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Transforming Construction Project Management: A Study of a Comprehensive Property Development Planner

Chaitanya Lad, Harsh Vyapari, Jayesh Kulkarni, Pawan Kushwaha, 1 ^{1*}

Prof. Dipak W. Wajgi, 2²

¹ Students, St Vincent Pallotti College of Engineering & Technology College

² Faculty, St Vincent Pallotti College of Engineering & Technology College
Nagpur, India

Abstract—This study examines how a thorough Property Development Planner (PDP) may alter the way building projects are managed. The PDP is an application made to help contractors and real estate developers manage several projects. It features a calculator that calculates the quantity and price of every item needed, as well as a part for project management that keeps tabs on money transfers, employee attendance, material purchases, and photo documentation of project progress. The goals of this study are to evaluate the advantages of utilising a PDP, look at the difficulties in putting one in place, and assess how it affects construction project management. The study uses a mixed-methods approach to gather both qualitative and quantitative data, including case studies, questionnaires, and interviews. The study's conclusions imply that the PDP can increase project effectiveness, lower project expenses, and simplify project management procedures. The study offers information on the potential of a PDP to change the industry and adds to the continuing conversation regarding the function of technology in construction project management. Property developers, contractors, and academics interested in construction project management and technological solutions might find this study interesting.

I. INTRODUCTION

The real estate development sector is a significant component of the construction business, and managing such projects necessitates a complete comprehension of all relevant factors. The usage of thorough real estate development planners as a tool for efficient project management is investigated in this study. The goal of this study is to identify the many difficulties that developers and contractors have while managing building projects and to evaluate how well suggested plans would handle these difficulties. This research is significant because it offers a foundation for creating a comprehensive real estate development planner that simplifies the process of estimating, computing, and managing numerous construction project components. Reviews of the literature show how crucial excellent project management is to completing construction projects on schedule and within budget. To achieve our goals, we conducted a case study to test the proposed property development planner. The planner's capabilities were evaluated and its effectiveness in addressing project management challenges was evaluated. The key findings of the study show that planners are useful tools that can significantly reduce the time and effort required for project management and improve project outcomes.

In summary, this study demonstrates the effectiveness of the proposed land development planner as an all-in-one tool for managing construction projects. Planner provides comprehensive solutions to the various challenges developers and contractors face in managing construction projects. The research suggests that implementing a planner will improve project outcomes and increase efficiency in the construction industry.

BASIC DEFINITIONS

The process of constructing, enhancing, or remodelling real estate with the intention of leasing or selling it.



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Planning, organising, and supervising tasks and resources in order to accomplish certain goals and objectives is the practise of project management.

Comprehensive planner: A device or piece of software that aids in the thorough and integrated planning, scheduling, and monitoring of activities and resources by project managers.

Traditional property development management: The conventional method of managing a property development project, which may include manual procedures, a lack of integration, and insufficient stakeholder cooperation.

Collaboration is the process of working with one or more individuals or groups to accomplish a common goal or aim.

Integration is the process of bringing together many components or pieces to create a single, cohesive whole.

Efficiency is the capacity to complete a task or reach an objective with the least amount of time, effort, or resources wasted.

Effectiveness: The capacity to bring about a desired result or consequence.

Cost-benefit analysis is a method for weighing the advantages and disadvantages of a project or investment to see if it is financially feasible.

LITERATURE REVIEW

Coordination and administration of the many resources needed to accomplish a construction project are part of construction project management. The literature on this subject has emphasised the importance of good planning and management to guarantee project delivery success. Poor project management is to blame for the troubles the construction sector has been having with cost overruns, delays, and subpar work.

Studies have shown that the use of technology in project management can improve project performance. The implementation of a comprehensive property development planner can assist in managing the resources required for construction projects. The planner can handle multiple projects, manage transactions, and keep track of attendance, materials, and project progress.

Previous research has identified the importance of accurate cost estimation in project management. The property development planner's calculator function can provide an estimate of the required resources, including materials and labor costs. The planner can help avoid cost overruns, ensure that the project is completed within budget, and improve overall project performance.

Moreover, the use of technology in project management can also help to reduce delays and improve project completion time. The property development planner's attendance system can keep track of labor attendance and calculate daily wages, which can help reduce delays caused by absenteeism.

The implementation of the property development planner can also assist in managing project risks. The planner can help in identifying potential risks and mitigating them before they impact the project. The planner can also assist in managing change requests and project scope.

The present study builds upon the current knowledge base by proposing the implementation of a comprehensive property development planner to address the challenges of construction project management. The planner's various functions can help in managing resources, reducing delays, improving project performance, and managing project risks.

Materials & Methods

Below is a detailed description of the tools and procedures employed in this investigation.

Experimental approach: A quasi-experimental approach with pre- and post-test measurements was used to perform the investigation. The experimental group and the control group were each given a group of individuals. The experimental group utilised the property development planner application as the intervention, whereas the control group did not employ any interventions. The investigation took place over a six-month period.



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Participants in this study included contractors and real estate developers from various regions of the nation. A power analysis was used to establish the sample size, and 100 individuals in all were chosen for the study.

Procedures: Members of the experimental group were given access to and instruction on how to utilise the property development planner application. The application's many functionalities were split into two pieces so that it could manage multiple projects. The calculator in the first section was used to calculate the amount and price of all the materials needed for the project's initial estimation. The calculator in the first section was used to calculate the amount and price of all the materials needed for the project's initial estimation.

Data Collection:

The data was collected using pre- and post-test designs. Participants in both groups completed a survey at the beginning of the study to collect baseline data. The same survey was administered after the conclusion of the study to obtain data about the intervention's impact. The poll asked questions on project management practises, project outcomes, and overall app satisfaction.

Data Analysis:

Both descriptive and inferential statistics were used to analyse the data. The characteristics of the sample and the findings of the survey were described using descriptive statistics, such as means and standard deviations. The experimental and control groups were compared to see whether there were any significant differences using inferential statistics like t-tests and ANOVA.

The overall goal of this study was to determine if a thorough property development planner application might enhance project management techniques and results in the construction sector. The techniques employed in this study were created to offer a thorough and repeatable approach to looking at this significant subject.

For use by contractors and property developers to handle several projects, a thorough property development planner application was created in this study. The programme is divided into two primary sections: a calculator for calculating project expenses, and a multipurpose area for keeping track of transactions, attendance, resources, and progress pictures. According to the study's findings, the application that was created can efficiently handle many projects, determine project expenses, and monitor project progress. The application's calculator feature can precisely determine the amount and cost of materials needed for any project, including excavation, bricks, paint, tiles, rebar, and other slab construction types. The application's multi-functional component can efficiently handle transactions, attendance, and materials for each project while also keeping track of progress pictures.

Property developers and contractors can benefit greatly from the application's user-friendly layout and simple-to-use features as a tool for managing their projects. The creation of this application adds to the body of knowledge on project management and offers real estate developers and contractors a useful means of more effectively managing their projects.

II. RESULTS

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DISCUSSION

According to the study's findings, the complete property development planner application offers a potentially effective remedy for the problems associated with conventional property development management. The programme dramatically improves communication, cooperation, and decision-making by integrating all project phases and all parties involved. Project managers can swiftly make educated decisions thanks to the tool's visual interface and real-time data updates, which increase accountability and transparency. The complete property development planner application's distinctive qualities and advantages are further highlighted by a comparison with other tools of a similar nature on the market.

This work has important theoretical ramifications since it illustrates how technology has the ability to change the construction sector and enhance project management. The tool's practical uses go beyond real estate development to include industries like manufacturing, transportation, and infrastructure that require complicated project management. Because of the study's sample size and scope constraints, more research may be required to examine the tool's generalizability and scalability.

In conclusion, by solving the major difficulties encountered by project managers, the complete property development planner application has the potential to revolutionise conventional property development management. The results of the study offer empirical proof of the usefulness of the instrument, and their theoretical and practical ramifications are substantial. To fully explore the potential of technology in enhancing project management and developing the construction sector, further study in this area is required.

III. CONCLUSION

This study paper offers a thorough property development planner that, in the end, has the potential to revolutionise the way construction project management is carried out. The planner handles issues including poor coordination and communication between stakeholders, delays in project completion, and cost overruns that are present in traditional property development management. The planner makes it possible for stakeholders to collaborate and communicate more effectively by offering a centralised platform, which leads to quicker project completion and lower costs.

According to the study's findings, a thorough property development planner may greatly increase project management and boost the general success of real estate development projects. The programme offers a special combination of characteristics that set it apart from other comparable solutions on the market.

In conclusion, this research article adds to the body of knowledge on managing construction projects and offers a workable strategy for managing real estate development. Property developers, contractors, and other project stakeholders may find the application offered in this paper to be a useful resource.

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