reduce their effort (Sseruyange & Bulte, 2020). On the other hand, piecework may seem fairer because it rewards output directly. Still, if

some workers feel the system is biased or poorly managed, it can also lead to frustration (Sseruyange & Bulte, 2020).

According to SSRN (2023), Agency Theory also helps explain employer-worker relationships. It focuses on how to align the interests of the employer (who wants results) with those of the worker (who wants fair pay). In construction, where it's hard to monitor every worker closely, piecework can help because it encourages workers to be productive without needing constant supervision. However, this can sometimes lead to workers rushing through tasks just to earn more, which may lower quality or safety—issues that matter a lot on building sites (Occupational Health & Safety (2024).

Another useful theory is the Goal-Setting Theory by Locke and Latham (1990). It shows that people work better when they have clear and challenging goals (SSRN,2023). Piecework naturally provides these kinds of goals because workers are often aiming to complete a certain amount of work. In contrast, daily-rate systems might lack this clear target unless supervisors provide strong guidance or other forms of motivation (Sseruyange & Bulte,2020).

Conclusion.

In conclusion thus, the key message advanced from the above theories is that worker productivity is highly dependent on payment systems adopted. For instance, together, these theories show that each payment system has strengths and weaknesses. Piecework can increase motivation and output, but only if it's well-managed and fair. Daily-rate systems give workers more income stability but may require more effort from managers to keep productivity high. This study used these theories to explore how EMI Uganda’s shift in payment systems has affected their workers and project performance in construction industry.

2.4 Empirical Review

2.4.1 Effectiveness of piecework and daily work payment systems on worker productivity in construction industry

Several studies exist on the effectiveness of piecework and daily work rate payment systems on worker productivity in engineering fields, however, the review on this theme is restricted on understanding piecework rate system and how it is implemented, daily work rate payment system and how it is implemented and effectiveness of each system.

2.4.1.1 Piecework payment system and how it is implemented in construction industry

The construction sector has made extensive use of the piece wage system, a form of pay where employees are compensated based on the quantity of units they create. The piecework payment system compensates workers based on the quantity of work completed rather than the time spent on the job. This method is often used to incentivize workers to increase their productivity, as higher output results in greater earnings (Bake & Makinde, 2021). This technology has a lengthy history, dating back to the Industrial Revolution and still being used in a number of modern construction projects (Petersen et al., 2024).

There are numerous crucial phases involved in implementing the piece wage system in the construction sector. According to Riyadi et al., (2025), employers must first have a clear grasp of the work that needs to be done in order to identify the precise tasks that qualify for piece-rate pay. Common examples of these operations include electrical installations, carpentry, and concrete pouring since they are simple to quantify or measure.

Secondly, Pavelko, Blyshchyk and Savchuk (2023) argue that employers choose the appropriate tasks and then decide on the piece rates or payment rates for each work. Typically, this is

determined by market prices, industry norms, or agreements reached with employees or labor organizations. A piece rate is a payment made for each completed work item, such as each square meter of concrete poured or each linear meter of pipes fitted. Employers make sure that these rates are fair and reasonable by considering the difficulty of the activity, the amount of time needed, and the level of expertise required (Pavelko et al., 2023).

Thirdly on implementation, Okoye et al., (2022) argue that the right monitoring and measurement systems are put in place in order to implement the piece wage system successfully. Employers keep track of and document the amount of work that each employee produces, assuring accuracy in measurement and responsibility. This may entail correctly measuring and quantifying the finished units utilizing technology such as digital tools, time-tracking software, or actual counting devices.

Petersen et al., (2024) add that in order to successfully execute the piece wage system, regular contact and feedback are essential. Employers clearly communicate expectations to employees as well as the quality standards and productivity targets that must be met. They also create avenues via which employees may report their accomplishments and ask questions. Employers can resolve any issues, offer suggestions, and keep the payment process transparent by using feedback methods.

Okoye et al., (2022) also established that employers must keep a close eye on working conditions and workloads to maintain fairness and prevent exploitation. To guard against any potential system abuses, such as unreasonable productivity goals or excessive labor expectations, regular inspections and assessments are carried out. The implementation process must include enough rest breaks, protections for worker health, and safeguards for safety. Maintaining correct records and paperwork for the piece wage system is essential. These records cover worker productivity on an

individual basis, completed work units, and related payment calculations. Accurate reporting for legal and regulatory compliance is made possible by proper documentation, which also ensures transparency and assists in addressing any payment disputes (Riyadi et al., 2025).

2.4.1.2 Effectiveness of Piecework Payments

The potential for the piece wage system to increase productivity and efficiency is a major factor in the usage of the system in the construction sector. Smith (2020) contends that this method motivates people to work hard and aim for increased productivity levels by rewarding employees depending on their production. The piece wage system establishes a clear connection between performance and payment, aligning workers' financial motivations with the objectives of completing projects on schedule and on budget (Kim et al. 2020).

The second area of effectiveness, according to Nawawi, et al., (2023) spoke about simplicity and practicability. Comparatively easy to administer and compute, the piece wage system is a good alternative to other forms of compensation including time-based salaries. It necessitates keeping track of the quantity of work finished, making it appropriate for easily measurable jobs like concrete pouring, bricklaying, or painting. It is a viable option for construction companies because of its simplicity, particularly for jobs that need a variety of labor-intensive tasks.

Casimiri (2020) further ascertained that the piece wage system offers flexibility in managing costs and allocating resources. With this method, construction businesses can modify worker resources in accordance with the demands of the project and changes in workload. The piece pay system allows businesses to efficiently allocate resources and maximize their workforce because workers are paid based on their individual productivity reducing labor costs in the process.

Okoye et al., (2022) also established that piecework system encourages individual accountability and performance-based rewards. This means that it enables employees to immediately observe how their efforts affect their pay. This individual accountability can help employees feel proud of and accomplished, encouraging a culture of personal responsibility and driving them to be the best at what they do. This approach is frequently used by businesses to motivate employees and foster a competitive workplace that improves performance (Kim et al. 2020).

According to Smith (2020), employees who are paid on a piece-rate basis are encouraged to produce as much work as possible while maintaining a high standard of excellence. This focus on productivity may motivate staff to adhere more closely to safety procedures, resulting in enhanced safety performance and fewer workplace mishaps. The piece wage system gives employees more control over their income, which may improve their general well-being and job happiness. Employees may feel more accomplished and motivated if they can immediately see the results of their hard work in the form of higher pay (Nawawi, 2023). This contentment and feeling of financial control might have a positive impact on the workers' mental and emotional well-being. A culture of accountability and responsibility among construction employees can be fostered via the piece wage system. Because employees are frequently held responsible for their individual output and performance, this may lead to greater self-awareness and a focus on safety procedures (Smith, 2020). This strategy motivates employees to take responsibility for their job and actively participate in preserving a secure and healthy workplace.

2.4.2 Daily Work Payment System and How it is Implemented

The piece wage system is frequently replaced with the daily/time wage system in the construction sector. Understanding the time wage system's overall implications on worker productivity can help one understand how they may affect the construction sector (Perera et al., 2020). The construction

industry uses a time wage system where employees are paid according to how much time they spend working rather than how much labor they actually produce. In this arrangement, regardless of the amount of output or productivity produced during that period, employees are paid a set hourly pay or salary for their work (Bajjou & Chafi, 2020).

According to Bajjou and Chafi (2020) in their empirical study of schedule delay in Moroccan construction projects, they established that this system is implemented while using hourly wages. Employees get compensated for the hours they have put in. Every employment title or skill level has an hourly rate set by the company, and employees are paid for the actual hours they have worked. Both regular working hours and extra hours, which are typically paid at a higher rate, can be included in this.

Pamidimukkala and Kermanshachi (2021) further indicated this system is based on salary-based compensation. This is because instead of receiving hourly pay, some construction industry positions, such as project managers, engineers, and supervisors, may be paid on the basis of a fixed salary. The duties and level of competence necessary for the position, among other things, are taken into consideration when determining the remuneration in this scenario. No of how many hours a worker puts in, as long as they complete their duties, they are paid consistently.

Schaufelberger and Holm (2024) further pointed to utilizing timekeeping systems. This is because construction companies frequently utilize timekeeping systems to precisely track and record the time that employees work. These systems can be manual, requiring employees to manually enter their start and end times, or automated, using devices like electronic time clocks or software for digital timekeeping. The foundation for determining workers' salaries and guaranteeing proper compensation is timekeeping records (Schaufelberger & Holm, 2024).

Agyekum, Kukah and Amudjie (2022) indicated that this system employs overtime compensation. Construction businesses often offer overtime compensation to employees who work longer hours or on weekends or holidays. In order to motivate employees and reward them for the extra time and effort they put into their work, overtime rates are generally greater than standard hourly compensation. They added that this system also uses payroll administration. Construction companies oversee the payroll procedure to make sure that their employees are paid on time and correctly. This entails determining pay based on the hours worked, adding any appropriate overtime rates, and subtracting any required tax withholdings. To guarantee adherence to regulatory standards and equitable remuneration practices, these responsibilities are handled by payroll administrators or dedicated human resources employees (Agyekum et al., 2022).

2.4.2.1 Effectiveness of Daily Rate Payment system

The effectiveness of the daily work payment system is evident in a number of studies. For instance, Newman, et al., (2021) indicated that this system allows predictable labor expenses. This is because the daily rate system gives construction organizations a better grasp of labor expenses that is more predictable. It is simpler for businesses to predict and budget for labor costs when workers are paid according to the time they spend on the task. For lengthy projects with extensive durations, this may be especially advantageous.

The second area of effectiveness is skill-based compensation. Tariq and Gardezi (2023) further note that the daily rate system offers the chance to pay employees in accordance with their qualifications and expertise. Higher daily pay or salary may be given to employees with more specialized knowledge or experience to reflect their worth to the business. This could aid the recruitment and retention of qualified workers in the construction sector. Furthermore, collaboration is emphasized. For instance, Bajjou and Chafi (2020) ascertain that the daily rate

system encourages a cooperative workplace. Workers are encouraged to work together in teams and cooperate as compensation is based on time spent rather than individual productivity. On construction sites, this can improve cooperation, coordination, and communication, resulting in better safety and productivity results.

Fourthly, this system is associated with risk mitigation. Pamidimukkala and Kermanshachi (2021) argue that construction projects inevitably have a number of hazards, including unplanned delays, scope modifications, and unpredictably bad weather. The time wage system gives employees some latitude to adjust to these unforeseen circumstances without jeopardizing their pay. It permits alterations to work plans and the allocation of extra time to deal with unforeseen difficulties, minimizing potential disruptions.

This system is also associated with enhancing compliance with labor laws. Tariq and Gardezi (2023) ascertained that by ensuring fair and consistent payment procedures, the time wage system can assist construction companies in complying with labor laws. It makes it easier to ensure that employees earn at least the minimum wage required by labor laws by paying employees a fixed hourly wage or compensation. This encourages equity and averts potential wage theft or exploitation.

Alignment with Specific Construction duties. According to Sharma (2020) some construction duties, including administration, coordination, or supervision, may be difficult to quantify in terms of production or piece-rate pay. In situations like this, where the worth of a worker's contributions may be better assessed based on their time and responsibilities than on their direct output, the time wage system offers an appropriate approach of rewarding workers participating in such duties.

Agyekum, et al., (2022) further ascertained that this system is central in bettering work-life balance, which allows for more predictable working hours. Since their income is not directly related to their output or productivity, individuals are free to follow set working hours, take breaks when needed, and schedule their personal life accordingly. This encourages leading healthy lifestyles, lessens tiredness, and guards against workplace stress and burnout.

Less need for speed was reported by Pamidimukkala and Kermanshachi (2021). This was associated with the fact that the time wage system lessens the need for speed, in contrast to piece-rate systems where employees are motivated to create more in order to earn more. Without the need to hurry or take short cuts that could endanger their safety, employees can concentrate on completing their work in a safe and effective manner. This can help make the workplace safer and reduce the chance of accidents and injuries.

Sharma (2020) also found out the issue of increased safety awareness. This is obtained from the fact that since the time pay system places more emphasis on time spent working than productivity, employees are able to give safety precautions and protocols top priority. They have more time to attend toolbox lectures, conduct safety inspections, participate in safety training, and follow safety procedures. This encourages a culture of safety awareness, which results in to a decreased risk of workplace accidents and improved overall safety performance.

Also, Alves (2020) spoke about the issue of training and skill development. The time wage system gives employees the chance to take part in training courses and activities that will help them hone their skills. Companies may provide resources and time for employees to advance their skills and knowledge as their pay is not primarily based on production. As a result, one may become more competent, like their job more, and have more confidence in their ability to complete duties in a safe and efficient manner.

Collaboration and Communication. The time wage system promotes worker cooperation and teamwork. There is less competition among employees and more emphasis on cooperation when compensation is not entirely based on individual production. Better coordination, communication, and sharing of safety information and procedures are all facilitated by this. On construction sites, worker collaboration can improve overall safety and well-being by identifying and addressing possible hazards (Sharma, 2020).

Lessened risk of musculoskeletal problems. By allowing workers adequate rest and recovery time, the time wage system helps reduce the risk of musculoskeletal problems. Physically demanding jobs are frequently involved in construction work; therefore, a system of time-based compensation enables employees to take regular breaks, stretch, and get enough rest. This lowers the risk of musculoskeletal diseases and repetitive strain injuries brought on by extended or continuous physical exercise (Hines, 2019).

Job happiness and Motivation. The time wage system may help construction employees experience more job happiness and motivation. The total level of job satisfaction of employees is significantly impacted when they feel appropriately compensated for their time and efforts. The engagement, commitment, and motivation of satisfied employees tend to increase productivity, safety compliance, and general wellbeing (Sharma, 2020).

2.4.3 The challenges associated with implementing piecework and daily rate payment systems in construction industry

A number of studies have endeavoured to demonstrate the challenges associated with implementing piecework and daily work rate payment systems in the construction industry.

2.4.3.1 The challenges associated with implementing piecework systems in the construction industry

Even though the piece wage system has its supporters, there are serious worries about its possible drawbacks and detrimental effects on the health and wellbeing of construction sector workers. These limitations have been illuminated by numerous researches, emphasizing the necessity of cautious consideration and risk mitigation. The possibility for increased stress and strain on employees. According to Smith (2020), the focus on output and productivity can foster a culture in which employees feel pressured to work longer hours and harder to get higher pay. The mental and physical health of construction industry personnel may be affected by this increased strain and stress levels (Amoah & Simpeh, 2021). The piece wage structure could downplay the value of recovery time and rest, which might make workers feel worn out and exhausted (Tariq & Gardezi, 2023). Workers' general health and well-being may deteriorate in the absence of suitable breaks and recuperation time. Increased fatigue and the risk of musculoskeletal problems can be brought on by the repetitive nature of many construction operations and the pressure to fulfill production targets (Bajjou & Chafi, 2020).

According to research, employees who are paid under this system can be less satisfied with their jobs than those who are paid under alternative wage systems (Wang et al., 2023). Employee unhappiness and decreased motivation may be caused by the ongoing pressure to reach production quotas and the lack of control over work speed and timetables. The piece wage system could foster a hostile work atmosphere that prevents people from collaborating and cooperating (Smith, 2020). Workers may put more emphasis on their own productivity and financial gain than working together to safeguard their safety and well-being. The establishment of a supportive and cohesive

workplace culture may be hampered by this competitive environment, which would be detrimental to employees' general health and wellbeing.

2.4.3.2 The challenges associated with implementing daily work rate systems in the construction industry

While there are a number of benefits to the time wage system in the construction sector, there are also some possible drawbacks in terms of employee health, safety, and well-being.

Riyadi et al., (2025) indicated that the time wage system pays employees according to the number of hours they put in, which could result in longer workdays. Increased exhaustion brought on by long shifts or overtime can impair workers' physical and mental capabilities as well as attentiveness and focus. Workers who are fatigued are more likely to make mistakes, which raises the possibility of accidents, injuries, and impaired safety.

Casimiri (2020) associated limited incentive for efficiency with daily work rate system. In contrast to the piece-pay system, the time wage system might only offer modest incentives for employees to carry out duties effectively. Workers may be less motivated to accomplish tasks quickly or think of creative ways to increase productivity because they are paid according to time spent rather than output. On construction projects, this may lead to lower productivity and efficiency levels.

Bake and Makinde (2021) also spoke about the potential for tedious work. For some construction employees, the time wage system may result in repetitious and tedious work. Long stretches of monotonous work without variation can lead to boredom, lower job satisfaction, and a general decline in wellbeing. Additionally raising the risk of musculoskeletal illnesses and ergonomic-related problems is monotonous employment.

Lack of Recognition for Skill and Performance. Smith (2020) showcased that under the time pay system, a worker's compensation award is typically determined more by the quantity of hours they put in than by their skill or performance. Highly skilled professionals that put in extra effort and regularly deliver at a high level may feel undervalued as a result of this. Motivation, job happiness, and general wellbeing can all be affected by the lack of appreciation for talent and performance.

Amoah and Simpeh (2021) identified the possibility of unpaid overtime. In some circumstances, the time wage system may be open to abuse or the failure to pay employees for overtime hours worked. Employers may coerce employees into working longer than usual hours without paying a fair wage or they may falsify timekeeping records. This may result in financial strain, an unbalanced work-life schedule, and detrimental effects on the health and wellbeing of employees.

Alves (2020) argued that there is limited financial incentives for safety. Unlike the piece-wage system, which directly links increased production to higher pay, the time wage system may offer just a few financial incentives for employees to put safety first. If there are no immediate financial benefits, employees could be less inclined to make further efforts in safety procedures or take extra precautions. On construction sites, this may jeopardize safety results.

Bake and Makinde (2021) argued that he possibility of an uneven workload distribution among construction workers is a risk associated with the time wage system. Workers that encounter difficulties or take longer to finish tasks may need to put in more hours because pay is based on time worked rather than output in order to fulfill project deadlines. Due to workload differences brought on by this imbalance, certain workers may experience increased stress, weariness, and decreased wellbeing.

Bake and Makinde (2021) did a study to compare effectiveness of piecework and daily rate of payment in construction site in Indonesia. It was explored that piecework has highly contributed on increasing productivity more than daily rate of payment. For instance, workers are motivated to complete tasks quickly to maximize earnings, potentially leading to higher output. This was found to be different from daily rate payment which was only making employees lazy hence affecting their level of productivity. They compared two construction sites which were employing two systems at ago. They found out that with piecework, it was taking three times to finish work earlier when using piecework than when using daily rate payment. The views expressed by Bake and Makinde (2021) where synonymous with what was expressed by Amoah & Simpeh (2021). These found out that the rate of productivity in terms of time, efficiency and satisfaction of the client was far higher when using piecework payment more than when using daily rate payment system. This study was conducted to ascertain the extent by which this finding is true as far as EMI Uganda is concerned.

2.5 Conclusion

The existing research on this topic is somewhat limited, inconsistent and no study has been carried out in Uganda. They were carried out in isolation and we cannot generalize that data that is why the researcher wants to carry out the study in Uganda. More research is needed to fully understand the relationship between payment systems and worker productivity in construction industry. The reviewed literature has demonstrated that piecework is well-suited for tasks that are repetitive, measurable, and have a well-defined scope. This means that implementing robust quality control procedures is essential when using a piecework system; addressing potential health and safety risks associated with piecework is important, especially in construction. Ultimately, the

effectiveness of each payment system depends on various factors, including the specific project, the type of work, and the company's management practices.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter covered the methodology that was used in conducting the study. It specifies the research approach and design, the study population or the area in which the study was conducted, the sampling design, the sample size, data sources, data collection instruments and the validity and reliability of the data collection instruments.

3.1 Research Approach

Quantitative research method was used for this particular study because it involves data that is quantitative in nature (Ghanad, 2023).

3.2 Research design

To achieve the first two objectives, in relation to comparing the effectiveness of piecework and daily work payment systems on worker productivity at EMI Uganda's construction sites and comparing the challenges associated with implementing piecework and daily rate payment systems at EMI Uganda, collecting data from workers themselves will be considered. This involved conducting close end interviews with workers who are paid under each of the two wage systems. Data collected from workers was analyzed to identify any trends or patterns in their experiences and perceptions and use statistical analysis techniques to compare the two groups in terms of productivity, cost efficiency, and worker satisfaction.

3.3 Study population

The study population involved workers paid on piecework and daily work rate. The workers who are paid under the piece wage system included workers who are paid based on the number of units of work they complete, such as site designers, carpenters, or electricians. The workers who are

paid under the time wage system included workers who are paid based on the number of hours they work, regardless of the amount of work they complete, such as laborers or maintenance workers. According to EMI Uganda, it has 156 workers (EMI Uganda Human Resource Records, 2025). This study restricted itself on three primary projects including Amazima Secondary School (46), the Gem Foundation's Assisted Living Home (41) and Inclusive Playground projects (33). This means that the target population was 120.

3.4 Methods to achieve specific objective 1 and 2

Objective 1: To compare the effectiveness of piecework and daily work payment systems on worker productivity at EMI Uganda's construction sites

Objective 2: To compare the challenges associated with implementing piecework and daily rate payment systems at EMI Uganda

3.4.1 Data source

Questionnaires were conducted using closed ended questions to collect data from the workers under the PW and TW systems using guide questions.

3.4.2 Data Collection Tool

3.4.2.1 Questionnaire

A questionnaire refers to a quantitative instrument used in collecting data while employing a series of questions (Ikart, 2019). This instrument intended to answer as many of the research questions as possible. Questionnaire were the most appropriate instrument in collecting data because of the big number of respondents are scattered and busy. Questions were anchored on the five-point Likert scale (Very often (1), Often (2), Sometimes (3), Rarely (4) and Never (5) where respondents will be asked to indicate their response. According to Taherdoost (2021), the Likert scale is able to measure perception, attitudes, values and behavior of individuals towards a given phenomenon.

These questions typically limit the participant's response to a set of predetermined options, such as multiple-choice questions or rating scales. Multiple questions were used for this particular research with Likert scale to enable analysis (Hensen et al., 2021).

3.4.3 Sampling strategies

Stratified sampling was used to select participants that is, the workers paid under the PW and TW. This was because the population from which we are selecting occurs in different strata.

3.4.3 Sample size

A sample of 92 workers was determined using Krejcie and Morgan (1970) Table (Appendix II) of sample size determination as cited in Berndt (2020). A stratified sampling was employed to pick the respondents. Each group provided 46 employees.

Proportion of workers in each stratum "π" (pi) =15

Desired Total Sample Size = 92

Sample Size for Stratum = (Proportion of Stratum) x (Desired Total Sample Size)

Sample Size for Stratum 1 = 0.5 x 92 = 46 workers (rounded to the nearest whole number)

Sample Size for Stratum 2 = 0.5 x 92 = 46 workers (rounded to the nearest whole number)

Number of Strata for Stratum 1 = (Sample Size for Stratum 1) /15

Number of Strata for Stratum 2 = (Sample Size for Stratum 2) /15

Number of Strata for Stratum 1 = 46 workers / 15 = 3.06, 3 strata

Number of Strata for Stratum 2 = 46 workers / 15 = 3.06, 3 strata

Randomly select 15 workers from each of the 3 strata in Stratum 1 and 15 workers from each of the 3 strata in Stratum 2, resulting in a total sample size of 90 workers (3 strata x 15 workers) for Stratum 1 and 45 workers (3 strata x 15 workers) for Stratum 2.

3.4.4 Data analysis

Data from the questionnaires was subjected to statistical analysis. Descriptive statistics, which involve summarizing data through measures such as means, frequencies, and percentages, were employed to provide an overview of the responses. Also, other statistical treatments were done to check for significant differences between work productivity under the piece wage and the time wage systems of payment of work at a construction site (Rahman & Muktadir, 2021).

3.5 Ethical Consideration

3.5.1 Entry into the research population

The Department of Construction Economics and Management provided the researcher with an introductory letter that helped her get to know the various study participants prior to including them in the interviews or carrying out this research on sites.

3.5.2 Consent and Protection of the respondents

The goal of the study was made clear to participants before the questionnaires are given out so that they understand their role and can actively participate in the study. It was appropriate for study participants to withdraw from the study or to withhold information when they feel uncomfortable. In the final report, names were protected, unless the subject specifically consents to having their information used in that way.

3.6 Chapter Conclusion

In this chapter, a step by step process has been demonstrated to guide the undertaking of this study. This chapter opened by specifying the research approach and design, the study population or the area in which the study was conducted, the sampling design, the sample size, data sources, data collection instruments and the validity and reliability of the data collection instruments.

It should be noted that the process of sampling for each and every objective has been demonstrated while determining the number of respondents/workers who were selected from piece rate and daily rate payment systems. This study employed a questionnaire given the fact that it has been proved to be rich, convenient and timesaving when it comes to large sample. A stratified random sampling was employed to ensure that equal representations are obtained from every construction site hence creating a balance in reposes.

CHAPTER FOUR

PRESENTATION AND INTERPRETATION OF RESULTS

4.0 Introduction

This chapter contains the results and the interpretation of the survey findings. The presentation was guided by the research objectives with the aim of generating responses for the research questions. The research objectives included; compare effectiveness of piecework and daily work payment systems on worker productivity at EMI Uganda's construction sites; compare the challenges associated with implementing piecework and daily rate payment systems at EMI Uganda and recommend the best payment system for EMI Uganda balancing productivity, cost efficiency, and worker satisfaction. The chapter begins with the presentation of general information and statistical tools such as, aggregated frequencies and percentages summarized in form of descriptive tables. The findings were presented in line with the stated objectives.

4.1 Response Rate

The researcher distributed questionnaire forms to 90 EMI Uganda staff. It should however be noted that out of the 90 questionnaires issued, 85 of them were used because 2 questionnaires were not returned while the other 3 were wrongly filled. This represents 94.3% response rate from EMI Uganda.

Table 1. Response Rate

Targeted responses	Attained responses	Response Rate (%)
90	85	94.4%

Source: Primary Data, 2025

4.2 Biodata of Respondents

Table 2: Biodata of Respondents

N=85

Biodata	Category	Frequency	Percentage
Gender	Male	63	74.1
	Female	22	25.9
Age	18-29yrs	15	17.6
	30-39yrs	35	41.2
	40-49yrs	24	28.2
	50-59yrs	8	9.4
	Above 60yrs	3	3.5
Education qualification	Ordinary diploma	15	17.6
	Bachelor's degree	40	47.1
	Post Graduate Diploma	22	25.9
	Masters' degree	8	9.4
Length of time at EMI Uganda	Less than 1yr	2	2.4
	1-5yrs	17	20.0
	6-10yrs	29	34.1
	Above 10yrs	47	55.3

Source: Primary data, 2025

It is evident from Table 4.2 above that majority of respondents were males constituting 74.1% whilst females took 25.9%. This means that the study was gender sensitive no matter the difference in representation.

In relation to age differences, majority of respondents were aged 30-39years taking 41.2%; those who were aged 40-49years were represented by 28.2% of the respondents. The 17.6% of the

respondents were represented by those with 50-59years. The remaining percentage arose from other age categories. This means that the study was informed by a good range of age differences. When it comes to education qualification, majority had studied with at least a bachelor's degree (47.1%). However, the section of respondents with post graduate diploma was represented by 25.9%. The remaining percentage emerged from those with ordinary diploma and master's degree. This means that the study was attended too by respondents who had the capacity to read and understand, hence cognitive power to provide required responses.

Lastly, a good section of respondents had been working with EMI Uganda for a period above 10years and these took 55.3%. These were followed by those who were aged between 6-10years and these constituted 34.1%; 20% of the respondents had been working for 1-5years. Generally, this is interpreted to mean that the study results were obtained from people who were largely experienced and possessing sufficient institutional memory in regard to piece and daily wage rate systems as employed at EMI Uganda.

4.3 Objective One: Effectiveness of piecework and daily work payment systems at EMI Uganda's construction sites

The effectiveness of PW and DW was investigated and measured in relation to their level of motivation to work harder, flexibility, production and excellence, safety performance and reduced workplace mishaps, taking job responsibility, compliance with the law, encouraging cooperation, recruitment and retention of qualified workers, aligning construction duties, bettering work-life balance, skill enhancement, lessening risk of musculoskeletal problems, simplicity and practicability, individual accountability, creativity, risk mitigation, speed at workplace, and how they help construction employees experience more job happiness and motivation. In order to

determine the effectiveness, the questionnaire was anchored such that; 1-Represents Very often, 2-Often, 3-Sometimes, 4-Rarely and 5-Never where respondents will be asked to indicate their response. Means close to 1 or 2 represent disagreement, while means close to 4 or 5 show agreement with the statement.

Table 3. Descriptive statistics on comparison for the effectiveness of piecework and daily work payment systems at EMI Uganda's construction sites.

Items	Mean	
	Piece wage rate	Daily wage rate
How often are you motivated to work hard?	2.96	3.04
The payment system often allows predictable labor expenses in relation to quantity of work finished	3.48	3.59
The system employed is flexible in managing costs and allocating resources	3.44	3.38
The payment system employed often encourages individual accountability.	3.85	3.76
The payment system employed often encourages one to produce as much work as possible while maintaining a high standard of excellence.	3.37	3.31
The payment system employed often encourages creativity	3.67	3.59
The payment system often motivates staff to adhere more closely to safety procedures, resulting in enhanced safety performance and fewer workplace mishaps	3.15	3.43
The payment rate often motivates employees to take responsibility for their job and actively participate in preserving a secure and healthy workplace	3.56	3.48
The payment system often aids the recruitment and retention of qualified workers in the company	3.61	3.56

The payment system often encourages a cooperative workplace/teamwork	3.38	3.35
The wage system gives employees some latitude to adjust to these unforeseen circumstances without jeopardizing their pay.	3.47	3.41
The payment system often enhances compliance with labor laws	3.81	3.73
The payment system often and automatically aligns construction duties including administration, coordination, or supervision at work place	3.84	3.66
The system employed is central in bettering work-life balance, which allows for more predictable working hours.	3.51	3.46
The payment system improves sufficient speed at workplace	3.81	3.66
The payment system gives employees the chance to take part in training courses and activities that will help them hone their skills.	3.76	3.41
The payment system lessens risk of musculoskeletal problems	3.58	3.75
The wage system helps construction employees experience more job happiness and motivation	3.73	3.54
Global Mean	**3.58**	**3.51**

Source: Primary Data, 2025

Results in Table 3 above, a global mean of 3.58 when rounded off to 4 indicates above average (high) effectiveness of piece work rate on worker productivity at EMI Uganda's construction sites. On the other hand, a global mean of 3.51 when rounded off to 4 indicates above average (high) effectiveness of daily work rate on worker productivity at EMI Uganda's construction sites. It should be noted that the higher the mean, the higher the effectiveness. This thus means that piece work rate system is more effective than daily work rate on worker productivity at EMI Uganda's construction sites.

The above is confirmed by majority of statements or items which depicted that piece work rate (PW) system to be more effective than daily work rate (DW) on worker productivity at EMI Uganda's construction sites. This is exhibited in the following statements with mean value above 2.44. For instance, on motivating employees to work hard (PW=2.96,DW=3.04); the payment system often allows predictable labor expenses in relation to quantity of work finished (PW=3.48, DW=3.59); the system employed is flexible in managing costs and allocating resources (PW=3.44, DW=3.38); the payment system employed often encourages individual accountability (PW=3.85, DW=3.76); The payment system employed often encourages one to produce as much work as possible while maintaining a high standard of excellence (PW=3.37, DW=3.31); The payment system employed often encourages creativity (PW=3.67,DW=3.59); The payment system often motivates staff to adhere more closely to safety procedures, resulting in enhanced safety performance and fewer workplace mishaps (PW=3.15, DW=3.43); The payment rate often motivates employees to take responsibility for their job and actively participate in preserving a secure and healthy workplace (PW=3.56, DW=3.48); The payment system often aids the recruitment and retention of qualified workers in the company (PW=3.61, DW=3.56); The payment system often encourages a cooperative workplace/teamwork (PW=3.38, DW=3.35); The wage system gives employees some latitude to adjust to these unforeseen circumstances without jeopardizing their pay (PW=3.47, DW=3.41); The payment system often enhances compliance with labor laws (PW=3.81, DW=3.73); The payment system often and automatically aligns construction duties including administration, coordination, or supervision at work place (PW=3.84, DW=3.66); The system employed is central in bettering work-life balance, which allows for more predictable working hours (PW=3.51, DW=3.46); The payment system improves sufficient speed at workplace (PW=3.81, DW=3.66); The

payment system gives employees the chance to take part in training courses and activities that will help them hone their skills (PW=3.76, DW=3.41); The payment system lessens risk of musculoskeletal problems (PW=3.58, DW=3.75); The wage system helps construction employees experience more job happiness and motivation (PW=3.73, DW=3.54).

The above implies that piece work rate system has been more effective than daily work rate because For instance, piece wage rate espoused employees to more motivation to work harder, flexibility, increased production and excellence, enhancing safety performance and reduced workplace mishaps, taking job responsibility, compliance with the law, encouraging cooperation, recruitment and retention of qualified workers, **a**ligning construction duties (administration, coordination, or supervision at work), bettering work-life balance, skill enhancement, and lessening risk of musculoskeletal problems. However, daily wage rate showcased effectiveness in making work simple and practical, individual accountability, creativity, risk mitigation, consistently improves sufficient speed at workplace, and helping construction employees experience more job happiness and motivation in comparison to piece wage rate

4.4 Objective Two: The challenges associated with implementing piecework and daily rate payment systems at EMI Uganda

To ascertain the better payment system, challenges affecting them were investigated while relying on the following KPIs including; stress and strain on employees, fatigue and risk of musculoskeletal problems, hostile work atmosphere, work accidents, injuries and impaired safety, lack of required recognition for skills and performance, unbalanced work life schedules at the construction sites, limited financial incentives for safety, and uneven workload distribution among construction workers appeared to challenge more significantly the daily work rate than piece work

rate, work monotonous in construction sites, limited motivation, job happiness, and general wellbeing and working longer hours.

The items in the questionnaire were anchored such that; 1-Represents Very often, 2-Often, 3-Sometimes, 4-Rarely and 5-Never where respondents will be asked to indicate their response. Means close to 1 or 2 represent disagreement, while means close to 4 or 5 show agreement with the statement. The results in table 4 showed the outcome of the analysis of the challenges associated with implementing piecework and daily rate payment systems at EMI Uganda as the respondents answered them. The interpretation of the results was given thereafter.

Table 4. Descriptive statistics on comparison about challenges associated with implementing piecework and daily rate payment systems at EMI Uganda

Items	Mean	
	Piece work rate	**Daily wage rate**
The payment system increases stress and strain on employees.	3.34	3.37
The payment system increases fatigue and risk of musculoskeletal problems	3.29	3.04
The payment system fosters a hostile work atmosphere that prevents people from collaborating and cooperating.	3.39	3.46
Work accidents, injuries and impaired safety are evident/common in construction sites	3.48	3.78
Work is monotonous in construction sites	4.04	2.88
There is limited motivation, job happiness, and general wellbeing	3.41	3.54
Lack of recognition for skill and performance	3.69	3.77
Employers may coerce employees into working longer than usual hours without paying a fair wage	3.64	3.26
There is an unbalanced work life schedules at the construction sites	2.98	3.84
There is limited financial incentives for safety	3.18	3.59

Possibility of an uneven workload distribution among construction	3.48	3.48
Global Mean	**3.43**	**3.48**

Source: Primary Data, 2025

Results in Table 4 above, a global mean of 3.43 when rounded off to 3 indicates neutrality (moderate) challenges associated with implementing piecework rate payment systems at EMI Uganda. On the other hand, a global mean of 3.48 when rounded off to 4 indicates above average (high) challenges associated with implementing daily rate payment systems at EMI Uganda. It should be noted that the higher the mean, the higher the effectiveness. This thus means that daily work rate system is faced with more challenges than piece work rate when it comes to their implementation at EMI Uganda's construction sites.

The results revealed that majority of the statements showcased that daily work rate system has more challenges with piece work rate system at EMI Uganda's construction sites. For instance, the payment system increases stress and strain on employees (PW=3.34, DW=3.37); the payment system increases fatigue and risk of musculoskeletal problems (PW=3.29, DW=3.04); the payment system fosters a hostile work atmosphere that prevents people from collaborating and cooperating (PW=3.39, DW=3.46); work accidents, injuries and impaired safety are evident/common in construction sites (PW=3.48; DW=3.78); work is monotonous in construction sites (PW=4.04, DW=2.88); there is limited motivation, job happiness, and general wellbeing (PW=3.41, DW=3.54); lack of recognition for skill and performance (PW=3.69, DW=3.77); employers may coerce employees into working longer than usual hours without paying a fair wage (PW=3.64, DW=3.26); there is an unbalanced work life schedules at the construction sites (PW=2.98, DW=3.84) and there is limited financial incentives for safety (PW=3.18, DW=3.59).

The above therefore implied that daily rate payments demonstrated a lot of challenges in relation to piece wage rate. For instance, stress and strain on employees, fatigue and risk of musculoskeletal problems, hostile work atmosphere, work accidents, injuries and impaired safety, lack of required recognition for skills and performance, unbalanced work life schedules at the construction sites, limited financial incentives for safety, and uneven workload distribution among construction workers appeared to challenge more significantly the daily work rate than piece work rate. However, this is not to say that piece wage rate did not have challenges. Piece wage rate is presents work monotonous in construction sites, limited motivation, job happiness, and general wellbeing, working longer hours, when compared to daily wage rate.

4.5 Objective Three: The best payment system for EMI Uganda balancing productivity, cost efficiency, and worker satisfaction.

The piece wage and daily wage rate payment systems were investigated and measured towards which one can best apply at EMI. The KPIs included, balancing productivity, cost efficiency, and worker satisfaction.

The items in the questionnaire were anchored such that; 1-Represents Very often, 2-Often, 3-Sometimes, 4-Rarely and 5-Never where respondents will be asked to indicate their response. Means close to 1 or 2 represent disagreement, while means close to 4 or 5 show agreement with the issue at hand. The results in Table 5 shows the outcome on best payment system for EMI Uganda balancing productivity, cost efficiency, and worker satisfaction as the respondents answered them. The interpretation of the results is given thereafter.

Table 5. Descriptive statistics for the best payment system for EMI Uganda balancing productivity, cost efficiency, and worker satisfaction

Items	Mean	
	Piece wage rate	Daily wage rate
Much work is completed within specific timeframes	3.45	3.69
The quality of output has improved at EMI Uganda	3.72	3.61
Output per hour has increased at EMI Uganda	3.56	3.78
The cost of doing business at EMI Uganda is high	3.60	4.01
The level of profitability at EMI is high	3.49	3.42
Resources at EMI are maximumly utilized	3.77	3.43
There is a high waste reduction	3.57	3.48
I often experience stress or anxiety related to work-related factors, such as workload, deadlines, or job demands	3.75	3.47
I often experience sleep disruptions or difficulties due to work-related factors, such as shift work, night shifts, or job-related stress	3.73	3.00
The level of turnover amongst employees is high	3.60	3.34
Global Mean	**3.60**	**3.48**

Source: Primary Data, 2025

Results in Table 5 above, a global mean of 3.60 when rounded off to 4 indicates above average (better) payment system for EMI Uganda balancing productivity, cost efficiency, and worker satisfaction. On the other hand, a global mean of 3.48 when rounded off to 4 indicates better payment system for EMI Uganda with implementing daily rate payment systems at EMI Uganda. It should be noted that the higher the mean, the better payment system. This thus means that the better payment system for EMI Uganda balancing productivity, cost efficiency, and worker satisfaction is piece rate work system more than the daily work rate system.

The above is exemplified in the following items including; much work is completed within specific timeframes (PW=3.45, DW=3.69); the quality of output has improved at EMI Uganda (PW=3.72, DW=3.61); output per hour has increased at EMI Uganda (PW=3.56, DW=3.78); the cost of doing business at EMI Uganda is high (PW=3.60, DW=4.01); the level of profitability at EMI is high (PW=3.49, DW=3.42); resources at EMI are maximumly utilized (PW=3.77, DW=3.43); there is a high waste reduction (PW=3.57, DW=3.48); I often experience stress or anxiety related to work-related factors, such as workload, deadlines, or job demands (PW=3.75, DW=3.47); I often experience sleep disruptions or difficulties due to work-related factors, such as shift work, night shifts, or job-related stress (PW=3.73, DW=3.00) and the level of turnover amongst employees is high (PW=3.60, DW=3.34).

It is noted thus, the best payment system for EMI Uganda balancing productivity, cost efficiency, and worker satisfaction is piece work rate. This is because it showed a lot of strengths and significant difference towards encouraging productivity and reduced sleep disruptions or difficulties (quality) when compared with daily work rates. However, daily work rate showed an upper hand in cost efficiency though not significantly differing from piece wage rate.

CHAPTER FIVE

SUMMARY, DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides the general conclusion of the study in the light of what is discussed in chapter four. The conclusion of the study covers a comparative analysis of productivity rates between piecework and daily rates in construction sites using a case of Engineering Ministries International Uganda. Furthermore, the general recommendation is provided regarding findings, observation and view of the researcher. The purpose of the recommendations is to inform the construction managers and agencies in Uganda that on the most productive rates. So, all in all; this chapter presents conclusions concerning the findings obtained and thereafter gives the appropriate recommendations in line with findings and consequent conclusion. Finally, an area that needs further study is provided purposely to fill the existing gaps.

5.2 Summary

It was established that there was no significant difference between piece wage and daily wage rates in relation to effectiveness. Each wage rate showed strength in several areas and slight differences were registered. For instance, piece wage rate espoused employees to more motivation to work harder, flexibility, increased production and excellence, enhancing safety performance and reduced workplace mishaps, taking job responsibility, compliance with the law, encouraging cooperation, recruitment and retention of qualified workers, **a**ligning construction duties (administration, coordination, or supervision at work), bettering work-life balance, skill enhancement, and lessening risk of musculoskeletal problems. However, daily wage rate showcased effectiveness in making work simple and practical, individual accountability, creativity, risk mitigation,

consistently improves sufficient speed at workplace, and helping construction employees experience more job happiness and motivation in comparison to piece wage rate

In regard to challenges associated with implementing piecework and daily rate payment systems at EMI Uganda, daily rate payments demonstrated a lot of challenges in relation to piece wage rate. For instance, stress and strain on employees, fatigue and risk of musculoskeletal problems, hostile work atmosphere, work accidents, injuries and impaired safety, lack of required recognition for skills and performance, unbalanced work life schedules at the construction sites, limited financial incentives for safety, and uneven workload distribution among construction workers appeared to challenge more significantly the daily work rate than piece work rate. However, this is not to say that piece wage rate did not have challenges. Piece wage rate presents work monotony in construction sites, limited motivation, job happiness, and general wellbeing, working longer hours, when compared to daily wage rate.

The best payment system for EMI Uganda balancing productivity, cost efficiency, and worker satisfaction is piece wage. This is because it showed a lot of strengths and significant difference towards encouraging productivity and reduced sleep disruptions or difficulties (quality) when compared with daily work rates. However, daily work rate showed an upper hand in cost efficiency though not significantly differing from piece wage rate.

5.3 Discussion of study findings

The study findings revealed that there was no significant difference between piece wage and daily wage rates in relation to effectiveness. Each wage rate showed strength in several areas and slight differences were registered. For instance, piece wage rate espoused employees to more motivation

to work harder, flexibility, increased production and excellence, enhancing safety performance and reduced workplace mishaps, taking job responsibility, compliance with the law, encouraging cooperation, recruitment and retention of qualified workers, **a**ligning construction duties (administration, coordination, or supervision at work), bettering work-life balance, skill enhancement, and lessening risk of musculoskeletal problems. This was synonymous with what had been established by Smith (2020) that piece wage system was proven to increase productivity and efficiency is a major factor in the usage of the system in the construction sector. Smith (2020) contends that this method motivates people to work hard and aim for increased productivity levels by rewarding employees depending on their production. The piece wage system establishes a clear connection between performance and payment, aligning workers' financial motivations with the objectives of completing projects on schedule and on budget (Kim et al. 2020). Similarly, Nawawi, et al., (2023) also concur with the above findings while indicating that piece wage rate improves simplicity and practicability. They also for instance argued that this system is comparatively easy to administer and compute, the piece wage system is a good alternative to other forms of compensation including time-based salaries. It necessitates keeping track of the quantity of work finished, making it appropriate for easily measurable jobs like concrete pouring, bricklaying, or painting. It is a viable option for construction companies because of its simplicity, particularly for jobs that need a variety of labor-intensive tasks.

However, daily wage rate showcased effectiveness in making work simple and practical, individual accountability, creativity, risk mitigation, consistently improves sufficient speed at workplace, and helping construction employees experience more job happiness and motivation in comparison to piece wage rate. This position is supported by Newman, et al., (2021) who had earlier indicated

that this system allows predictable labor expenses. This is because the time wage system gives construction organizations a better grasp of labor expenses that is more predictable. It is simpler for businesses to predict and budget for labor costs when workers are paid according to the time they spend on the task. For lengthy projects with extensive durations, this may be especially advantageous. Tariq and Gardezi (2023) further had noted that the time wage system offers the chance to pay employees in accordance with their qualifications and expertise. Higher hourly pay or salary may be given to employees with more specialized knowledge or experience to reflect their worth to the business. This could aid the recruitment and retention of qualified workers in the construction sector. Furthermore, collaboration is emphasized. For instance, Bajjou and Chafi (2020) also ascertained that the time wage system encourages a cooperative workplace. Workers are encouraged to work together in teams and cooperate as compensation is based on time spent rather than individual productivity. On construction sites, this can improve cooperation, coordination, and communication, resulting in better safety and productivity results.

Secondly, the study findings established that daily work rate was associated with more challenges when compared with piece work rate. For instance, daily work rate was found to be associated with numerous challenges including, stress and strain on employees, fatigue and risk of musculoskeletal problems, hostile work atmosphere, work accidents, injuries and impaired safety, lack of required recognition for skills and performance, unbalanced work life schedules at the construction sites, limited financial incentives for safety, and uneven workload distribution among construction workers appeared to challenge more significantly the daily work rate than piece work rate.

However, this is not to say that piece wage rate did not have challenges. Piece wage rate presents work monotonous in construction sites, limited motivation, job happiness, and general wellbeing, working longer hours, when compared to daily wage rate. Riyadi et al., (2025) indicated that the time wage system pays employees according to the number of hours they put in, which could result in longer workdays. Increased exhaustion brought on by long shifts or overtime can impair workers' physical and mental capabilities as well as attentiveness and focus. Workers who are fatigued are more likely to make mistakes, which raises the possibility of accidents, injuries, and impaired safety. In further confirmation, Casimiri (2020) associated limited incentive for efficiency with daily work rate system. In contrast to the piece-pay system, the time wage system might only offer modest incentives for employees to carry out duties effectively. Workers may be less motivated to accomplish tasks quickly or think of creative ways to increase productivity because they are paid according to time spent rather than output. On construction projects, this may lead to lower productivity and efficiency levels. Bake and Makinde (2021) also spoke about the potential for tedious work. For some construction employees, the time wage system may result in repetitious and tedious work. Long stretches of monotonous work without variation can lead to boredom, lower job satisfaction, and a general decline in wellbeing. Additionally, raising the risk of musculoskeletal illnesses and ergonomic-related problems is monotonous employment.

In congruence with the above, the study findings revealed that the best payment system for EMI Uganda is challenged by issues of balancing productivity, cost efficiency, and worker satisfaction is piece wage. This is because it showed a lot of strengths and significant difference towards encouraging productivity and reduced sleep disruptions or difficulties (quality) when compared with daily work rates. However, daily work rate showed an upper hand in cost efficiency though

not significantly differing from piece wage rate. Congruently, Amoah and Simpeh (2021) identified the possibility of unpaid overtime. In some circumstances, the time wage system may be open to abuse or the failure to pay employees for overtime hours worked. Employers may coerce employees into working longer than usual hours without paying a fair wage or they may falsify timekeeping records. This may result in financial strain, an unbalanced work-life schedule, and detrimental effects on the health and wellbeing of employees. Alves (2020) also argued that there is limited financial incentives for safety. Unlike the piece-wage system, which directly links increased production to higher pay, the time wage system may offer just a few financial incentives for employees to put safety first. If there are no immediate financial benefits, employees could be less inclined to make further efforts in safety procedures or take extra precautions. On construction sites, this may jeopardize safety results.

5.4 Conclusions

Basing on the study findings, they suggest that the piece rate and daily rate wage systems in the setting of a construction site have an impact on the health, safety, and wellbeing of workers. A number of KPI were evaluated, identifying areas that need improvement. A number of KPIs were evaluated to identify areas requiring improvement. The statistical analysis did not reveal a statistically significant difference between workers remunerated under the piece wage system and those under the time wage system. It is evident that workers' satisfaction, training and education, safety committees, risk assessments, incident reporting, hazard identification, safety equipment availability, supervision, workers' compensation, workers' health knowledge, safety leadership effectiveness, workers' use of personal protective equipment (PPE), sleep quality, and PPE maintenance rate are critical factors influencing labor health, safety, and wellbeing. Key finding of the study is that daily-wage workers are at a disadvantage to those who are paid on piece wage

rate. Worse levels of satisfaction, lessened access to education and training, limited participation in safety committees, a decline in incident reporting, and worse adherence to safety rules all reflect this.

5.5 Recommendations

A number of suggestions have been made to deal with these problems. These suggestions include enhancing work-life balance, increasing compensation and benefits, establishing safety committees, providing thorough training programs, conducting regular risk assessments, improving incident reporting systems, promoting hazard identification, ensuring the availability and proper use of safety equipment, improving supervisory training, providing access to thorough workers' compensation, creating health education programs, and investing in safety technology.

Increase Sample Size: Boost the sample size by adding more individuals from the time and piece wage groups. A bigger sample size can improve the analysis's statistical power and give a more accurate representation of the entire population.

Broaden the study Population: Consist of workers from various demographics, such as various age groups, degrees of experience, and job responsibilities. This can aid in capturing a wider variety of viewpoints and any discrepancies that would not have been noticeable in the initial sample. Consider carrying out additional research that is longer-lasting and involves a wider, more varied set of individuals. This can lead to a more thorough understanding of how pay regimes affect worker outcomes and enable more effective conclusions to be drawn.

5.6. Study Contributions

In relation to the study findings, this study makes three major contributions and that is on knowledge, policy and industrial as exemplified below;

On knowledge contribution, this study findings are worthwhile in highlighting how payment structures impact earnings, job satisfaction, and performance expectations. This understanding forms a theoretical input since better working conditions, fairer wage policies, and increased job motivation. Additionally, the study contributes to academic literature by addressing a research gap on the impact of payment models on construction worker productivity in Uganda. It provides empirical evidence that can guide future studies and inform best practices in labour management within the construction sector.

In relation to industrial contribution, the finding contributes in selecting the most effective payment model to enhance productivity, reduce labour costs, and improve project timelines in construction companies. In this case therefore, construction companies can easily reconcile both piecework and daily rate payment in realizing fairness and sustainability.

In regard to policy contribution, the study offers data-driven recommendations on best labour compensation practices, contributing to labour policies that balance worker welfare with economic efficiency. This is very important in determining when piece and daily rate can be employed for purposes of improving work productivity in construction industry in largescale projects across the board.

5.7 Suggestions for Further Studies

As the findings of this study are based on only key stakeholders in EMI Uganda, there is a need to conduct more empirical research on the significant difference between piece wage and daily wage rates in construction services/activities in Uganda and their different stakeholders. By doing so wage systems used will be fully utilized so as to ensure better construction and maintenance activities in infrastructural projects in Uganda.

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APPENDICES

Appendix I: Closed Ended Questions Used in the Questionnaire

Please answer all the questions in the questionnaire to help make our study successful. Your honest and complete responses are important for gathering valuable data.

Thank you for your participation!

Section A: Personal Data

Tick where applicable

1. **Gender of the respondent**:

Male	Female

2. **Age of the respondent**

18-29 years	30-39 years	40-49 years	50-59 years	60 and above

3. **Highest Level of Education**

Ordinary diploma	Bachelor's degree	Post graduate diploma	Master's degree	PhD

4. **How long have you been on EMI Uganda?**

Less than 1 year	1-5 years	5-10 years	More than 10 years

5. **Are you being paid based on a piece wage rate or a daily wage rate (TW)?**

Piece wage	Daily wage

Section B: Effectiveness of Piecework and Daily Work Payment Systems at EMI Uganda's Construction Sites

In this section, please tick in the box that corresponds to your opinion/view according to a scale of Very often (1), Often (2), Sometimes (3), Rarely (4) and Never (5). Please indicate the effectiveness of your payment system.

	Never	Rarely	Sometimes	Often	Very often
Motivated to work hard					
How often are you motivated to work hard?					
Simplicity and practicability					
The payment system often allows predictable labor expenses in relation to quantity of work finished					
Flexibility					
The system employed is flexible in managing costs and allocating resources					
Individual accountability					
The payment system employed often encourages individual accountability.					
Increased production and excellence					
The payment system employed often encourages one to produce as much work as possible while maintaining a high standard of excellence.					
Creativity					
The payment system employed often encourages creativity					
Safety performance					
The payment system often motivates staff to adhere more closely to safety procedures, resulting in enhanced safety performance and fewer workplace mishaps					

	Never	Rarely	Sometimes	Often	Very often
Job Responsibility					
The payment rate often motivates employees to take responsibility for their job and actively participate in preserving a secure and healthy workplace					
Recruitment and Retention of qualified workers The payment system often aids the recruitment and retention of qualified workers in the company					
Cooperation					
The payment system often encourages a cooperative workplace/teamwork					
Risk mitigation					
The wage system gives employees some latitude to adjust to these unforeseen circumstances without jeopardizing their pay.					
Compliance with the law					
The payment system often enhances compliance with labor laws					
Supervision					
The payment system often and automatically aligns construction duties including administration, coordination, or supervision at work place					
Work life balance					
The system employed is central in bettering work-life balance, which allows for more predictable working hours.					
Work speed					
The payment system improves sufficient speed at workplace					
Skill enhancement					
The payment system gives employees the chance to take part in training courses and activities that will help them hone their skills.					
Risk of musculoskeletal problems					
The payment system lessens risk of musculoskeletal problems					
Job happiness and motivation					

	Never	Rarely	Sometimes	Often	Very often
The wage system helps construction employees experience more job happiness and motivation					

Section C: The challenges associated with implementing piecework and daily rate payment systems at EMI Uganda

Using the following scale of Very often (1), Often (2), Sometimes (3), Rarely (4) and Never (5). Please indicate the challenges faced in implementing piecework and daily rate systems at EMI Uganda.

	Never	Rarely	Sometimes	Often	Very often
The payment system increases stress and strain on employees.					
The payment system increases fatigue and risk of musculoskeletal problems					
The payment system fosters a hostile work atmosphere that prevents people from collaborating and cooperating.					
Work accidents, injuries and impaired safety are evident/common in construction sites					
Work is monotonous in construction sites					
There is limited motivation, job happiness, and general wellbeing					
Lack of recognition for skill and performance					
Employers may coerce employees into working longer than usual hours without paying a fair wage					
There is an unbalanced work life schedules at the construction sites					
There is limited financial incentives for safety					
Possibility of an uneven workload distribution among construction workers					

Section C: Productivity, Cost Efficiency and Worker Satisfaction at EMI Uganda

Using the following scale of Strongly Disagree (1), Disagree (2), Not Sure (3), Agree (4) and Strongly Agree (5). Please indicate the challenges faced in implementing piecework and daily rate systems at EMI Uganda.

	Never	Rarely	Sometimes	Often	Very often
Productivity					
Much work is completed within specific timeframes					
The quality of output has improved at EMI Uganda					
Output per hour has increased at EMI Uganda					
Cost efficiency					
The cost of doing business at EMI Uganda is high					
The level of profitability at EMI is high					
Resources at EMI are maximumly utilized					
There is a high waste reduction					
Work Satisfaction					
I often experience stress or anxiety related to work-related factors, such as workload, deadlines, or job demands					
I often experience sleep disruptions or difficulties due to work-related factors, such as shift work, night shifts, or job-related stress					
The level of turnover amongst employees is high					

END

APPENDIX II:

TABLE FOR DETERMINING SAMPLE SIZE FROM A GIVEN POPULATION

N	S	N	S	N	S
10	10	220	140	1200	291

N	S	N	S	N	S
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Source: Krejcie & Morgan (1970, as cited by Amin, 2005)

Note. — N is population size.

S is sample size.