Turn Around Maintenance (TAM) Project Success Factors: A Study of TAM projects in oil refineries in Rivers State, Nigeria [1]

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Abstract

This study specifically evaluated the effects of TAM success factors on the implementation of TAM projects on oil refineries in Rivers state, Nigeria. A survey was conducted using quantitative research methodologies, as well as the census sampling approach, to select a sample size of 78 practitioners at the oil refinery in Port-Harcourt, Rivers State, Nigeria. A well-structured questionnaire, semi-structured discussions, personal observations, and site visits were employed to collect data from oil refinery respondents. Results were analysed using SPSS Statistics 26.0. The primary objectives of the study were analysed using multiple regression. The data indicate that the five (5) most essential success variables for the successful execution of TAM projects are, in this order, TPC, RTM, FTP, PPR, TEA, FLN, ETT, PES, and QUS. The study shows that four (4) success variables that positively and significantly contribute to the successful execution of TAM projects are listed in this order: TPC, PES, QUS, and PPR. The criteria for robust top management support were identified as adequate in facilitating the implementation of TAM projects in oil refineries. This study concludes that successful TAM initiatives in Nigerian oil refineries requires top management support, qualified workers, and a comprehensive approach to ensure timely petroleum product release and economic growth.

Keywords: TAM projects, Port-Harcourt, Nigeria, Success factors, implementation, Oil refineries, Rivers state

1.Introduction

Turnaround maintenance (TAM) is mainly concerned with the engineering activities (maintenance and projects) that are carried out when all the operations of an engineering facility are shut down. Nnadi (2025) describes a planned general outage of equipment

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and assets that serve as the major means of production or service delivery for essential maintenance and statutory checks that cannot be done while the equipment or TAM is a planned general outage of equipment and assets that are an enterprise's major means of production or service delivery for the purpose of essential maintenance and statutory checks that cannot be done while the equipment or assets are in operation.

The inability to carry out a successful implementation of turnaround maintenance in oil refineries resulted from using different project management methodologies to manage TAM projects without considering their unique features as major means of production or service delivery for essential maintenance and statutory checks that cannot be done while the equipment or assets are in operation. Inability to carry out a successful implementation of turnaround maintenance in oil refineries resulted from using different project management methodologies to manage TAM projects without considering their unique features (Oliver, 2018). According to Ertl (2015) and Oliver (2013), the inability to successfully implement turnaround maintenance in oil refineries resulted from using different project management methodologies without considering the unique features of TAM projects (Oliver, 2018). these unique features mean that the factors affecting TAM projects' success and how they impact on it are different from that of EPC projects. Oliver (2013) pointed out that because these features of TAM projects are different from EPC projects, TAM projects are wrongly evaluated using EPC project evaluation. TAM projects are wrongly evaluated using EPC project evaluation.

In Nigeria, the inability to carry out successful implementation of turnarounds in their refineries is one of the major problems. This causes petroleum product scarcity despite being a major OPEC oil producer. This is because if TAM fails, I can reduce the capacity of the oil refinery, and I can also make it difficult to recover its productivity and efficiency (Pighadshy, 2019). Globally, refineries are faced with a rise in maintenance costs, maintenance time and their devastating impact on the operating budget in the long term due to unexpected and frequent failures. According to Prescott (2019), a typical refinery shutdown amounts to an estimated loss of between $20,000 and $30,000 per day. The enormity of the costs associated with TAM of oil refineries most of the time exceeds 30% of the allocated budget of TAM (Rebitzer & Hunkeler, 2018). TAM duration requires considerable attentions with critical equipment to execute its activity during a short period. The aim of this study is to ascertain if the identified factors contribute to the successful implementation of TAM projects in oil refineries.

2. Literature review

As previously stated, project management methodologies can be used to handle TAM initiatives. However, Ertl (2015) and Nnadi (2025) remarked that the immatureness of the project management discipline in the process industries for turnarounds is still very bad and stagnant at best. The fundamental issue with TAM project implementation is that organisations are still implementing EPC (Engineering, Procurement, and Construction) projects Ertl, (2015). One of the most difficult issues for TAM managers is recognising that turnarounds differ from EPC projects and thus require a different approach (Ertl, 2015; Oliver, 2018). These distinct qualities imply that the elements influencing the success of TAM projects, as well as how they affect TAM projects, differ from those of EPC projects. These characteristics also signal that TAM programs are being incorrectly evaluated, as the success assessment criteria should differ from what is now employed. The elements are presented in figure 1 are incorrectly applied to TAM projects, and thus are the key obstacles of successful implementation.

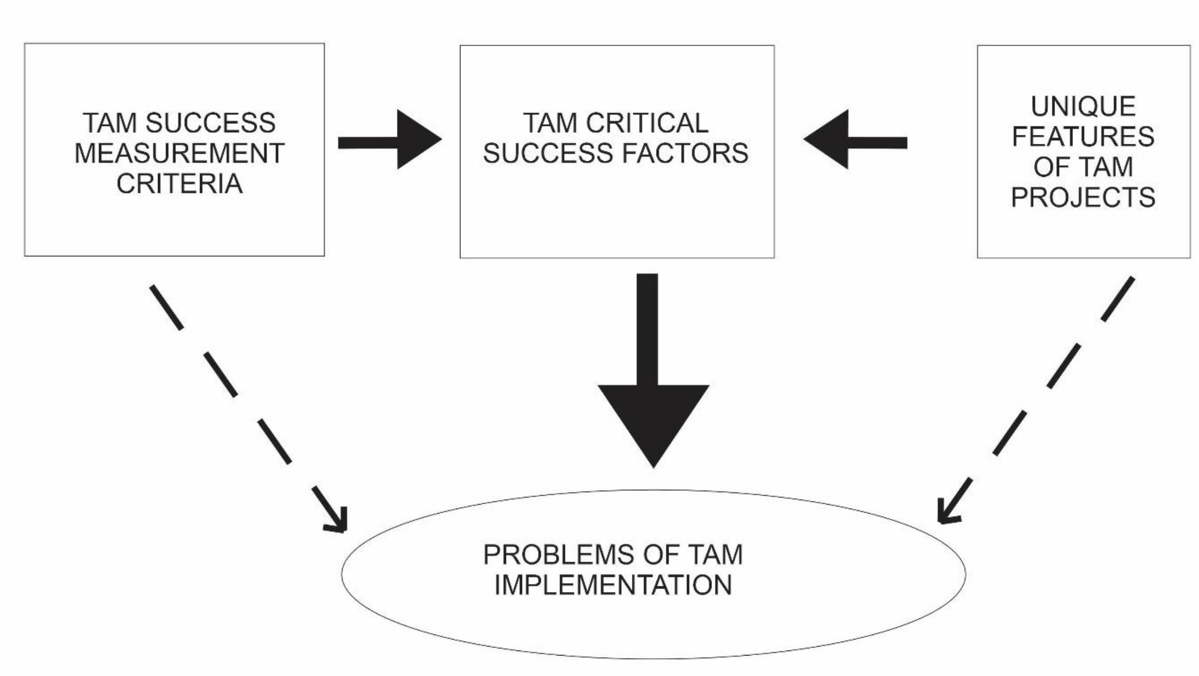

Figure 1: Major problems of TAM project implementation (Source, Ertl 2015).

Project evaluation is essential to understand and assess the key aspects of a project that make it either successful or unsuccessful. The success or failure of a project is influenced by a large number of factors, and many times it is difficult to measure them. These characteristics can only be accurately detected if the success criteria are correctly stated. Inadequate monitoring of project outcomes can contribute to it not being managed effectively. According to Naughton (2014), "If we want to forecast and influence the path of our initiatives, we need to know where, what, and how much to correct." Despite organisations' efforts to assure the proper execution of TAM projects, there are still tales of failure. One argument may be that organisations are willing to incorporate aspects such as techniques, tools, knowledge, and skills in order to achieve success, but they continue to measure the TAM outcome using the incorrect criteria. If it's measurement the criteria were the source of the reported failures; continuing to utilise them will just repeat previous failures.

2.1 Benefits of TAMs

It has been established that a TAM is by its very nature both waste of time and money, and ideation, the question that begins; why companies are still using TAMs (El-Banbi, 2020; Nnadi, 2025). Intuitively, the benefits outweigh the drawbacks in order to avoid risks during operations caused by equipment that cannot be inspected and maintained during normal operation, as well as to improve the efficiency of existing equipment (El-Banbi, 2020).

The world's oil firms seek to avoid total equipment shutdowns. However, there are also partial equipment shutdowns, which have hampered logistics and caused cost difficulties (El-Banbi, 2020). According to El-Banbi (2020), a total equipment shutdown is more feasible and less expensive than a partial stoppage. As a result, major shutdown difficulties continue to play a vital part in large-scale maintenance activities (El-Banbi, 2020).

Harker and Vargas (2020) agreed with Hori (2020) that TAM is not only necessary for minimising the risk of failures resulting from rigorous operating conditions, but also for;

i. improving productivity and increasing the reliability of equipment/units.
ii. Restoring equipment to its original state,
iii. Improving equipment safety and reliability,
iv. Improving equipment throughput efficiency,
v. Minimising routine maintenance costs, and
vi. Improving the dependability and availability of equipment while it is in normal operation.

Harker and Vargas (2020) also highlighted that TAM is a part of scheduled TAM, which can play a major role in identifying any number of objectives.

i. Achieve the highest quality of work.
ii. To reduce downtime.
iii. Reduce hazards and maintenance costs. iv. Utilise current equipment and approaches to improve maintenance skills.

Harker and Vargas (2020) listed some TAM-related consequences as:

i. It prevents unnecessary equipment shutdowns due to frequent TAM actions.
ii. It avoids prolonged TAM.
iii. It refers to some of the important activities during the TAM period.

As a result, it is expected that a TAM in the gas equipment consists of big and complex actions that have multiple benefits and drawbacks (Harker & Vargas, 2020; Nnadi, 2025). Gas firms should prioritise the benefits and symbols of TAM in decision-making processes in order to apply TAM and improve the efficiency and reliability of equipment (Harker & Vargas, 2020).

2.2 Successful Turnaround Maintenance

A successful TAM requires accurate and detailed planning with the goal of avoiding hazards between TAM periods in order to achieve environmental compliance, save expenses throughout TAM duration, and enhance availability of equipment (Harker & Vargas, 2020). Thus, a successful TAM event should satisfy all the needs of the execution phase of TAM during the planned phase in order to ensure availability and reliability of the equipment (Harker & Vargas, 2020). Furthermore, Harker and Vargas (2020) examine the profitability of the company. Korpi and Ala-Risku (2018) emphasised that planning TAM is a crucial aspect of successful TAM deployment, which involves budget, spare parts, duration, and contractors. Lingham (2020); Maples (2020) noted that successful TAMs rely on long-term planning to control the budget, time, and schedule. Maples (2020) identified several factors for the success of TAM: avoiding incidents in equipment, ensuring that the duration of maintenance does not exceed the target cost, ensuring that the start-up of equipment is successful, and outstanding maintenance performance. In contrast, Ertl (2015) recognised the duration of TAM, its cost, and risk management as a specific mechanism for its success.

According to Maples (2020), safety is one of the major factors used to judge the effectiveness of TAM. Hence, large portion of successful TAM depend on safety rules, which for many oil and gas companies that still suffer deficient in order to cover TAM activities because catastrophic accidents which have occurred, especially during pre-shutdown and start-up periods (Maples, 2020). Maples (2020) highlighted time, cost, environmental performance, and safety as essential indicators for measuring the success of the TAM event.

2.3 The Life Cycle of TAM

The life cycle of TAM is a process that aims to assure the success of TAM activity and return equipment to normal production specifications (Maples, 2020; Nnadi, 2025). This process contains four steps that can be defined as planning, preparation, execution, and termination. According to Maples (2020), TAM consists of four phases: planning, preparation, execution, and iteration. However, Park et al. (2018) emphasised that the successful execution of a TAM is dependent on adequate planning and preparation. As a result, each phase involves a defined set of key operations throughout a given time period, which is dependent on numerous criteria such as activity weight, money, time, material, and manpower. Park et al.

(2018), Duffuaa and Daya (2014), and Peters et al. (2018) discussed the life cycle of the TAM, which comprises of the following phases, as illustrated in Figure 2.

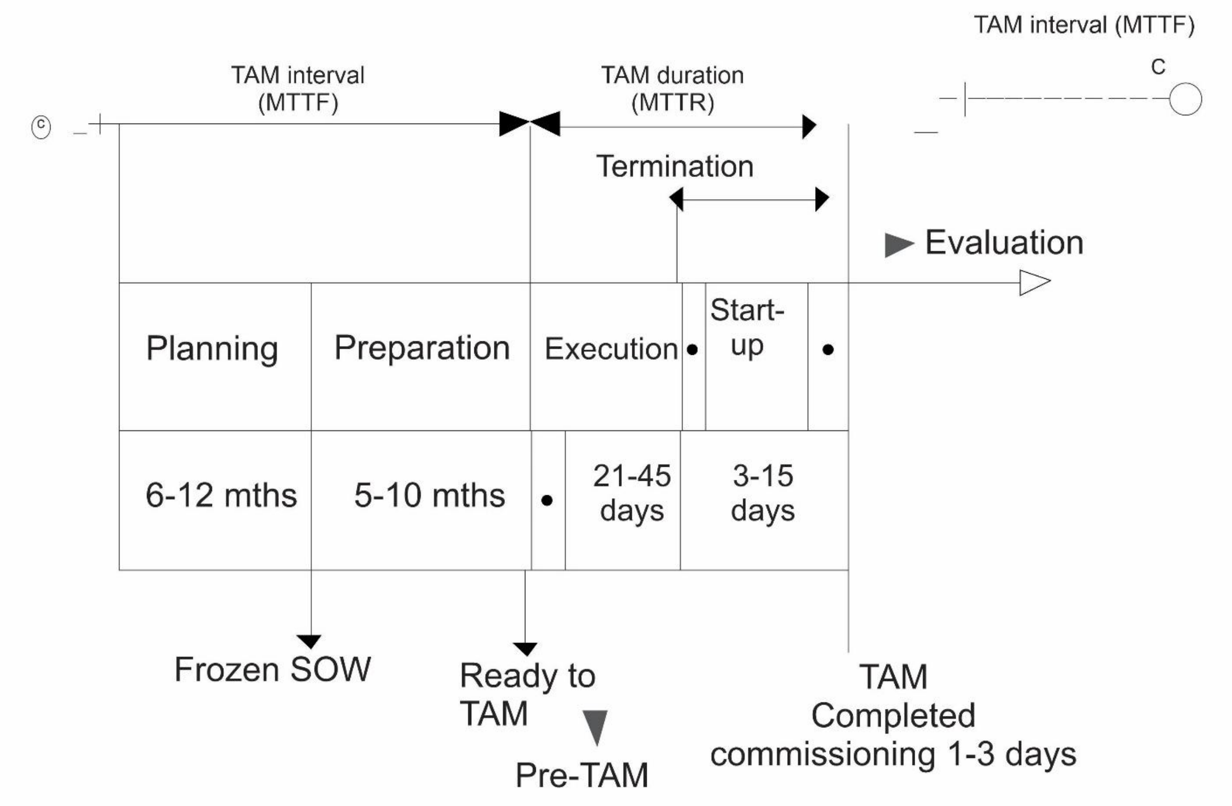

Figure 2: Life cycle of TAM (Bushman, 2017)

Pinto et al. (2020) described three additional types of TAM phases: pre-TAM, execution, and post-TAM. These TAM phases are critical for any processing equipment that is constantly subjected to high pressure and variable temperatures. As a result, it is vital to begin with adequate planning of TAM operations in order to achieve TAM criteria success (Pinto & Slevin, 2017).

3. Methodology

This study utilised a survey, qualitative, and quantitative methods. The use of a survey study design is justified by the fact that a questionnaire was utilised to collect primary data from senior cadre workers at Port Harcourt Refining Company and Warri Refining and

Petrochemical Company, both of which are participating in TAM activities. The study focusses on the Port Harcourt Refinery, which is located near Alesa Eleme Port Harcourt in Rivers State, Nigeria. The company supplies crude oil and semi-refined products to processing plants directly, and it owns one of Nigeria's most modern and technologically advanced refineries. The refineries occupy an area of more than 700,000 m2 and have a refining capacity of at least 3,900,000 tonnes annually.

This study's population consists of seventy-eight (78) senior staff members involved in TAM planning and implementation in the Operations Directorate of the Port Harcourt Refining Company.

The sample size for this study was 78. This is because it is concerned about top management, top team members, and other key stakeholders in the TAM project. Table 1 shows the technique for selecting the sample size.

Table 1: Computation of the Sample Size

Departments	Total number of staff
Administrative	8
Engineering	23
Accounting	7
Quality Management	8
Human Resource Management	4
Risk Management	7
Health, Safety And Environmental Management	8
Material Procurement	5
Logistics Management	4
Contract management	4
Total	**78**

Source: Author Computation, 2023.

Purposive sampling technique was utilised to choose Port Harcourt Refining Company over the other two refineries in Nigeria. The reason for selecting Port Harcourt Refining Company is closeness and simple access to the necessary data. Furthermore, this served as the research instrument for the respondents. A total of 78 questionnaires were distributed as samples to the respondents. Given the limited population, a census sampling method was used. Senior staff from Port Harcourt Refining Company's Operations Directorate who are involved in TAM planning and execution completed and returned the questionnaire.

Data for this study were acquired from both primary and secondary sources. The primary data used in this study was acquired utilising a structured questionnaire created by the researcher expressly for the purpose of this investigation. To guarantee uniformity, the questions were closed-ended and designed to elicit responses that reflected the features of the variables evaluated in the study. However, the secondary data came from the company's turnaround maintenance logs.

The researcher designed the questionnaire's content after evaluating relevant literature and empirical studies. It was separated into five sections: A, B, C, D, and E. Section A contained information on the demographic characteristics of the respondents; section B contained information on the contribution of identified evaluation to the successful implementation of TAM projects in oil refineries; section C contained information on identifying factors that are critical to the successful implementation of TAM projects in oil refineries; and section D contained information on the contribution of TAM management methodologies to the success of TAM projects in oil refineries. The section B-E of the questionnaire was constructed using a 4-point Likert Scale in the following format: 'no influence (0),' 'low influence (1),''medium influence (2),' 'strong influence (3),' and 'very high influence (4),' accordingly.

The questionnaire was validated based on its content. This was completed by a maintenance specialist. Their comments, revisions, and constructive criticism prompted the author to reframe and reconstruct some questionnaire items. To test the questionnaire's dependability, twenty copies were distributed to employees of Warri Refining and Petrochemical Company Limited. The refinery had comparable qualities to the Port Harcourt Refining Company Limited but was located in a different state. Both refineries are owned by the Federal Government of Nigeria. The instrument's reliability was determined using Cranach's Alpha in SPSS, which Lee Cronbach created in 1951 to examine for internal consistency. The Cronbach's Alpha table showed reliability coefficients of 0.79, 0.85, and 0.81 for sections 1, 2, and 3, respectively, with an overall reliability coefficient of 0.82. This demonstrates that the questionnaire was deemed appropriate for the study.

In other to achieve the objective of this study, which was to determine the extent to which identified factors contribute to the effective execution of TAM projects in oil refineries was determined using Ordinary Least Squares Regression Analysis. The Ordinary Least Square Multiple Regression Technique is calculated as follows:

$$Y_1 = f\,(X_1X_2\ldots\ldots\ldots\ldots..X_{10}{}^{e})$$

Where Y = dependent variable = How management methodologies contribute to TAM project success.

X_1-$X_{9:}$ Independent Variables Where

X_1= Scope management

X_2= Time management

X_3= Cost management

X_4 = Quality management

X_5 = Human resources management

X_6 = Risk management

X_7 = Health, safety and environmental management

X_8 = Material procurement management

X_9 = Contract management

Multiple regression analysis was utilized in the research to identify the extent of the success factors in contributing to the successful implementation of TAM projects in the oil refineries.

Table 2: Model summary for success factors for implementation of TAM projects in oil refineries

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.645[a]	.319	.202	1.20007
a. Predictors: (Constant), TPC, RTM, FTP, PPR, TEA, FLN, ETT, PES, QUS				
b. Dependent Variable: Successful implementation of TAM projects in the oil refineries				

The table above shows the regression model for the influence of success factors in the successful implementation of TAM projects in oil refineries. The table shows the values of the coefficients of determination R squared and R, which are 0.65 and 0.32, respectively. The R-squared value indicates that fluctuations in the contributing factors to the successful implementation of TAM projects in oil refineries account for 31.2% of the variance in the effects of the success factors. The coefficient of determination (R squared) indicates that the model is not fitted optimally. The coefficient of determination, corrected for the number of predictors in the model, is 0.202, which is greater than the unadjusted R square. This shows that there may be other opportunities to improve the model's adequacy by including an additional element that influences the outcome variable. The addition of an extra independent variable would increase the R Square value to that of the modified R square.

Table 3: ANOVA for success factors for implementation of TAM projects in oil refineries

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.960	9	1.996	1.021	.001b
	Residual	132.912	68	1.955		
	Total	150.872	77			
a. Dependent Variable: Successful implementation of TAM projects in the oil refineries						
b. Predictors: (Constant), TPC, RTM, FTP, PPR, TEA, FLN, ETT, PES, QUS						

The table above shows the results of an Analysis of Variance (ANOVA) on the effects of success factors in successful TAM project implementation in oil refineries. The analysis of variance (ANOVA) results for the regression coefficients show that the F value is 0.01, showing statistical significance at a level less than 0.05. This implies that the predictor coefficient is not equal to zero, at the very least. This also shows that the model is appropriate for the task.

Table 4: Coefficients for success factors for implementation of TAM projects in oil refineries

Coefficientsa								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	6.722	2.320		2.898	.005	2.094	11.351

	TPC	.480	.222	-.260	2.160	.034	-.923	-.037
	RTM	.130	.206	.080	.632	.529	-.280	.541
	FTP	.043	.216	.025	.198	.843	-.388	.474
	PPR	.109	.152	-.088	.717	.044	-.413	.195
	TEA	.003	.187	.002	.018	.986	-.370	.377
	FLN	.059	.176	.042	.338	.736	-.291	.410
	ETT	.002	.178	-.001	.009	.993	-.353	.350
	PES	.205	.163	-.165	1.260	.037	-.530	.120
	QUS	.168	.113	-.179	1.478	.041	-.394	.059

The table above shows the beta coefficients of all nine (9) independent factors vs the successful implementation of TAM projects in oil refineries. The coefficient for TAM projects completed within the estimated period (TPC) was 0.222, which is greater than zero, as indicated in the table above. The t statistic is 2.160, and the p-value is 0.034, indicating that the coefficient is significant at the 0.05 level of significance. This illustrates that TAM projects completed within the specified time frame (TPC) have a significant positive impact on the effective deployment of TAM projects in oil refineries. Strong top management support is essential for the successful implementation of TAM initiatives (RTM). The value was 0.206, which was more than 0. This coefficient's t statistic is 0.632, and the p value is 0.529, which is greater than 0.050. This indicates that the coefficient is not significant. Because the coefficient is not significant, RTM has no meaningful contribution to the effective implementation of TAM projects in oil refineries.

According to the coefficient table, formidable TAM project team members are important to the effective implementation of TAM projects. The coefficient for FTP is 0.216, which is greater than zero. The t-statistic is 0.198, and the p-value is 0.843, which is bigger than 0.05, indicating that the coefficient is not significant at the 0.05 level of significance. This shows that the successful execution of TAM projects in oil refineries is not considerably influenced by a formidable TAM project team member. The table also shows that proper personnel recruiting is crucial to the effective implementation of TAM projects (PPR), with a coefficient of 0.152, a t-statistic of 0.717, and a p-value of 0.044 (less than 0.05). This indicates that the coefficient is significant at the 0.05 level of significance. This illustrates that proper personnel recruiting is crucial to the effective implementation of TAM projects.

(PPR) has a significant positive influence on the successful implementation of TAM projects in oil refineries. Technology improvements are crucial to the effective implementation of TAM projects (TEA), with a coefficient of 0.187, a t-statistic of 0.018, and a p-value of 0.986 (higher than 0.05). This indicates that the coefficient is not significant at the 0.05 level of significance. This illustrates that technological developments are crucial to the successful implementation of TAM projects.

TEA has a significant detrimental impact on the successful implementation of TAM projects in oil refineries. FLN has a coefficient of 0.176, a t-statistic of 0.338, and a p-value of 0.736 (higher than 0.05). This indicates that the coefficient is not significant at the 0.05 level of significance. This reveals that the Formidable Logistics Network (FLN) has a significant detrimental impact on the successful execution of TAM projects in oil refineries.

The extent of technical task execution is crucial to the effective implementation of TAM projects (ETT) has a coefficient of 0.178, a t-statistic of 1.009, and a p-value of 0.993 (higher than 0.05). This indicates that the coefficient is not significant at the 0.05 level of significance. This reveals that ETT has no significant influence on the successful implementation of TAM projects in oil refineries. Stakeholder perception is crucial to effective TAM project implementation (PES), with a coefficient of 0.163, a t-statistic of 1.260, and a p-value of 0.037 (less than 0.05). This indicates that the coefficient is significant at the 0.05 level of significance. This reveals that stakeholder perception is crucial to the effective implementation of TAM projects (PES), which has a significant beneficial influence on the successful implementation of TAM projects in oil refineries.

Staff quality is crucial to the effective implementation of TAM projects (QUS), with a coefficient of 0.113, t-statistic of 1.478, and p-value of 0.041 (less than 0.05). This suggests that the quality of personnel is crucial to the effective implementation of TAM initiatives (QUS) is statistically significant at the 0.05 level. This illustrates that the variable has a significant positive impact on the effective implementation of TAM projects in oil refineries.

3.1 Discussion

To assess to what extent acknowledged success criteria contribute to the successful implementation of TAM initiatives in oil refineries. Multiple regression analysis was performed to evaluate how success factors influence the successful implementation of TAM initiatives in oil refineries. The regression table illustrates the model that influences the effective implementation of TAM initiatives in oil refineries. The table compares the beta coefficients of all nine (9) independent parameters to the successful implementation of TAM projects in oil refineries. The coefficient for TAM projects completed during the estimated period (TPC) was 0.222, which is more than zero, as shown in the table. The t statistic is 2.160, and the p-value is 0.034, implying that the coefficient is significant at the 0.05 threshold of significance. This demonstrates that TAM projects completed within the stated time frame (TPC) have a considerable positive impact on the successful deployment of TAM projects in oil refineries. Robust top management support is critical for the successful implementation of TAM initiatives (RTM), which was 0.206 and greater than zero. This coefficient has a t statistic of 0.632 and a p value of 0.529, which is greater than 0.050. This means that the coefficient isn't significant. Because the coefficient is not significant, RTM makes no meaningful contribution to the successful implementation of TAM projects in oil refineries.

According to the coefficient table, strong TAM project team members are essential for the successful implementation of TAM projects. The coefficient for FTP is 0.216, which is more than 0. The t-statistic is 0.198, and the p-value is 0.843, which is more than 0.05, implying that the coefficient is not significant at the 0.05 level of significance. This demonstrates that the successful completion of TAM projects in oil refineries is not significantly influenced by a formidable TAM project team member. The table also demonstrates that adequate people recruitment is critical to the successful implementation of TAM projects (PPR), with a coefficient of 0.152, a t-statistic of 0.717, and a p-value of 0.044 (less than 0.05). This shows that the coefficient is significant at the 0.05 level of significance. This demonstrates that adequate human recruitment is critical to the successful implementation of TAM projects. (PPR) has a major positive impact on the effective implementation of TAM projects at oil refineries.

Technology advancements are critical to the successful implementation of TAM projects (TEA), with a coefficient of 0.187, a t-statistic of 0.018, and a p-value of 0.986 (more than 0.05). This means that the coefficient is not statistically significant at the 0.05 level. This demonstrates that technology advancements are critical to the successful implementation of TAM projects. TEA has a severe negative impact on the successful implementation of TAM projects at oil refineries. FLN has a coefficient of 0.176, a t-statistic of 0.338, and a p-value of 0.736 (all greater than 0.05). This means that the coefficient is not statistically significant at the 0.05 level. This demonstrates that the Formidable Logistics Network (FLN) has a significant detrimental impact on the successful execution of TAM projects in oil refineries. The extent of technical task execution is crucial to the effective implementation of TAM projects (ETT) with a coefficient of 0.178, a t-statistic of 1.009, and a p-value of 0.993 (higher than 0.05). This means that the coefficient is not statistically significant at the 0.05 level. This demonstrates that ETT has no substantial impact on the effective completion of TAM projects in oil refineries.

Stakeholder perception is critical to effective TAM project implementation (PES), with a coefficient of 0.163, t-statistic of 1.260, and p-value of 0.037 (less than 0.05). This shows that the coefficient is significant at the 0.05 level of significance. This demonstrates that stakeholder perception is critical to the proper execution of TAM projects (PES), which has a major positive impact on the success of TAM projects in oil refineries. Staff quality is critical for the successful implementation of TAM projects (QUS), with a coefficient of 0.113, t-statistic of 1.478, and p-value of 0.041 (less than 0.05). This shows that people quality is critical to the successful execution of TAM efforts (QUS), which is statistically significant at the 0.05 level. This demonstrates that the variable has a considerable beneficial influence on the successful implementation of TAM initiatives in oil refineries.

Conclusion

The study found that factors such as TAM project completion time, stakeholder perception, staff quality, and proper personnel recruitment significantly contribute to successful project implementation. The total regression model on the parameters that contribute to the successful implementation of TAM projects in oil refineries yielded coefficients of determination R square of 0.65 and R of 0.32 at the 0.05 level of significance. This is because all of their coefficients had p-values less than 0.05. According to the coefficient of determination, successful implementation of TAM projects at oil refineries influences 31.2% of the variation in success variables. This suggests that there is a strong positive correlation between the successful execution of TAM projects in oil refineries and the four (4) crucial success elements. This analysis suggests that TAM projects are vital to the nation's economy and should be finished on time to ensure access to petroleum products for all. The timely release of such products will also help to alleviate the suffering of the people. The perception of stakeholders, including the government and oil refineries, should be for the greater interest of the people. The stakeholders must perceive the concept of guaranteeing that the TAM project is intended to achieve a goal. Their understanding of TAM should be holistic and comprehensive. Parochial sentiments should not be the norm here. The way they perceive the TAM initiative will determine whether or not it is successful. The calibre of personnel deployed to participate in the TAM project is also extremely important. To ensure the success of the TAM project, competent and experienced personnel should be deployed. Staff without "political or clannish" inclinations should not be encouraged, regardless of who is involved. This has been the root cause of Nigeria's problems since their inception.

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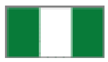

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