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Evaluating Successful Implementation of Fleet Management System

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Abstract. The growth of information systems has become a crucial requirement for companies, continuously expanding at a rapid pace. In 2019, the CAP company implemented the Fleet Management System (FMS) with the belief that it would enhance organizational performance and decision-making capabilities. Evaluating the information system is essential to ensure its optimal functioning according to user needs. This evaluation adopts the Delone & Mclean Model, encompassing five variables: system quality, information quality, service quality, user satisfaction, and net benefits. The objective of this study is to assess the success of the FMS implemented by CAP over a three-year period. Data collection involved distributing questionnaires directly to 80 user respondents from various divisions such as engineering, production, transportation, and drivers. Partial Least Square (PLS) analysis was performed using the SmartPLS software (v.3.2.9). The findings reveal that the FMS implemented at CAP has not effectively delivered significant benefits to its users. This is evident from the results indicating that system quality and information quality have no impact on user satisfaction, and user satisfaction, in turn, does not affect net benefits. Nevertheless, from the company's perspective, it can be concluded that the FMS has proven to be valuable in facilitating the decision-making process and improving overall business performance. This is supported by the results indicating that information quality and service quality significantly influence net benefits. Overall, this study highlights the importance of evaluating the success of the implemented FMS in providing tangible benefits to its users. The findings shed light on areas that require attention and improvement, particularly regarding user satisfaction and the realization of net benefits. These insights can guide future enhancements to the system and enable CAP to make more informed decisions. However, further research is necessary to explore additional factors that may influence the success of the FMS and address any limitations encountered during the evaluation process.

Keywords: Fleet Management System, DeLone and McLean Model, Implementation, System Evaluation

1. Introduction

In mining trankindo.co.id (2019) material transportation costs constitute 50%-60% of operational costs in mines, especially open pit mines, material transportation in mines is mainly reduced by load-haul-dump operations which include trucks and loaders (excavators). The problem of how to allocate, manage and optimize trucks or the fleet as a whole is always a homework assignment for all parties involved in mine operations and production. For companies, every effort to reduce production and operational costs as low as possible while maintaining the highest possible productivity (Increasing Production at Lower Costs) is a target that must always be achieved. Two factors that affect mining costs are fuel and tires. Fuel contributes the largest cost to fleet operations and continues to grow due to behaviors and conditions that cannot be monitored and controlled, such as high vehicle idle time, poor vehicle operator behavior, and unmonitored vehicle maintenance schedules. So, by monitoring vehicle status with the target of reducing idle time, companies can make huge savings in terms of vehicle fuel (Fuel Cost). FMS is a production fleet system, which is integrated with mining technology and technical knowledge so that production can run optimally, effectively and efficiently.

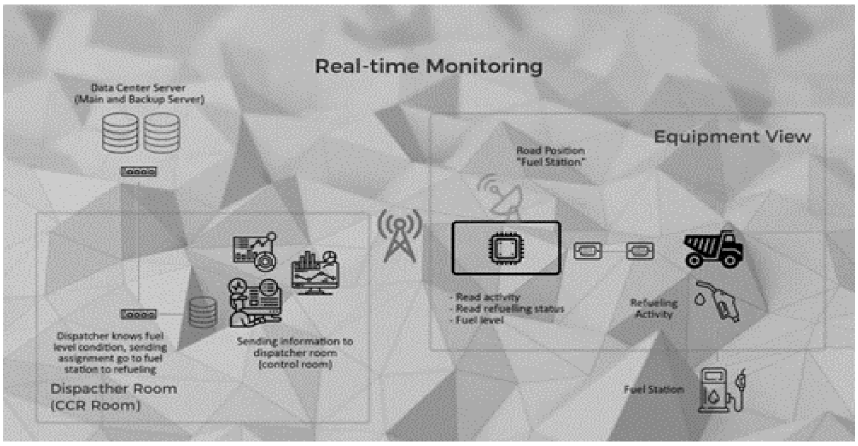

Fig. 1: Real-time Monitoring

Who needs an FMS? Of course, all divisions in the company. Why? FMS can assist in planning and implementing programs that are useful for eliminating administrative complexities of vehicle management, minimizing human errors, improving driver behavior, reducing costs, and making operational performance more efficient.

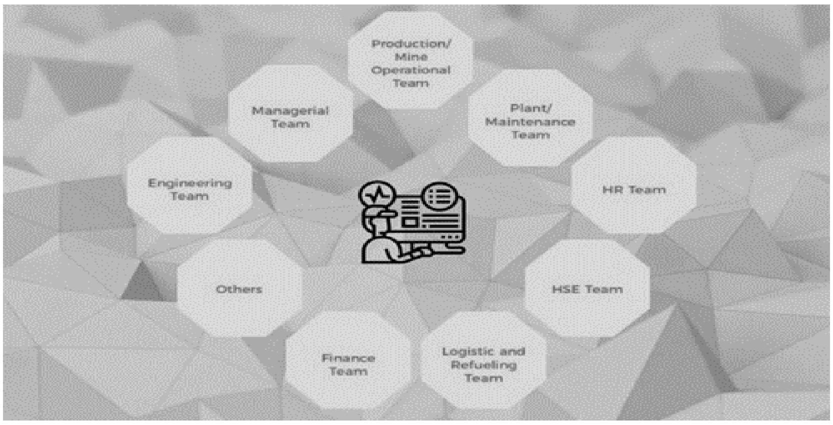

Fig. 2: Who needs FMS?

FMS has several features; the main feature of the most famous FMS is the Internet of Things (IoT). IoT can make mining activities controllable in real time from within the office which consists of several functions, namely: fleet control utilities, mine maps, optimizers, haul route utilities, dashboards, and reports (Bnourchir et al., 2020).

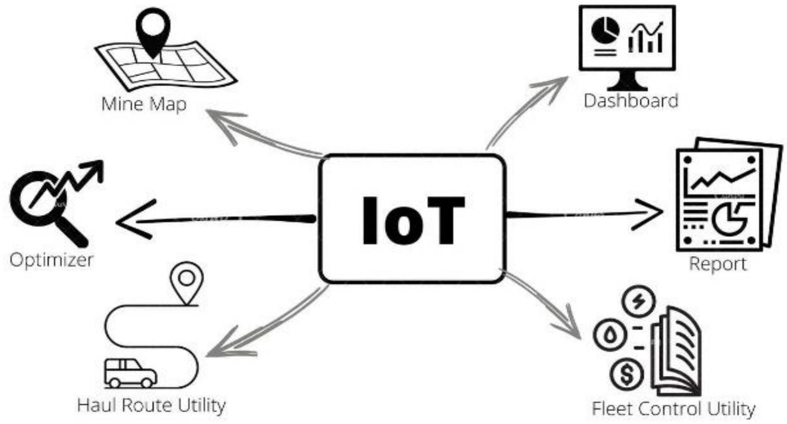

Fig. 3: Internet of Things

IoT can improve fleet availability, stability, and efficiency; reduce costs through effective maintenance planning, and eliminate unnecessary maintenance tasks (Kangbae et al., 2017). Furthermore, there is a Cost Tracking feature that functions to track the entire value of the vehicle, rental costs, fuel, and maintenance in one platform. Maintenance scheduling feature functions to view the maintenance schedule regularly, and promptly with an easy automatic administration process. Document Management System feature functions to manage vehicle documents including rental contracts and insurance premiums. Internal Transfer Management feature serves to make it easier to process and monitor the movement of each vehicle from one internal location to another. And the Driver Tracking feature works to track the driver who is responsible for the vehicle.

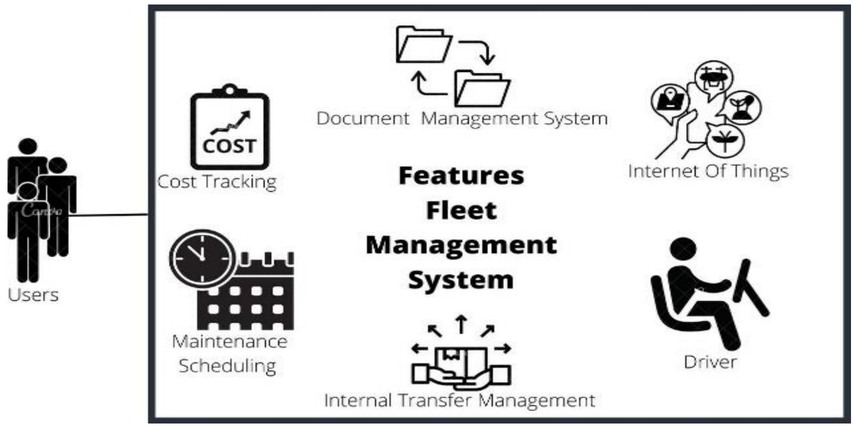

Fig. 4: Features of FMS

CAP is a company that has experienced and been involved in the coal industry for many years, working for various multinational companies. Some of the mining that has been carried out by CAP, namely Gatot Kaca, Krida Makmur Bersama, Permata Hitam Indah, International Prima Coal, Tubindo, Batuah Prima Energi and Insani Bara Perkasa. CAP itself has made its own FMS application since 2019 and has been modified 6 times. FMS in the CAP company is only used by professionals in the mining sector, especially in the production, engineering, hauling, and driver departments. Fleet Management is a crucial system that must be used by CAP because companies cannot run efficiently, and increase business productivity optimally if they do not have an asset or FMS.

The difference between this research and the previous literature is that this research evaluates the success of the fleet management system in coal mining companies. Which previous research is still very rarely researched, especially to evaluate the success of the fleet management system using the Delone and Mclean Model itself, especially in mining companies. There is much literature that discuss the evaluation of the effect of fleet management on mine operational performance using the Integer Linear Programming (ILP) approach and two different strategies. One of them is research conducted (Mirzae, et al., 2023). This study aims to analyze the effect of fleet management systems on operational efficiency and mine productivity. The ILP method is used to design a mathematical model that takes into account variables such as fleet capacity, movement speed, and operating costs. Two different strategies were used in this evaluation to compare the performance results and effectiveness of different fleet management systems.

Thus, to measure the success of FMS implementation at CAP, the updated D&M IS Success Model (Delone & Mclean, 2003) was used. The updated model includes variables of system quality, information quality, service quality, intention to use and use, user satisfaction, and net benefits. In this study, researchers did not use the intention to use and use variables because these variables had no effect on mandatory information systems. In systems in a mandatory use environment, users have no other choice so that system quality variables, system information, and system services affect user satisfaction. Therefore, actual system use is often used to measure the success of information systems but does not apply to situations where the system used is mandatory. Instead, user satisfaction should be used in measuring the success of systems that must be used (mandatory use). Judging from the success of information systems using the D&M model approach, the research objective is to evaluate the success of FMS at CAP. Which goal is stated with the question, Does system quality, information quality, and service quality affect user satisfaction? Does system quality, information quality, and service quality affect net profit? and does user satisfaction affect net profit?

2. Literature Review

Measurement of information system success with D&M IS Success. The model in this study used five dimensions, namely system quality, system information, service quality, user satisfaction and net benefits. The following is the theoretical framework in this research:

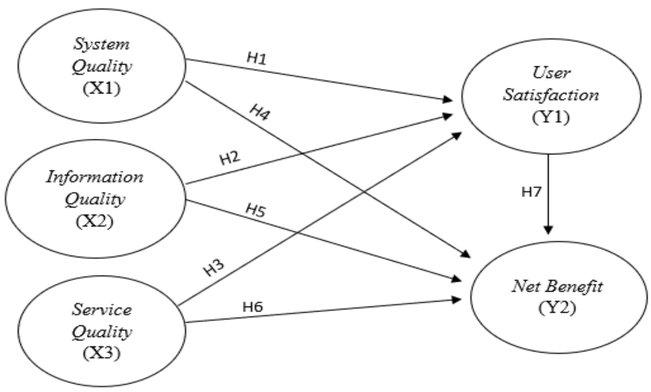

Fig. 5: Conceptual Framework

System quality represents the quality of the product of an information system and information quality represents the quality of the product produced by an information system. Both of these qualities define the attitude of the user as the receiver of the information. The use of system and information has an influence on users and on the system. The user's impact on the user will determine user satisfaction and the impact on net benefits. The effects of the system will affect the impact on the company and the quality of service. In addition, good system quality, information quality, and service quality, which are indicated by the benefits of system output, can affect the level of use of the system concerned, namely user satisfaction.

Therefore, it can be concluded that the better the system quality, information quality and service quality of a system's output provided, for example, the quick time to access, and the usefulness of the system output, this will cause users not to feel reluctant to reuse, thus the intensity of system usage will increase. This repeated use can be interpreted that the use made is beneficial to the user. The high degree of benefit obtained results in users being more satisfied with the system. Based on the framework above, seven hypotheses are formulated as follows:

The results show that system quality matches positively affect user satisfaction, of which accessibility is one of the determinants of reuse satisfaction, effectiveness and learning, while service quality and information quality do not (Wei et al., 2022). Results show that system quality, plays a decisive role in system user satisfaction (Costa & Joao, 2020). System quality sensed by users accompanied by information quality, service quality, and perceived benefits together explain 71.4% of the variance in user satisfaction. This suggests that system quality is able to have a positive and big contribution to user satisfaction (Dimah et al., 2020). A good system quality with one indicator is a fast and excellent response time. Which indicates that the system quality had a significant effect to user satisfaction (Salam & Farooq, 2020).

(H1): System Quality (SQ) affects User Satisfaction (US)

The quality of information is complete, it means that the information is of high quality. The user needs complete information to make decisions. This comprehensive information includes all the information needed by users in utilizing the information system. It indicates that the information system impacts the satisfaction of end-use system users (Awad, 2022). The data generated by the information system must be accurate because the data plays "an important role in the decision making of its users" (Franque et al., 2021). Therefore, the better the quality of the system, the better it is for user satisfaction (Hu Xinli, 2015).

(H2): Information Quality (IQ) affects User Satisfaction (US)

Overall, these results show that service quality affects user satisfaction (Sidek et al., 2022) Service quality have a significant relational with user satisfaction, and its impact on perceived benefits occurs indirectly through user satisfaction and intention respectively. The outcomes of this review offer theoretical and practical implications for improving the quality of online healthcare services (Shim & Joe, 2020). The service features of information systems have a basic ability to assist with making decisions for that attractive service features and tangible capabilities can increase service quality so that it can provide satisfactory results to system users (Kuo & Hsu, 2022). Service quality is essential to a system, so the higher the quality of service delivered by the system, the better it is for user satisfaction significantly (Garg & Sharma. 2020)

(H3): Service Quality (SerQ) affects User Satisfaction (US)

The system quality is said to be good if it can respond quickly and make it easier for companies to access it (Alotaibi & Alshahrani, 2022). Good system quality can be relied upon by the company to full fill the work according to the needs. System quality has a positive and significant effect on net benefit (Shargabi et al., 2021). In the system evaluation process, the quality of the system is needed to be easy to use to help users and also bring benefits to the business (Liu et al., 2021).

(H4): System Quality (SQ) affects Net Benefit (NF)

A company view is able to utilize existing information for decision making (Alotaibi & Alshahrani, 2022). The more accurate and relevant the quality of the information produced, the more it benefits the company. Information quality as a positive and significant contribution to net benefits (Akrong et al., 2022)

(H5): Information Quality (IQ) affects Net Benefit (NF)

The results showed that the information system success model has a strong benefit value to a system, which is primarily a service quality system provided by the system must be as good as possible benefit (Shargabi et al., 2021). Service quality has a positive effect on net benefits for the company. The higher the service quality provided by the information system supplier, the more net benefits will accrue to the company (Wartini et al., 2016).

(H6): Service Quality (SerQ) affects Net Benefit (NF)

User satisfaction has an impact on individual and corporate benefits (Milenia et al., 2020). User satisfaction with a system as a tool allows companies to run operations effectively and efficiently (Ahmed & Raad, 2021). User satisfaction is a positive and significant effects with net benefit (Nakwaya et al., 2021)

(H7): User Satisfaction (US) affects Net Benefit (NF)

3. Methodology

This research was conducted at a coal mining company, PT Coalindo Adhi Perkasa (CAP), located in Jakarta, Indonesia. This research is a quantitative approach, with a survey data collection of 23 questions. The data source of this research is primary data whose data is collected by distributing questionnaires directly. Data collection was carried out from May to June 2022. The population of this study are FMS users, especially the engineering, production, transportation, and driver divisions. The total population as well as the sample in this study were 80 respondents.

Data collection is processed using SmartPLS software version 3.2.9. able to analyze data using Partial Least Squares Structural Equation Modeling (PLS-SEM). In the variant-based SEM model or PLS-Path Modeling, this model consists of an Outer model (measurement model). Outer Model or Outer Measurement is also known as a measurement model. The outer model test aims to specify the relationship between latent variables and their indicators. This outer model test uses the help of the PLS Algorithm procedure. The analysis stage on the outer model is measured using validity and reliability testing. There are 2 measurements of the outer model of PLS SEM, namely reflective and formative model measurements. The first PLS SEM model measurement in the outer model is reflective measurement. The measurement model is assessed using reliability and validity. For reliability, Cronbach's Alpha can be used. This value reflects the reliability of all indicators in the model. The minimum value is 0.7 while the ideal is 0.8 or 0.9. In addition to Cronbach's Alpha, the ρc (composite reliability) value is also used, which is interpreted the same as the Cronbach's Alpha value. Reflective indicators should be removed from the measurement model if they have an outer raw loadings value below 0.4. In the outer model, we recognize 2 types or types of indicator relationships on the construct, so testing is carried out according to the form of the indicator, namely reflective indicators and formative indicators (Ghozali, 2016).

The first process carried out is to test the validity and reliability of each indicator, followed by hypothesis testing. There are variables used and their indicators in this study:

Table 1: Variable Operational Matrix

Source: Livari (2005), Jang (2010), Subiyakto et al., (2016), Saputro et al., (2018)

	Variable	Indicators
1	System quality (X1)	Ease of use, reliability, response time, Integrated and Accessibility
2	Information quality (X2)	Completeness, Accurate, Format, Timeliness, and Relevance
3	Quality service (X3)	System Assurance, Empathy, Ability, and Tangible
4	User satisfaction(Y1)	Satisfaction with system quality, Satisfaction with information quality, Satisfaction with service quality, Effectiveness, and Efficiency
5	Net benefit (Y2)	Speed of Accomplishing tasks, improved performance, saving costs, and saving time

4. Result

4.1. The Identity of Research Result :

Table 2: Respondent Characteristics

No	Description	Frequency	Percentage
1	Gender		
	a. Male	68	85
	b. Female	12	15
2	Age		
	a. < 30 Years	31	38,75
	b. 30-40 Years	24	30
	c. 41-50 Years	25	31,25
	d. >50 Years	-	
3	Last Education		
	a. High School	17	21,25
	b. Undergraduate	9	11,25
	c. Bachelor	49	61,25
	d. Master	5	6,25
4	Position		
	a. Production Admin	2	2.5
	b. General Manager	1	1.25
	c. Staff Operation	15	18.75
	d. Supervisor Engineering	2	2.5
	e. Foreman CCR Engineering	4	5
	f. Planner	9	11.25
	g. *Penanggung Jawab Operasional* (Person in Charge of Operational)	2	2.5
	h. Foreman Hauling	5	6.25
	i. Foreman Production	4	5
	j. Driver	20	25
	k. Supervisor Production	2	2.5
	l. Supervisor Hauling	2	2.5
	m. Staff Hauling	6	7.5
	n. Staff Engineering	6	7.5
5	Compatibility of Education with Work		
	a. Yes	63	78,75
	b. No	17	21,25
6	Started Working in an Organization		
	a. < 1 Year	11	13.75
	b. 1-2 Years	32	40
	c. 3-5 Years	17	21.25
	d. > 5 Years	20	25
7	Frequently Used Features		
	a. Cost Tracking	8	10
	b. Maintenance Schedule	9	11.25
	c. Document Management System	5	6.26
	d. Internal Transfer Management	5	6.25
	e. Driver Tracking	20	25
	f. Internet of Things Integration	33	41.25
	Total	**80**	**100%**

From the table of characteristics above, we can see which presentations of gender, age, last education, position, compatibility of education with work, started working in an organization and frequantely used feature. From the presentation can be seen what characteristics are most dominant at CAP.

4.2. The Evaluation of the Measurement Model or Outer Model

1. Convergent Validity
   The loading factor on the latent variable and its indications is the value of convergent validity. A construct's validity is assessed using the convergent validity value. The indicator is said to be valid if the loading factor is above 0.7 (original sample value), and the probability value (P

values)
is below 0.07. The following are the results of the validity test.

Table 3: Cross Loading

	X1	X2	X3	Y1	Y2
X1.1 (Easy of use)	0.871	0.359	0.274	0.188	0.285
X1.2 (Response Time)	0.891	0.388	0.448	0.344	0.302
X1.3 (Reliability)	0.898	0.466	0.472	0.357	0.365
X1.4 (Flexibility)	0.922	0.326	0.350	0.276	0.274
X1.5 (Integrity)	0.844	0.366	0.350	0.216	0.257
X2.1 (Competes)	0.298	0.800	0.276	0.191	0.362
X2.2 (Relevance)	0.394	0.763	0.333	0.285	0.186
X2.3 (Accurate)	0.383	0.908	0.423	0.289	0.371
X2.4 (Timeliness)	0.266	0.839	0.304	0.242	0.295
X2.5 (Format)	0.442	0.841	0.405	0.389	0.447
X3.1 (Tangibles)	0.271	0.318	0.741	0.287	0.361
X3.2 (Empathy)	0.410	0.334	0.857	0.371	0.518
X3.3 (Assurance)	0.349	0.451	0.830	0.400	0.350
X3.4 (Competence)	0.427	0.333	0.924	0.422	0.356
Y1.1 (Satisfaction with system quality)	0.353	0.366	0.390	0.914	0.204
Y1.2 (Satisfaction with information quality)	0.255	0.308	0.351	0.898	0.183
Y1.3 (Satisfaction with service quality)	0.324	0.321	0.488	0.876	0.282
Y1.4 (Effectiveness)	0.250	0.208	0.316	0.867	0.070
Y1.5 (Efficiency)	0.235	0.308	0.385	0.904	0.233
Y2.1 (Speed of Accomplishing task)	0.294	0.320	0.452	0.196	0.865
Y2.2 (Performance Improvement)	0.304	0.344	0.395	0.155	0.842
Y2.3 (Cost Savings)	0.270	0.424	0.433	0.249	0.941
Y2.4 (Saving Time)	0.343	0.392	0.421	0.216	0.907

From the table above, it can be seen that all existing indicators are considered valid as the value of factor loading is more than 0.7. The full analysis was compiled in Table 3 and Figure 6 for direct effects.

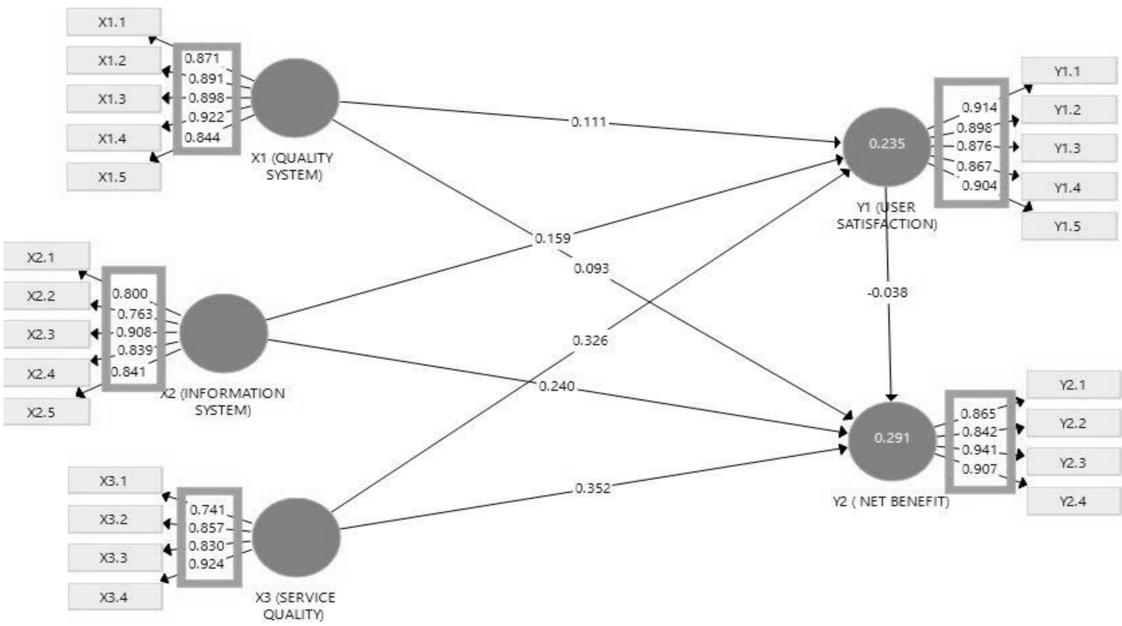

Fig. 6: Structural Model SEM

2. Discriminant Validity

Discriminant validity is the value of the cross-loading factor that helps know whether the construct has an acceptable discriminant or not. Several ways to see Discriminant validity can be measured by looking at the value of cross-loading between indicators and Fornell-Lacker's cross-loading. Table 3 shows that the loading value for the intended construct is greater than the loading value with other constructs, it can be seen from the numbers illuminated in yellow. The cross-loading value of the Fornell-Lacker model can be determined by examining the root value of the AVE, which must be greater than the correlation between constructs and other constructs. The results of the tests are as follows:

Table 4: Latent Correlation Variable

	X1	X2	X3	Y1	Y2
X1	0.886				
X2	0.436	0.832			
X3	0.439	0.426	0.840		
Y1	0.324	0.346	0.443	0.892	
Y2	0.340	0.417	0.478	0.231	0.889

Table 4, showing the roots of the AVE scores are greater than the relationship of the two conceptions. As a result, it can be concluded from the results of the two-stage cross-loading analysis that the discriminant validity check is error free.

3. Constructs Reliability

The reliability of the qualification model construct (outer model) with reflective indicators can be assessed by analyzing the composite reliability value of the indicator block that measures the construct. Here are the results:

Table 5: Reliability and Validity Constructs

Variable	Composite Reliability	Cronbach's Alpha	AVE
System Quality	0.948	0.937	0.785
Information Quality	0.918	0.932	0.692
Service Quality	0.905	0.911	0.706
User Satisfaction	0.951	0.980	0.796
Net Benefit	0.938	0.860	0.791

The results in table 5, show that the total reliability value of the construct, which is > 0.7, is relatively high. More than 0.6 is the suggested Cronbach Alpha value. The study showed that all the research variables have Cronbach Alpha values above 0.6.

4.3. The Evaluation of the Structural Model or Inner Model

1. Test Coefficient of Determination (R- square)

R square is a measure of the effect of exogenous (independent) variables on endogenous (dependent) variables. The R-square function of the user satisfaction variable is 0.235 and the net benefit variable is 0.291. This indicates that the variability of the user satisfaction and net benefit constructs can be explained by the constructs of system quality, information quality, and service quality, amounting to 23.5% and 29.1%, respectively. While the rest is explained by other variables other than those studied by 76.5% and 70.9%.

2. Test F-Square

The value of the F square can be measured with 0.02 as small, 0.15 as medium, and 0.35 as large. Here are the test results:

Table 6: F Square

	X1	X2	X3	Y1	Y2
X1				0.012	0.009
X2				0.025	0.059
X3				0.103	0.117
Y1					0.002

Based on table 6, the F square value shows a larger effect size with the criteria F Square> 0.35 does not exist. And the moderate influence, namely F Square that is 0.15 - 0.35, is the influence of X3 on Y2. As for the negligible influence, namely X1 on Y2, X1 on Y1, and Y1 on Y2 because it has an F Square value <0.02.

4.4 Hypothesis Testing

To evaluate the test hypothesis, this hypotheses test is made using a bootstrapping approach and a two tailed test with a significant level of 5%. It is accepted if the t-statistic value is more than 1.96 and rejected if the t-statistic value is less than 1.96. The following table shows the results of the t-statistic test:

Table 7: Bootstrapping Method

	T Statistics	P Values
System Quality → User Satisfaction	0.770	0.442
System Quality →Net Benefit	0.649	0.517
Information Quality →User Satisfaction	1.321	0.187
Information Quality →Net Benefit	1.988	0.047
Service Quality →User Satisfaction	2.745	0.006
Service Quality → Net Benefit	2.885	0.004
User Satisfaction →Net Benefit	0.353	0.724

It can be seen from the table above that four t-statistic values are less than 1.96 and are not significant because they are more than 5%. Three t-statistic values are significant or illuminated in yellow. So that it these results indicate that of the seven hypotheses there are only three hypotheses can be accepted and there are four hypotheses that are rejected.

5. Discussion

This study aims to measure the factors that influence the successful implementation of the Fleet Management System using five variables from the information system success model created by DeLone and McLean. In addition, seven hypotheses were identified, three hypotheses were empirically proven successful, and four hypotheses were rejected. The results of this study revealed the following:

System quality does not significantly affect user satisfaction. This is in line with research which states that system quality is not responsible for user satisfaction in using information systems (Yabaku & Salihu, 2018). The better the quality of the system, it does not provide satisfaction with its use. CAP needs to improve the quality of a better system to achieve user satisfaction in terms of perceived ease of use, reliability, response time, integration and accessibility.

Information quality has an insignificant effect on user satisfaction. This is supported by research which states that system quality has no effect on user satisfaction in using information systems (Ruth & Ford, 2017). This is because the information provided is not in accordance with the expectations and desires of users, so that users feel dissatisfied in using SIA. CAP own need to improve the quality of information by considering factors such as completeness, accuracy, format, timeliness and relevance to make FMS users feel satisfied in their daily use.

Service quality has a positive and significant effect on user satisfaction. The better the service provided by the system, the users will be helped in solving the problems faced and completing their work. CAP has succeeded in providing good service quality through FMS so that users feel more efficient and effective at work. These results are in accordance with the Delone & Mclean Model theory (2003), so that it can be concluded that based on good and higher service quality the system (FMS) will further increase user satisfaction.

System quality has no significant effect on net benefits. This is in line with research which says that a quality system has no effect on net benefits (Ruth & Ford, 2017). This indicates that system quality is still not enough to provide positive results. In addition, organizers do not have to benefit from a high-quality system. So that CAP needs to improve system quality with several factors to be able to save costs, save time and improve performance to assist in decision making for the company.

Information quality has a positive and significant effect on net benefits. These results are in accordance with the results of Delone & Mclean (2003), so it can be concluded that based on user perceptions, the higher the quality of information generated from the system (FMS), the more it increases net benefits for the company.

Service quality has a positive and significant effect on net benefits. This is also in line with Delone & Mclean (2003), so that it can be interpreted that the better the service provided by the FMS, the better the benefits that will be received by the company. CAP itself has succeeded in providing quality service for both users and companies in order to make work run optimally.

User satisfaction has no significant effect on net benefits. This is in line with research conducted (Akrong et al., 2014) which states that user satisfaction is the emotion shown by the user whether an individual prefers the information system or not. The FMS used by CAP is mandatory so that some users feel a little forced and pressured to use the system on a daily basis so that user satisfaction does not contribute to providing net benefits for companies to carry out work efficiently, effectively and optimally.

6. Conclusion

The results of this study state that of the seven hypotheses, only three hypotheses are accepted, namely service quality has a significant effect on user satisfaction. This means that CAP has successfully implemented FMS by providing service quality such as system assurance, empathy, ability and tangible to users so that users are satisfied with the quality of service that FMS has provided. Information quality has a significant effect on net benefits. This means that the quality of information generated by FMS can help CAP in the decision-making process and improve performance to be more efficient, effective and optimal.

Service quality has a significant effect on net benefits. This means that FMS provides good service to users and has an impact on the company in terms of net benefits such as improving performance, saving time and costs and being able to complete tasks on time.

While the four rejected hypotheses, namely, system quality has no significant effect on user satisfaction, information quality has no significant effect on user satisfaction, system quality has no significant effect on net benefits and user satisfaction has no significant effect on net benefits. Which means that FMS has not had a big impact on CAP, especially in various factors such as, Ease of use, reliability, response time, Integrated, Accessibility, Completeness, Accurate, Format, Timeliness, and Relevance. Therefore, it is expected that CAP itself can improve and consider these factors so that the FMS impact helps the company's performance optimally.

For further researchers and interested parties, the following suggestions can be given:

1) For future researchers, they can take a larger sample size and not only in one company, so that the results can be generalized.
2) Future researchers are expected to add other variables in the research to be carried out. So that it can modify the Delone & Mclean model and obtain diverse data and results.
3) For interested parties, company, or institutions that use FMS, especially for CAP that only implement the system in several divisions, in the future it is hoped that FMS can be used in all divisions so that FMS can run efficiently, effectively, optimally and help in decision making.
4) For company/institutions that use FMS, they can modify and update the features of the FMS. and update the features in the FMS, so that it can help the work run efficiently and effectively work runs efficiently and effectively.

References

Ahmed A.A, Raad .A (2021). Evaluating Facebook success in Iraq: An extension of the Delone and Mclean's Model of information systems, *Journal of Physics Conference Series Bristol*

Akrong G.B, Shao Y, Owusu E (2022). Evaluation of organizational climate factors on tax administration enterprise resource planning (ERP) system, *Journal Heliyon,* 8(6)

Al Fraihat, Dimah, Joy, Mike, M. R. S (2020). Evaluating E-Learning System Success: An Empirical Study, Computers in Human Behavior, *Journal Elsevier*

Alotaibi R.S, Alshahrani S.M (2022). An extended Delone and Mclean model to determine the success factors of e-learning platforms, *Journal PeerJ Computer Science*

Al Shargabi B, Sabri O, Aljawernah S, (2021). The adoption of an e-learning system using information systems success model : a case study of Jazan University, *Journal PeerJ Computer Science*

Awad Rehan, A. A. A. S (2022). Factors Affecting Student's Continued Usage Intention of E-Learning During COVID-19 Pandemic: Extending DeLone And McLean IS Success Model, *Journal of Eduaction and Teaching (JET)*

Bnourchir, Chergui, Machkour, Z, C, D, S, M. (2020). Intelligent Fleet Management System for Opet Pit Mine, *International Journal of Advanced Computer Science and Applications (IJACSA),* 11(5)

Costa J Carlos, Manuela A, Joao R. (2020). Determinant of The Management Learning Performance in ERP Context, *Journal Heliyon*

DeLone, W.H., dan McLean, E.R. 2003. The DeLone and McLean Model of Information System Success: A Ten-Year Update. *Journal of Management Information Systems,* pp. 9-30

Erwin S Panjaitan Sri, Nurzizia, Salsalina (2019). Analisis faktor- faktor yang mempengaruhi manfaat bersih yang di mediasi oleh kepuasan pengguna sistem informasi administrasi kependudukan, *Journal Seminar Nasional Sains dan Teknologi Informasi (SENSASI)*

Franque, F. B. O. T. T. C (2021). Understanding the factors of mobile payment continuance intention : an empirical test in an African context, *Journal Heliyon*

Garg S, Sharma S (2020). User Satisfaction and continuance intention for using e-training: A structural equation model, *The Journal Of Bussiness Perpective* 24(4)

Ghozali, Imam. 2016. Aplikasi Analisis Multivariete Dengan Program IBM SPSS 23 (Edisi 8). Cetakan ke V3. Semarang : Badan Penerbit Universitas Diponegoro.

Hu Xinli, (2015). Effectiveness of information technology in reducing corruption in China: A validation of the Delone and Mclean information systems success model. The Electronic Library, *Journal Emerald Insight*, vol. 33

Jang Chiyi L (2010). Measuring Electronic Government Procurement Success and Testing for the Moderating Effect of Computer Self- efficacy," *International Journal Digital Content Technology and its Applications*

Kang Bae Lee, D. K. R. C. K. P (2017). A Study on IoT - based Fleet Maintenance Management, *International Journal of Control and Automation,* 10(4)

Kuo C.S, Hsu C.S (2022). Continuance intention to use and perceived net benefits as perceived by streaming platform users: An application on the update IS success model, *Journal Behavioral Sciences,* 12(5)

Liu, Wenwen; Zhao, Jingfeng; Du, Longbo; Padwal, Harshila H.; Vadivel, Thanjai (2021). Intelligent comprehensive evaluation system using artificial intelligence for environmental evaluation. *Journal ScienceDirect*

Livari (2005). An Empirical Test of the Delone and Mclean Model of Information System Success. *The DATA BASE of Advances in Information Systems - Spring*

Milenia S, Thessalonica K, Levana D.P (2020). The success factors of e-filling tax reporting in Indonesia : An Empirical analysis using the Delone and Mclean IS success Model, *International Conference on Computers in Management and Business*

Mirzaei-Nasirabad, Mohtasham, M., & Rahimzadeh-Nanekaran, F. (2023). Evaluating the Effect of Fleet Management on the Performance of Mining Operations Using Integer Linear Programming Approach and Two Different Strategies. *Iranian Journal of Management Studies* (IJSM). Vol 16 No. 1

Nakwaya J, Hipondoka, Angombe, Dougill (2021). Evaluating the performance and procedural effectiveness of Namibia’s Environmental Impact Assessment system. J*ournal ScienceDirect*

Ruth Monika, Ford L. Gaol (2017). Measuring the success E- Cargo Implementation at one of Indonesia Airlines using Delone and Mclean Model," *IOP Conferences Series: Materials science and engineering*

Salam M, Farooq M.S (2020). Does Sosiability Quality of Web-based Collaborative learning information system influence students' satisfaction and system usage?, *International Journal of Educaction Technology in Higher Education,* 17(26)

Shim M, Joe H (2020). What quality factors matters in Enhancing the perceived benefits of online health information sites? Application of the Updated Delone and Mclean information system success model. *International Journal of Medical Informatics*

Sidek, Ali, Gamal (2022). An integrated Success Model of Internet of Things (IoT)- Based Services in Facilities Management for Public Sector, *Journal Sensors*

Subiyakto, Rahman, Mira, S, Y, Y (2016). The user satisfaction perspective of the information system projects, *Indonesian Journal of Electrical Engineering and Computer Science*

Saputro, Budiyanto, Santoso (2018). Model Delone dan Mclean untuk mengukur kesuksesan E-goverment Kota Pekalongan, *Scientific Journal of Informatics*

Yabaku N, Salihu D (2018). Assessing E-Learning System Success in Nigeria: An Application on The Delone and Mclean information system success model, *Journal of Information Technology Education*

Trakindo.co.id, "www.trakindo.co.id," April 2019. [Online]. Available:https://www.trakindo.co.id/id/tentang-kami/berita/catr-minestartm-pada-mining-surface. [Accessed 17 February 2022].

Wartini, N. N. Y. I. M (2016). Analisis Efektifitas Sistem Informasi Keuangan Daerah (SIKD) Pemerintah Kabupaten Jembrana," OJS. Unud Bali

Wei, W. L. W. Y. H. J.-L (2022). Developing and Validating a Business Simulation Systems Success Model in the Context of Management Education, *International Journal of Management Education,* 20(2).