

Challenges to effective project delivery in niger delta



The oil and gas industry is facing unprecedented increased investment in capital projects in recent years as a result of increasing energy demand worldwide. A lot of capital projects have been lined up in the portfolios of national, international and private indigenous oil companies, resulting in huge capital spending on investments.

This has led to an increase in the number of very large projects with increasing project complexities especially in demanding environments and new frontier areas, changing industry competition and changing political and regulatory requirements of host countries.

The increasing expenditure and attendant risks applicable to these projects have made effective project delivery a common topic of interest among top executives in both national and privately owned companies. This is because most projects executed today do not meet good performance in terms of project delivery.

In Nigeria, only a few indigenous companies have effective project management competency, and are poor in terms of project delivery. Most companies operating in the Niger Delta, Nigeria's vast oil and gas region, have serious challenges meeting their project performance. This is because effective project delivery has been a serious concern to both local and foreign companies' operations in the area.

This is not as a result of a dearth of knowledge in project management and its application, but owing to certain prevailing constraints that are known but improperly captured in the execution strategy of most of these experienced and even competent foreign firms.

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This constraint makes project execution in the region less competitive and more expensive compared to elsewhere in the world, and as such, a comprehensive understanding of these constraints to effective project delivery together with the right analysis and implementation into project execution strategy is what would guaranty successful project performance.

This paper examines the underlying factors affecting the smooth implementation of project delivery in the Niger Delta, and ways to mitigate their effect.

This paper concludes by recommending that all stakeholders with authority and responsibility should as a matter of urgency resolved the Niger Delta insecurity problem as it is the single most important constraint to effective project delivery, and also companies operating in the region should undertake elaborate analysis of the risk profile of the project at the front end stage so as to mitigate the impact of insecurity costs on their projects.

2. 0 FORWARD

Nigeria holds vast reserves of oil and the largest gas reserves in Africa and this are located in the Niger Delta region of the country.

However, the region has been a source of conflict, as a result of agitation by local groups seeking a share of the oil wealth. These groups often attack the oil infrastructure and staff, causing damage to facilities, loses of life, kidnapping of foreign oil workers, shut-in production, pollution, and disruptions in the execution of projects.

The current instability in the region is posing serious risks to business and investments and as such, both government and private institutions are intensifying efforts in addressing the root causes of the problems in the region.

Below is the map of the Niger Delta.

Figure1. 0 Map of the Niger Delta Region of Nigeria

3. 0 STATEMENT OF THE PROBLEM

Excellence in project delivery and sustained culture of top quartile performance in the execution of capital projects is every organisation goal. Achieving this on the other hand is quite challenging even to highly experience project oriented organisation operating in the developed world. One could then imagine the challenges project managers face in executing similar work done abroad in an undeveloped region like the Niger Delta.

Consequently, these challenges to effective project delivery affects the success of projects executed in the Niger Delta, and have resulted in poor performance of this projects when compared to similar ones done outside the region.

4. 0 AIM AND OBJECTIVES OF THE STUDY

There are certain basic constraints that affect the level of project delivery and hence its performance irrespective of the location of such projects in any part of the world. In addition to these common constraints, there are some that are uncommon and may not necessarily be among the commonly known constraint that affect project performance, yet this are the key

determinants that may define the success or failures of a project. These uncommon but predominant constraints tend to be peculiar to certain regions.

Aim of the Study

Based on the above, this study aims to achieve the following:

Highlights the predominant constraints affecting project delivery in the Niger Delta region of Nigeria that determines if a project would be successful or not.

Show the level of impact of these constraints on project performance

Objectives of the Study

Want companies to lay much emphasis on these constraints early enough or at the front end planning stage of their projects.

Draw the attention of all stakeholders to these constraints and their impact on projects, so that stakeholders with authority to make changes can act immediately on ways to eradicate or reduce their occurrence

Make stakeholders realized the negative impact of these problems on the economy of Nigeria as it risk making the Niger Delta region less attractive to international investors, who may consider other alternative countries like Angola and Ghana in Sub-Saharan Africa for future investment.

5.0 METHODOLOGY

Data used in the study are based on completed and ongoing projects in the Niger Delta, including mega projects being executed by JV partners in the Nigeria Oil & Gas industry.

Actual cost figures are shown for projects whose costs have already been made public.

Current information from sources within the Nigeria oil and gas industry has been used as basis for analysis and judgement.

The study tend to measure how projects in the Niger Delta region perform by comparing the outcome of their performance against a given criteria to show if the delivery of such project was a success or failure, while highlighting the predominant reason or cause of failure.

6.0 ESSENTIALS OF PROJECT DELIVERY

Every organisation aim is to plan and deliver their projects to meet the objects for which they are been undertaken. They employ best practices in the implementation of project management to ensure successful delivery of their projects, using processes and techniques that work best for them.

This is so because poor project delivery results in major cost overrun, unusual delays and growing volatility in the execution of capital projects and which in turn, are causing increasing uncertainty and project execution risk in many parts of the world

Project delivery is the stage within the project life cycle that involves formal delivery of the project in order to satisfy the target objectives.

The importance of delivering a project successfully is essential to both the private and public sector where stakeholders' satisfaction is one of the key measures of a project performance. Consequently, private organisation and the public sector now develop program and project management capabilities to deliver their project successfully within budget, time and meeting stakeholders' expectation

The program and project management capability to successfully deliver change across the full range of government activity together constitute project delivery.

6. 1 Factors that Influence Successful Delivery of Project

Front-end Loading

Scope Definition and Scope Control

Planning and Scheduling

Stakeholder Engagement

Risk Management

Project Team Resources

Contracting Strategies

6. 2 Trend in Project Delivery

Worldwide trend in project delivery does not show encouraging results, not only in the oil and gas industry but others as well. This has made effective delivery of projects increasingly desirable by leaders of oil and gas, and also other industries, who are becoming less satisfied with project performance this time than at any other period in history, owing to the fact that all project overrun by about forty percent.

This has raised the stakes for effective project delivery in most organisations, and the key to achieving it is successful project management practices.

Hence the result of how projects are being delivered effectively would be a reflection of how successful project management is implanted in the operations of any organisation.

Successful project management involve balancing the constraints of time, cost and quality in meeting the expectations of stakeholders in an environment of uncertainty and ambiguity.

6. 3 Defining Project Success and Failure

Achieving successful projects is only possible if the delivery method used is effective. A project is successful only when it measures favourably to certain defined key performance indicators. Though different organisations and institutions have different metrics for measuring the success or failure of a project, the basis for defining a project as being successful or not would be based on the Independent Project Analysis (IPA) criteria for the purpose of this study and this is shown below.

Defining Success and Failure

1. We deem a project to be a failure if one or more of the following occurred.

100%

90%

80%

70%

60%

Failed

50%

Megaproject

40%

30%

20%

10%

0%

Cost Grew

25% +

Schedule Slipped

25% +

Overspent(Absolute Measure)

25% +

Severe and Continuing Operational Problems into Second Year of Operation

Yes

2. Of the Project that failed (56%)

- 42% failed on one criterion
- 32% failed on two criteria
- 21% failed on three criteria
- 5% failed on all criteria

Table1. 0 Criteria for Defining Project Success and Failure

7. 0 OBSTACLES TO PROJECT DELIVERY IN THE NIGER DELTA

Though there are several basic obstacles that affect the level of project delivery irrespective of project location, the following are the predominant ones that seriously influence the performance of project managers in delivering projects in the Niger Delta region of Nigeria.

7. 1 Insecurity in the Niger Delta

This is unarguable the most challenging obstacle to project delivery in Nigeria's Niger Delta region since the deepening of hostilities between armed militant groups in the region and the Federal Government of Nigeria. The nature of hostilities graduated from hostilities between different communities in the region to outright agitation and unrest against the State for reasons which are complex and interrelated, such as political, marginalisation, poverty, environmental damage, bad governance/corruption, etc.

The deteriorating security and corresponding instability has greatly affected not only capital projects and oil and gas industry operations, but the generality of businesses and economic activities in all the major cities and towns in the region, undertaken by indigenous, multinationals and even government.

All categories of projects; indigenous, foreign and government projects are being affected by the fallout of the instability such as project/construction obstruction, hostage, rig shutdown, vandalism of oil and gas facilities, disruption of multinational oil and gas operations and projects sites, and kidnapping of oil and gas personnel. The quantification of this crisis is shown in figure 2. 0

Figure 2. 0 Quantification of the Niger Delta Crisis – types of disruption in 2003.

The impact of this crisis on project performance includes cost overruns, schedule slippages and low project management performance, amongst <https://assignbuster.com/challenges-to-effective-project-delivery-in-niger-delta/>

others. This outcome is noticed even with world renowned contractors or firms with vast project management and delivery expertise in the execution of capital projects in the region.

These firms have scored low performance on project delivery in the Niger Delta compared to doing similar work in the US or Europe.

The impact of Niger Delta insecurity on project delivery is illustrated in the following cases below.

The Escravos Gas-to-liquids project (EGTL)

Increasing component of security cost on projects

7. 1. 1 The Escravos Gas-to-liquids Project (EGTL)

The performance of this project would be analysed using the IPA criteria for project success/failure, and benchmark against the performance of a similar one done in the Middle East, and the outcome evaluated.

The EGTL is an ongoing project been executed by Nigerian national oil company, the Government together with its JV partners, and below is the project key data.

Key Data:

Order year 1998 (feasibility study)

Construction started 2005

Project type Gas-to-liquids plant

Location Escravos, Nigeria

Production 34, 000bpd

Estimated investment \$1. 7bn (N226. 1bn)

Initial Completion 2010

7. 1. 1. 1 Analysis of the Project Performance

The project baseline has undergone series of changes to its cost and schedule due to various reasons which would be seen later in this paper, and as a result, the current estimated completion cost and date are \$5. 9bn and 2013 respectively.

Analysing the project performance based on the above data using the IPA criteria for success given in table 1. 0 gives the following results

Cost overrun

Initial Cost: \$1. 7bn

Revised Project Cost: \$5. 9bn

Percentage of Cost Overrun: 250%

Schedule slippage

Start of Construction: 2005

Initial Completion Date: 2010

Revised Completion Date: 2013

Percentage of schedule slippage: 60%

IPA criteria for project success given in table 1. 0 deem a project as failure if

Cost growth/overrun > 25%

Schedule slippage > 25%

The result of 250% on cost overrun and 30% schedule slippage shows that the project delivery is poor.

Further analysis of the project performance by benchmarking with a similar one done in the Middle East is shown in the table 2. 0 below.

INFORMATION

ESCRAVOS GTL, NIGER DELTA, NIGERIA

ORYX GTL, QATAR, MIDDLE EAST

Order Year

1998 (feasibility) and 2001(FEED)

2002. Construction started 2003.

Construction started

2005

2003

Location

Escravos, Nigeria

Ras Laffan, Qatar

Production

34, 000bpd liquids

34, 000bpd liquids (Initial Facility)

Estimated investment

\$1. 7bn

\$0. 9bn

Completed Cost

\$5. 9

\$1. 0bn

Initial Completion

2010

2005

Final Completion

2013

2006

Table 2. 0 Project data for EGTL Plant, Niger Delta and Oryx GTL Plant, Middle East.

Benchmarking the performance of the Escravos GTL project in the Niger Delta to the similar Oryx GTL facility, Qatar executed in another region, shows the following result for cost/schedule performance on figures 3. 0 and 4. 0 below, based on the analysis carried out in 7. 1. 1. 1 and table 2. 0 above.

Figure 3. 0: Schedule Performance of Escravos GTL and ORYX GTL, Qatar

Figure 4. 0 Cost Performance of Escravos GTL and ORYX GTL, Qatar 14

From the above analysis, the difference in project delivery performance is clearly seen despite the following facts

- both facilities engaged the services of the same company that have the technology
- the capacities of both facilities are the same
- both projects were awarded before the oil price escalation of 2007/8

Based on the above, the question that bothers the mind is why this huge difference in performance metrics?

The answer is found analysing the reasons given below by industry and government sources involved in the EGTL project.

7. 1. 1. 2 Reasons for Schedule Slippage/Cost Overrun

The EGTL has considerable cost and schedule variation with the Oryx GTL due to the following reasons, chiefly amongst which include: 15

Tension in the Niger Delta region. This caused the shift in the initial completion date of February 2009 to December 2010, according to Government sources.

The risks associated with the Niger Delta are a key determinant in overshooting the project cost and schedule. This is because the Escravos River in recent years has seen battles between the local rebels and Government security forces, in addition to attacks on the facilities of oil majors, leading to slowdown in the delivery of long lead items and other materials to the project site.

The need to beef up more security

Other reasons that also resultant in the variation are: 15

Energy concern and instability in the global oil market

-

escalation and foreign exchange losses (the depreciating value of the dollar)

rising material cost and inflation

loose commitment of the JV partners to funding and delays in the release of funds for the project also lead to delays and cost escalation of critical activities

Labour Productivity

Despite the fact that both project where awarded pre-oil price escalation era (recent 2007/8 price boom) and using similar technology provided by the

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same company, the EGTL contract has risen by more than 300% of the initial \$1.7 billion and completion deadline extended from 2009 to December 2010 and now 2013.

The weight of insecurity on project cost and schedule as seen in this ongoing project is usually a source of tension between project owners/sponsors and contractors on one hand and top executives and project managers because it affects delivery benchmarks and performance indicators of their project.

This price escalation was one critical point of tension between the Government and its JV partners in 2010, and also, the benchmark with the Qatar Oryx GTL that was constructed at a cost of \$1 billion.

Hence insecurity greatly affects the performance of project delivery even when such a project is being done by experience project managers.

This is clearly seen in the EGTL case where the contractors building the facilities are multinationals with good profile of similar work experience in different parts of the world, familiarisation with the technology been used, have good in-house project management functions utilising current trend and best practices in delivery their project, together with the added advantage of utilising lessons learned from the Qatar Oryx GTL in executing the EGTL in Nigeria, and yet the project still experience a huge cost overrun of more than 250% and schedule slippage of about 40% mid way as seen from the analysis of this study.

7. 1. 2 Increasing component of security cost on projects

This second case on the impact of Niger Delta insecurity on projects shows the component of security related issues that led to cost overruns and schedule slippages for some of the projects in the portfolio of a key multinational oil company in the region.

However, due to confidentiality and propriety of data, the actual values have been disguised by applying a constant factor, but without compromising the validity of its results.

Only projects that overshoot their cost and schedule baseline were considered, with proper analysis to determine the portion of overruns related to insecurity issues.

Table 3. 0 show data of cost variation between actual cost at completion and budgeted cost for projects executed within the past decade. The type of project considered include oil & gas flowlines/pipelines construction, flowstation revamp, gas facilities revamp wellhead platforms and field logistic base.

For the purpose of this analysis the components that make up the cost/schedule variation obtained are classified as two types:

Cost/schedule variation due to insecurity: this include only cost overrun/schedule slippage linked to security challenges in the region such as hostage/kidnapping, work stoppage, rig blockage, construction obstruction, seizure/ piracy and attack/molestation.

Cost/schedule variation due to other reasons: this include non security related factors associated with cost overrun /schedule slippage such as poor project definition, design changes, poor cost control, inefficient project management, labour issues, community settlement etc.

Carrying out the analysis based on the above gives the cost overrun resulting from insecurity as seen in Table 3. 0 and Figure 5. 0 respectively.

Year of Project Completion

No. of Completed Projects

Total Budgeted Cost (Mln\$)

Total Completion Cost (Mln\$)

Average Cost Overrun due to Insecurity (Mln\$)

Average Cost Overrun due to Other Reasons (Mln\$)

Average Cost Overrun due to Insecurity (%)

Average Cost Overrun due to Other Reasons (%)

2000

6

265

323

5

53

2%

20%

2001

5

198

249

6

46

3%

23%

2002

6

201

261

8

52

4%

26%

2003

10

436

562

31

96

7%

22%

2004

8

511

736

77

148

15%

29%

2005

10

605

908

133

169

22%

28%

2006

5

733

1, 312

359

220

49%

30%

2007

8

403

746

210

133

52%

33%

2008

5

678

1, 281

366

237

54%

35%

2009

5

965

1, 785

492

328

51%

34%

Table 3. 0 Variation of Completion cost from Budgeted cost

Figure 5. 0 Trends in Cost Overrun on Projects Due To Niger Delta Insecurity

16

Reasons for cost overrun on projects due to security concerns

Contractors now charge a premium on security to work in the region, which is unlike in the past

Companies now mobilise large numbers of security personnel to project site.

Security personnel are heavily armed unlike in the past

Huge expenditure on security surveillance

Personnel only move with security convoy

More security equipment now being used on project sites

Transportation to project sites in the swamp now done by air as against by water in the past, incurring additional cost by frequent use of aircrafts and helicopters

Similarly, the same analyses for schedule slippages are given in Table 4. 0 and Figure 6. 0 respectively.

Year

No. of Projects

Planned Duration (Months)

Actual duration (Months)

Average Schedule Slippage due to Insecurity

Average Schedule Slippage due to Other Reasons

Average Schedule Slippage due to Insecurity (%)

Average Schedule Slippage due to Other Reasons (%)

2000

6

14

18

1

4

6%

26%

2001

5

19

26

1

6

7%

29%

2002

6

21

29

2

6

9%

29%

2003

10

18

26

3

5

15%

28%

2004

8

21

33

5

7

24%

32%

2005

10

23

40

9

9

38%

37%

2006

5

26

55

18

10

71%

40%

2007

8

19

41

14

8

73%

44%

2008

5

22

46

15

9

69%

41%

2009

5

24

49

16

9

67%

39%

Table 4. 0 Variation of Actual Completion Time from Planned Completion Time

Figure 6. 0 Trends in Schedule Slippage on Projects Due to Niger Delta Insecurity

Reasons for schedule slippage on projects due to security concern

Project schedules became unrealistic because delays arising from insecurity were not incorporated into schedule at the planning stage, because the extent of the Niger delta crisis was unpredictable.

Frequency in the rate of work stoppages on project sites as a result of attacks on facilities and project sites

Inability to deliver long lead items and materials to project sites as a result of unsecured waterways

Frequent evacuation of personnel/demobilisation during hostilities and the time spent in returning to site

7.2 Local Content/Nigerian Content Requirement

Local content law is not peculiar to Nigeria alone, as it is still implemented by other countries like Brazil, Malaysian and Indonesia in different named format, and with long term benefit to the economies of these countries.

However, it poses some challenges to project delivery in an undeveloped country like Nigeria with no infrastructure, and prevalence of socio-economic and political tensions.

The following are the challenges to the speedy and effective delivery of capital projects in the Niger Delta as a result of government ambition to attain 70% local content compliance in the oil industry.

7.2.1 Challenges Pose by Local content

7.2.1.1 Low capacity and quality of indigenous Suppliers

The Nigerian content law imposes a certain percentage of work that must be allocated to indigenous companies by the multinational oil and gas firm's for specific categories of contract.

The implication of this is that the level of speedy delivery by competent contractors would be delayed due to those aspect of work been executed by local subcontractors.

Most local companies lack capacity for heavy fabrication in terms of experience manpower, equipment and financial capability, and government insistence or imposition of these companies on multinationals as subcontractors for some work element usually results in some delays.

7. 2. 1. 2 Poor Infrastructure

Lack of basic infrastructure like power, effective means of communication, transportation, etc has limited the capacity of indigenous firms to function effectively in delivery satisfactory services.

7. 2. 1. 3 Limited capacity in Training Institution

Most Nigeria schools and training institutions lack some relevant skills and knowledge required to engage fully in the oil and gas sector. Most highly technical operations are still handled by expatriates despite the more than 50 years oil industry operation in Nigeria.

7. 2. 2 Benefit of the Local content

Though the local content law is plausible because of its economical benefit to Nigeria, its gradual growth would cause short term challenges for project delivery as Nigeria struggles to build capacity.

8. 0 CONCLUSION

This paper clearly shows that security challenges in the Niger Delta region is the greatest constraint affecting the performance of project delivery in the Niger Delta and it is indirectly linked to other causes that also influence project performance.

It impacts affects even the performance of competent multinational companies involved in the execution of capital projects despite that well structured project management capability.

It has affected labour cost both for indigenous and expatriates professional because of the increase threat to life working in the field, slow down the

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delivery of materials and long lead items, led to the introduction of security premiums on contract price, and causes an atmosphere of uncertainty and fear, making it difficult to plan and execute project effectively.

This crisis has made Nigerian oil and gas projects to increase by 50% to 70% on account of the instability, making Nigeria project less competitive to peers in Sub-Saharan Africa, which is could result to threats of future investment.

9.0 RECOMMENDATION

Companies should undertake effective risk analysis and management prior to undertaking projects in the Niger Delta by embarking on more detail analysis of the crisis and developing adequate mitigation plans

Front end loading should include extensive analysis of the risk profile of the region and the input key into making decisions

The Government of Nigeria should see clearly the impact of the region's instability on projects cost and urgently resolve immediately so as not to discourage future investment or scare away competent contractors who may want to relocate or pay greater emphasis on other secure regions with hydrocarbon reserves.

The Rising profile of Ghana which recently entered the league of Oil producing country and with prospect of further discovery of Hydrocarbons, together with the increasing discovery of deep water offshore reserves in Angola should pose a wakeup call for Nigeria to make the Niger Delta peaceful because these counties nearby, yet they are devoid of these nature

of crisis which could make them Sub-Saharan African oil and investment of first choice.