

# Feasibility Analysis of Project Management Information System in a Media Company for IT Business Unit Using TELOS Feasibility Method

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**Abstract**— *Visqual* is a project management application designed to help project teams in the IT business unit manage projects more efficiently. Although *Visqual* has been used in such units, there has been no thorough research to measure the extent to which this application meets the needs of the users and the standards of the units. This research will investigate the extent to which *Visqual* can support the efficiency and effectiveness of project management in IT units. Apart from that, this research will also identify the potential for implementing *Visqual* in other business units in the company. This research aims to activate the feasibility of *Visqual* in management projects in IT units, as well as its potential use in other business units in the company. The research method uses feasibility analysis with the TELOS method. The research results show that *Visqual* is suitable for use in IT units with an overall feasibility score of 4.02 on a scale of 1-5. *Visqual* is considered very feasible in technical and operational aspects, feasible in economic and schedule aspects, but needs more attention to legal aspects. Development recommendations include security and legal compliance improvements, as well as feature development to increase added value for users.

**Keywords**— *Project management, Visqual, efficiency, effectiveness, feasibility, TELOS, business units, development, security, legal compliance.*

## I. INTRODUCTION

In the era of the fourth industrial revolution, the development of science and technology has progressed rapidly. Currently, technology has entered the era of society 5.0 where society is demanded to live alongside technology, mastering, and utilizing it. In society 5.0 era, humans are expected to overcome various social challenges by utilizing innovations born in the era of the fourth industrial revolution, which are centered around technology.

This change was initiated by the Covid-19 pandemic, which has lasted for more than two years, causing widespread impact on society. Many sectors have been affected by the pandemic, forcing society to learn and create innovations to survive and recover the economy. This situation has changed the patterns of life and behavior of society, especially in project management at a Media Company in the IT business unit.

In addition to the Covid-19 pandemic, other factors that have influenced technological development in the IT business unit include technological innovations and industry trends. This has led to the creation of a system to manage project management, called *Visqual*. *Visqual* is a web-based application that can be used by all employees in the IT

business unit at a Media Company.

The media company operates in a competitive and evolving industry. The company consists of various business units, some of which are involved in information technology projects. The IT business unit is responsible for managing and developing Information Technology infrastructure, as well as implementing systems that support business activities in the company. With the rapid growth of the company, the need for effective project management becomes increasingly important.

*Visqual* application is a project management system used to manage projects in the IT business unit. This system helps in planning, organizing, monitoring, and controlling all aspects of the project. Although it has provided benefits in managing and supervising previous projects, this system needs to be reevaluated to ensure its suitability with the formalities and requirements in managing project management in the IT business unit.

This research aims to analyze the feasibility of the *Visqual* project management information system in the IT business unit. By conducting a comprehensive feasibility analysis of this system, this research hopes to provide clear recommendations on whether the system is already feasible and suitable for user requirements or needs further system development to be effectively used by users in the business unit and to expand usage in other business units in the company.

## II. LITERATURE REVIEW

### A. Management Information System

According to Davis (2015:32), Management Information System (MIS) is an integrated human or machine system that presents information to support management operations and decision-making in an organization. McLeod and Schell (2017:96) further define MIS as a computer-based system, including other networks, that provides information to multiple users to support management functions and decision-making.

In summary, Management Information System (MIS) is an integrated system that combines human and computer technology elements to provide information supporting management functions and decision-making within an organization. Computer and network-based MIS provide fast and broad access to relevant information for various levels within the organization. The function of MIS is to assist the organization in planning, controlling, policy directing,

strategizing, managing organizational operations, and achieving goals more efficiently.

**B. Project Management**

Project management is a structured approach used to plan, execute, and monitor projects, aiming for successful outcomes within set constraints of time, budget, and quality. It involves activities like planning, resource management, progress monitoring, risk management, communication, and problem-solving. Sitanggang (2019:19) defines project management as a process that includes managing time, cost, quality, and risk to complete a project, while Dinata et al. (2010:3) describe it as an approach using infrastructure to plan, organize, lead, and control resources for predetermined goals.

In summary, project management is about efficiently and effectively completing projects by managing various aspects such as time, cost, quality, and risk. It entails a management process that includes planning, organizing, leading, and controlling resources to achieve project goals. Ultimately, project management is a vital tool for ensuring project success through efficient resource management.

**C. Information System Feasibility Analysis**

Feasibility analysis assesses the suitability of a project with its objectives and constraints. It involves evaluating economic, technical, operational, scheduling, legal, regulatory, social, and organizational aspects to determine if a project should proceed. The analysis identifies risks and issues for decision-making on investment or development.

An Information System, per Jonny Seah (2020), is a blend of information technology components that cooperate to produce information for communication within an organization or group. Another view by Wahyudi & Ridho, n.d. (2020), sees it as interrelated components aiming for a common goal. It comprises hardware, software, databases, networks, and people.

Feasibility Analysis of Information Systems evaluates the suitability of implementing an information system within an organization or group. It considers economic, technical, operational, scheduling, legal, regulatory, social, and organizational aspects. The analysis aims to determine feasibility, identify risks, and guide decision-making on investment or development, ensuring efficient operation and goal achievement.

**D. TELOS Method**

The TELOS Method (Technical, Economic, Legal, Operational, and Scheduling) is a feasibility analysis method used in the development and implementation of a system. According to Hasanah & Hanifah (2020), it evaluates the feasibility of a system based on its components, customized to a company's capabilities. Similarly, Sari et al. (2021) and Permatasari & Anggarini (2020) define TELOS as a method to assess the feasibility of system development and implementation, focusing on Technical, Economic, Legal, Operational, and Schedule components.

TELOS stands for Technical, Economic, Legal, Operational, and Scheduling, with the following explanations:

1. Technical: Evaluates Visqual's technical capabilities, such as project management features and reliability.
2. Economic: Assesses the cost-effectiveness and financial benefits of using Visqual.
3. Legal: Ensures Visqual complies with legal regulations, including copyrights and data privacy.
4. Operational: Examines Visqual's ease of use and its impact on operational efficiency.
5. Scheduling: Considers Visqual's scheduling capabilities and its flexibility in adapting to changes.

A study by Ningsi, Nurfitriya, & Nuzul (2023) on the use of TELOS in measuring the feasibility of e-government services found that the system development risk was low. However, they suggested adding interactive features to increase public participation in community services in the future. The application of the TELOS method is crucial, especially in project management information systems, as it provides a comprehensive evaluation of all aspects related to the project's success and feasibility. The case study from the journal article demonstrates how effective the method is in real-world applications, providing clarity and guidance for decision-making in projects. Specifically, in PT. MNC Media's IT business unit, applying TELOS will ensure that the project management information system is not only technically and economically feasible but also operationally efficient, legally compliant, and adheres to the set schedule.

**III. METHOD**

The research method uses the TELOS Method as a framework to evaluate the feasibility of the Visqual application. It starts with identifying issues regarding the quality feasibility of the application, followed by formulating questions related to the quality feasibility of the application based on the TELOS categories. Next, data is collected through questionnaire distribution, and the questionnaire data is analyzed to find the research results. This summarizes the method flow of this research.

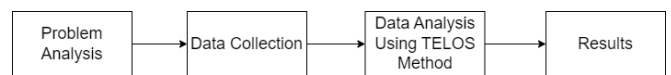


Figure 1. Research Method

**A. Problem Analysis**

In the problem identification phase, it was found that the application had not been tested for feasibility before. Therefore, a feasibility test is needed to ensure that the application meets standards in technical, economic, legal, operational, and scheduling aspects according to the needs and constraints of the organization. This feasibility test is crucial to ensure that the application can function effectively according to the needs and constraints within the IT organizational environment in a Media company.

**B. Data Collection**

In this research, a carefully designed questionnaire was used as the main instrument for data collection. The questionnaire consisted of several questions divided into five categories according to the TELOS method: Technical,

Economical, Legal, Operational, and Scheduling. Each category had questions designed to measure relevant aspects. Specifically, the Technical category focused on evaluating technical aspects, the Economical category included questions related to economic analysis, the Legal category evaluated legal aspects, the Operational category considered operational aspects, and the Scheduling category focused on scheduling. The indicators used in each category of questions were adapted from previous research conducted by (Lestari, Haryani & Wahyono, 2021).

Data collected via Google Form, distributed to IT's employees and managers through WhatsApp, aimed to assess Visqual's feasibility based on TELOS indicators Technical, Economical, Legal, Operational, and Scheduling. Responses were evaluated using a Likert scale, measuring agreement levels from 1 (Strongly Disagree), 2 (Disagree), 3 (Neutral), 4 (Agree), and 5 (Strongly Agree). Google Form's features facilitated structured data storage and automated report generation, streamlining data analysis.

C. Data Analysis Using TELOS Method

1. Determite The Feasibility Scale

The feasibility scale based on categories is determined using the Likert scale. This scale is used to measure the feasibility value from the questionnaire assessment conducted by respondents on the Visqual application. The Likert scale is a scale used to measure the perceptions, attitudes, or opinions of an individual or group regarding an event or social phenomenon (Bahrun, Alifah, & Mulyono, 2018; Saputra & Nugroho, 2017). The Likert scale of TELOS Feasibility Scale Measurement can be seen in table 1.

TABLE 1. TELOS Feasibility Scale Measurement (Rosyida, 2021)

Category	Scale
Not Feasible	0 – 0,1
Less Feasible	1,1 – 2,0
Moderately Feasible	2,1 – 3,0
Feasible	3,1 – 4,0
Very Feasible	4,1 – 5,0

2. Calculation of Scores for Each TELOS Indicator

The results of the questionnaire distributed to respondents will be obtained through the calculation of the average score for each indicator in the TELOS method. Before being calculated using the TELOS method, the score calculation for each indicator will be done using a scale. Each respondent will provide a value based on their level of agreement or disagreement with each statement in the questionnaire. Subsequently, the average score for each indicator will be calculated by summing all the scores obtained from respondents and dividing it by the number of respondents. The following formula is used to calculate the average for each indicator using the scale (Safarudin, 2018).

$$\text{Feasibility Average} = \frac{\text{total questionnaire score}}{\text{Number of Questionnaires}}$$

$$\text{Total Questionnaire Scores} = \text{Total} \times \text{Score}$$

3. Calculation of Total Score from TELOS Method

After calculating the scores for each TELOS indicator, the average value for each indicator will be obtained. These

average values will then be used in calculating the total TELOS score by combining the values from each aspect of TELOS, namely Technical (T), Economic (E), Legal (L), Operational (O), and Schedule (S), and then dividing by the number of aspects evaluated, which is 5. Thus, the analysis using the TELOS method will reflect the overall assessment of each aspect evaluated in the questionnaire, providing a more comprehensive overview of the feasibility of the Visqual application. The formula used to calculate the TELOS score is as follows.

$$\text{TELOS Score} = \frac{(T+E+L+O+S)}{5}$$

4. Analysis of Calculation Result

In the analysis phase of the calculation results, this research will conclude the feasibility of the Visqual application based on the five indicators of the TELOS method. This analysis will provide a comprehensive overview of how suitable the Visqual application is for use in the IT unit. The analysis results will be used to identify the feasibility of the application and to make recommendations for improvements or developments that are needed. Thus, this analysis phase is key in determining the next steps related to the development of the Visqual application to provide maximum benefits to users in the IT business unit. Additionally, the analysis results will also provide insights into the potential use of this application in other business units within the company. Therefore, the development of the application can be focused on meeting the needs of all business units, thereby improving efficiency and productivity throughout the company.

IV. RESULT & DISCUSSION

A. Project Management Business Process in IT

BPMN (Business Process Model and Notation) is a graphical representation used to model business processes. In the context of project management in the IT unit, BPMN is used to depict the workflow that includes planning, execution, and evaluation of projects visually. With BPMN, business processes can be easily understood and analyzed, and it allows for the identification of potential improvements or efficiencies in project execution. The business process of project management at IT can be seen in Figure 2.

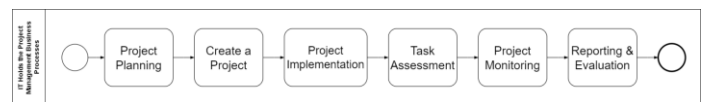


Figure 2. Project Management Business Process in IT

In project management at IT, there are three stakeholders involved the Division Head, Department Head, and Staff. Each of these stakeholders has their own role in planning, creating, implementing, assessing, overseeing, and evaluating the project. In this business process, the Division Head is responsible for overall project supervision, the Department Head manages project implementation at the department level, and the Staff carries out operational tasks according to the project work plan. This process enables good coordination between management levels and the implementation team to efficiently achieve project goals.

**B. User Requirement**

Based on the Business Requirement Document (BRD), user requirements for developing the Visqual application to manage projects at IT include several key requirements:

1. The application must have project management features that can be customized to fit the needs.
2. There is a need for features to organize tasks with flexibility.
3. The application must be able to manage multiple projects with various resources.
4. There should be reporting features that meet the needs.
5. The application must have performance evaluation functions for tasks performed by the team.

The user interface must be easy to understand and use by all users.

**C. The Purpose of The Visqual Application**

Visqual is an application designed to enhance project management efficiency and effectiveness within IT. It caters to user needs in handling complex projects from planning to evaluation. With Visqual, users can easily plan projects, allocate resources, track progress, and analyze performance. Its primary goal is to boost productivity, efficiency, and transparency in IT's project management. The objectives of developing Visqual are to improve project management efficiency, facilitate coordination among teams and departments, enable real-time project monitoring, and enhance human resource competencies through modern technology.

**D. Visqual Application Interface**

Visqual has an intuitive interface, allowing users to easily access key features like task management and project scheduling. Its user-friendly design enhances productivity and efficiency in project management. Figure 3 shows the login page, while Figure 4 displays the main dashboard.

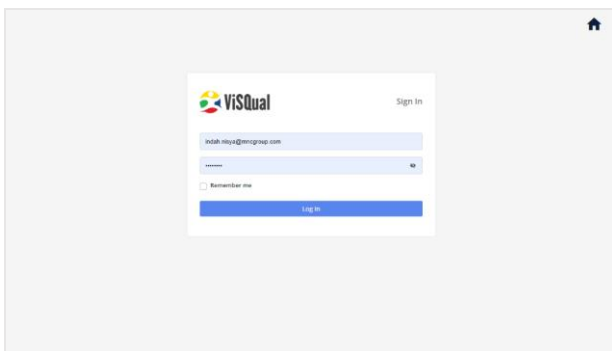


Figure 3. Visqual Application Login Page Interface

**E. Data Collection**

After designing the questionnaire, the next step is to determine the target respondents. For this study, 21 employees from the IT unit at MNC Media are targeted, including project managers and team members. The questionnaire will be distributed through email or WhatsApp, starting on February 15, 2024, with the last respondent expected to answer by February 16, 2024.

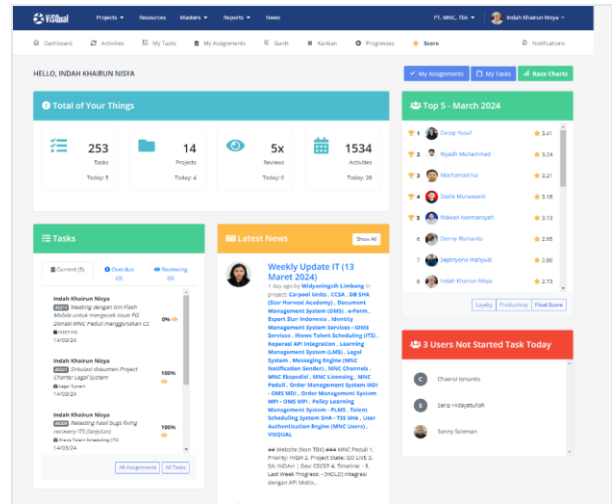


Figure 4. Visqual Application Main Page Interface

During the distribution, respondents will receive information about the research purpose and the assurance of data confidentiality. The collected data will be analyzed comprehensively to determine the feasibility of the Visqual application.

**F. Analysis of Questionnaire Results**

**1. Calculation Using TELOS Method**

On February 15-16, 2024, a questionnaire was distributed to 21 respondents who are employees of the IT unit and users of the Visqual application. These users utilize Visqual on a daily basis. The results of the questionnaire will be discussed in the following section.

• **Technical**

No	Questions	SD	D	N	A	SA
1	The Visqual application has features that meet the diverse technical needs of projects.	0	0	2	10	9
2	The Visqual application is reliable and quick in assisting with project management.	0	0	3	10	8
3	The user interface of the Visqual application is easy to understand for users.	0	0	0	12	9
4	The assignment feature of the Visqual application can be easily used.	0	0	5	6	10
5	The Visqual application is capable of overcoming technical challenges that may arise in the future.	0	0	7	9	5
<b>Jumlah</b>		<b>0</b>	<b>0</b>	<b>17</b>	<b>47</b>	<b>41</b>

$$\frac{(0 \times 1) + (0 \times 2) + (17 \times 3) + (47 \times 4) + (41 \times 5)}{(5 \times 21)}$$

$$\text{The average feasibility} = \frac{0 + 0 + 51 + 188 + 205}{105}$$

The average feasibility = 4.23

Based on the analysis of the technical indicator, the Visqual application obtained an average feasibility score of 4.23. This score places the application in the "Very Feasible" category. It indicates that users perceive the technical features provided by the Visqual application as highly feasible.

• **Economic**

No	Questions	SD	D	N	A	SA
1	The development and use costs of the Visqual application are proportional to the benefits obtained.	0	0	7	9	5
2	The Visqual application can reduce costs and increase efficiency in project management.	0	0	7	6	8
3	The Visqual application significantly contributes to improving the productivity and effectiveness of project teams.	0	0	5	5	11
4	The Visqual application has reporting features that can provide the necessary information for making the right business decisions regarding resource allocation and project budget.	0	1	8	7	5
5	Users can easily access and understand the information presented in the reporting features, facilitating efficient and timely decision-making.	0	0	5	9	7
<b>Jumlah</b>		<b>0</b>	<b>1</b>	<b>32</b>	<b>36</b>	<b>36</b>

No	Questions	SD	D	N	A	SA
1	Visqual is easy to understand and use by users.	0	0	3	6	12
2	Visqual is very helpful in organizing and tracking project tasks efficiently.	0	0	2	7	12
3	Visqual can facilitate communication and collaboration among project team members.	1	0	4	7	9
4	Visqual has an objective and measurable performance assessment method for team members.	0	2	3	8	8
5	Users are satisfied with the task assignments provided through Visqual based on applicable provisions.	0	2	4	9	6
<b>Jumlah</b>		<b>1</b>	<b>4</b>	<b>16</b>	<b>37</b>	<b>47</b>

The average feasibility = 
$$\frac{(0 \times 1) + (1 \times 2) + (32 \times 3) + (36 \times 4) + (36 \times 5)}{(5 \times 21)}$$

The average feasibility = 
$$\frac{0 + 2 + 96 + 144 + 180}{105}$$

The average feasibility = 4.02

Based on the analysis of the economic indicator, the Visqual application obtained an average feasibility score of 4.02. This score places the application in the "Feasible" category. It indicates that the economic aspects of the Visqual application, including development costs, maintenance, and the benefits derived from its use, are considered feasible by users.

• Legal

No	Questions	SD	D	N	A	SA
1	Visqual complies with all applicable legal regulations, including copyright and data privacy.	0	1	8	9	3
2	Legal risks associated with the use of the Visqual application have been well managed.	0	2	11	5	3
3	Visqual is excellent at protecting sensitive project data from cyber security threats.	0	3	9	6	3
4	Visqual can minimize the risk of legal violations in project management.	0	0	9	9	3
5	Visqual already has permission from the relevant directors to be used in the IT Holding unit.	0	2	3	8	8
<b>Jumlah</b>		<b>0</b>	<b>8</b>	<b>40</b>	<b>37</b>	<b>20</b>

The average feasibility = 
$$\frac{(0 \times 1) + (8 \times 2) + (40 \times 3) + (37 \times 4) + (20 \times 5)}{(5 \times 21)}$$

The average feasibility = 
$$\frac{0 + 16 + 120 + 148 + 100}{105}$$

The average feasibility = 3.65

Based on the analysis of the legal indicator, the Visqual application obtained an average feasibility score of 3.65. This score places the application in the "Feasible" category. It indicates that the legal aspects of the Visqual application, including compliance with applicable regulations, are considered feasible by users.

• Operational

The average feasibility = 
$$\frac{(1 \times 1) + (4 \times 2) + (16 \times 3) + (37 \times 4) + (47 \times 5)}{(5 \times 21)}$$

The average feasibility = 
$$\frac{0 + 8 + 48 + 148 + 235}{105}$$

The average feasibility = 4.18

Based on the analysis of the operational indicator, the Visqual application obtained an average feasibility score of 4.18. This score places the application in the "Very Feasible" category. It indicates that users consider the Visqual application highly feasible in terms of operational aspects, including ease of use, reliability, and effectiveness in supporting project operations.

• Schedule

No	Questions	SD	D	N	A	SA
1	Visqual makes it easy for users to view project schedules.	0	0	4	8	9
2	Visqual has proven to be effective and successful in managing project schedules well.	0	1	5	8	7
3	Visqual is capable of managing resources and schedules for multiple projects simultaneously.	0	0	4	8	9
4	Visqual can reduce the risk of project completion delays.	1	2	9	6	3
5	Visqual has flexibility in adjusting project schedules to accommodate changes.	0	0	3	9	9
<b>Jumlah</b>		<b>1</b>	<b>3</b>	<b>25</b>	<b>39</b>	<b>37</b>

The average feasibility = 
$$\frac{(1 \times 1) + (3 \times 2) + (25 \times 3) + (39 \times 4) + (37 \times 5)}{(5 \times 21)}$$

The average feasibility = 
$$\frac{1 + 6 + 75 + 156 + 185}{105}$$

The average feasibility = 4.03

Based on the analysis of the schedule indicator, the Visqual application obtained an average feasibility score of 4.03. This score places the application in the "Feasible" category. It indicates that users consider the Visqual application feasible in terms of scheduling, including its ability to help users efficiently and effectively manage project schedules.

After evaluating the feasibility of the Visqual application based on the five TELOS method indicators, the next step is to calculate the accumulation of TELOS scores. The calculation result is as follows.

TELOS Score =

$$\frac{4,23 + 4,02 + 3,65 + 4,18 + 4,03}{5}$$

5

TELOS Score = 4.02

Based on the calculation of the five TELOS method indicators, the Visqual application obtained a score of 4.02. This score indicates that overall, the Visqual application falls into the "Feasible" category. It shows that users of the Visqual application feel significantly assisted in managing projects efficiently and effectively. However, to improve the performance and usability of the application, further development is needed. This is aimed at ensuring that Visqual can provide maximum benefits not only in the IT unit but also can be used and beneficial in all company units in managing project management.

## 2. Analysis of Calculation Results

The analysis of the Visqual application using the TELOS method concludes that it is "Feasible" for use in the IT unit, with an overall score of 4.02. This indicates that Visqual meets the necessary standards for use in the unit, particularly if its use is to be expanded to other units within the company. Across all TELOS indicators, Visqual received scores of 4.23 for technical, 4.02 for economic, 3.65 for legal, 4.18 for operational, and 4.03 for schedule. Overall, Visqual is seen as being able to positively contribute to project management in the IT business unit.

For future research, it is recommended to involve more respondents from various business units in the company to obtain a broader perspective on the feasibility of the Visqual application. Additionally, research could focus on measuring the impact of Visqual usage on overall project management efficiency and effectiveness. Regarding Visqual's development, suggestions include:

1. Integration with Other Applications: Further develop Visqual to integrate with other commonly used project management applications.
2. Enhanced Security Features: Develop Visqual with enhanced security features, such as stronger data encryption and better access management.
3. Collaboration Feature Development: Enrich Visqual with features that facilitate collaboration among project team members.
4. Improved User Interface: Enhance the Visqual user interface to make it more intuitive and user-friendly.
5. Further Analysis and Prediction: Develop Visqual with more advanced analysis and prediction features. Implementing these suggestions could enhance Visqual's effectiveness and efficiency as a project management tool across various business units within the company.

## V. CONCLUSION

Based on the research using the TELOS method, the Visqual application is deemed "Feasible" for use in IT. With an overall score of 4.02, Visqual meets the unit's standards, especially for potential expansion to other units. Individually, Visqual scored 4.23 for technical, 4.02 for economic, 3.65 for legal, 4.18 for operational, and 4.03 for schedule aspects. This

indicates Visqual can positively contribute to project management in IT.

Future research should involve more respondents from various units for a broader perspective. Focus could be on measuring Visqual's impact on overall project management efficiency and effectiveness. Suggestions for Visqual's development include:

1. Integration with Other Applications
2. Enhanced Security Features
3. Collaboration Feature Development
4. User Interface Improvement
5. Further Analysis and Prediction Features

Implementing these suggestions can enhance Visqual's effectiveness and efficiency in project management across the company's units.

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