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A STUDY ON EXPORTING PROBLEMS FACED BY WATER WELL DRILLING RIGS

VAISHNAVI.M[1], Dr.T. SRIVIDHYA.[2]

II Export Management, Department of Management Studies, Periyar University, Salem,
[2] (Guest Faculty) Department of Management Studies, Periyar University, Salem,
E-Mail vaisumuthu22@gmail.com

ABSTRACT:

The study title "A Study on Exporting Problems Faced by Water Well Drilling Rigs in APL Rigs" the purpose of this study is to analyse the global demand for water well drilling rigs is on the rise due to increasing urbanization, industrialization, and agricultural activities. APL Rigs, a prominent manufacturer in this sector, faces numerous challenges in exporting their water well drilling rigs to international markets. This study investigates the exporting problems encountered by APL Rigs, aiming to identify key barriers and propose strategies for improvement. Through qualitative research methods including interviews, surveys, and market analysis, the study explores factors such as regulatory constraints, logistical complexities, market competition, and technological adaptations. Findings reveal critical challenges such as navigating trade regulations, adapting rigs to varying geological conditions, and establishing distribution networks. The study provides insights for APL Rigs and similar companies to enhance their export strategies, streamline operations, and capitalize on global market opportunities in the water well drilling industry.

Keywords: logistical complexities, Technological adaptations, problems in Water well drilling rigs

Introduction:

Exporting water well drilling rigs presents a unique set of challenges that encompass various aspects ranging from regulatory compliance and market dynamics to logistical constraints and technological barriers. Understanding and addressing these challenges are critical for manufacturers to effectively penetrate and thrive in international markets.

This study on a comprehensive exploration of the exporting challenges faced by water well drilling rigs within the domain of APL Rigs. By delving into the intricacies of the export process, this research aims to identify and analyze the key hurdles that hinder efficient market entry and expansion. From regulatory complexities and market dynamics to logistical constraints and supply chain and transportation and technological limitations, the study the multifaceted factors that contribute to the export challenges encountered by APL Rigs.

Objectives of the Study

- To identify the key problems faced by APL rigs
- To analyse the level and impact of various challenges related to supply chain
- To understand the export performance of APL rigs
- To analyse the technical advancement used to logistics by APL rigs
- To give valuable suggestion to improve and develop the export performance

Statement of the Problem

The statement of the problem in exporting drilling rigs involve challenges such as navigating complex international regulations, ensuring compliance with diverse safety standards, addressing logistical complexities in transportation and managing potential that may impact export transactions. APL Rigs involves addressing various challenges related to supply chain. ensuring safety protocols and enhancing overall export performance. Specific issues may include equipment reliability, personnel safety.

Literature Survey

Alex Wargnier thad Jablonski, coel Schumacher, Mechanical Engineering California Polytechnic State University San Luis Obispo, CA 2010 In this report, the improvements of a previously produced cable tool drilling rig are described. The purpose of the rig is to drill water wells for use in Africa in

order to provide safe drinking water to many in need. An affordable, effective, and controllable rig is the design goal for this project. With the San Luis Obispo Rotary Club sponsoring the project the design team of Whole Engineering have made necessary design choices to manufacture the product. Actions performed include background research of existing drilling technologies, analysis of top concepts for the controlling mechanism, and selection for the final design. The drilling rig will be modified in many ways to increase control, safety, and provide adequate drilling capabilities. The final design will be operated by a hydraulic system, using chains and sprockets to transmit power to the necessary mechanisms, rather than the tension belts that were present when the design team was assigned to the project.

Gabriel Raimundo Abreu Leandro Leme Junior Jorge Barreto Machado Esdras Gomes de Santana e Gilberto Bellas de Souza seminar on drilling fluids Rio de Janeiro (Brazil) 4-7 Dec 1989 The development of drilling techniques closely follows the difficulties of operating well events at low costs. In the Amazon Region, problems such as logistic support and high costs did not allow for the use of air drilling techniques means of obtaining the results necessary to the development of the field. Without these, there was no justification for promoting initial investments in air drilling equipment. After the Urucu/AM roads were completed, we were able to bring equipment to the area of operation. This equipment was tested in two wells, one directional and one vertical. In this paper, we describe the pioneer use of air drilling in this region and present the results obtained through it as well as the problems encountered and the techniques used to solve them.

A V Kovalyov, Ye D Isaev, A R Vagapov, V V Urnish and O S Ulyanova National Research Tomsk Polytechnic University, 30 Lenina Ave., Tomsk, 634050, Russia IOP Conf. Series: Earth and Environmental Science 43 (2016) 012073 IOP Conference Series: Earth and Environmental Science 43 (2016) 012073 The paper describes pellet impact drilling which could be used to increase the drilling speed and the rate of penetration when drilling hard rock for various purposes. Pellet impact drilling implies rock destruction by metal pellets with high kinetic energy in the immediate vicinity of the earth formation encountered. The pellets are circulated in the bottom hole by a high velocity fluid jet, which is the principal component of the ejector pellet impact drill bit. The paper presents the survey of methods ensuring an optimal off-bottom and a drill bit distance. The analysis of methods shows that the issue is topical and requires further research.

Stanislaw Bednarz, Drilling, Oil & Gas Faculty, University of Science & Technology, al. Mickiewicza 30, 30-059 Kraków, Poland, Tel. 48 12 617 2225 (2004) Drill string design for directional drilling requires accounting for a number of factors. First, types and expected values of loads should be determined. Then, elements of the drill string should be so selected as to enable realization of the plan at specified loads. Some of additional factors, e. g. purchase, exploitation cost, geological conditions in the borehole, washing of the borehole, stability, trajectory, rig parameters, accuracy of gauges, pumps parameters remain in conflict. Drill pipes are made of rolled pipes, upset and welded with tool joints to 9,5 m long; the shorter ones can be made of hot forged rods. Exploitation requirements, being a result of practical experience supported by theoretical and laboratory analyses should be a part of syllabuses of technical staff educational programs. Apart from designing the string, it is also vital to lower the risk of a drilling failure. The significance of these aspects seems to be unquestionable.

David Reid Varco International inc. IADC Member the Development of Automated Drilling Rigs and society of petroleum engineers This paper was prepared for presentation at the 1998 lADC/SPE Drilling Conference SPE 37393 1998 handling tools have been improved and adapted, wherever possible, to aid remote automation on today's drilling rigs. Work that was done manually using elevators, spinning chatis, tongs and brute force is now managed by using remotely controlled machines. The application of automation to improve the performance of drilling rigs has captured the attention of the drilling industry for years. Numerous rig designs have been tried with relatively few success stories. The history of drilling automation can be paralleled to the development of Pipe Handling Systems on the drilling rig floor. This paper offers examples to support the theory that there are four critical developments required to achieve automation on the drill floor.

Data Analysis

Census method is used in this study as total the population of the study is 80. Data collection tool used here is Questionnaire and survey method is adopted for data collection. **TOOLS USED FOR ANALYSIS** in Simple percentage analysis and Garrett Ranking

Analysis and Results

1. **SIMPLE PERCENTAGE ANALYSIS**
   TO ANALYZE THE BENEFICIAL PAYMENT METHOD FOR A EXPORT ACTIVITIES OF THE RESPONDENTS

S. No	BENEFICIAL PAYMENT METHOD FOR A EXPORT ACTIVITY	RESPONDENTS	PERCENTAGE (%)
1	LETTER OF CREDIT	25	31.3
2	**ADVANCE PAYMENT**	**40**	**50.0**

3	DOCUMENTARY COLLECTION	13	16.3
4	OPEN ACCOUNT	2	2.5
	TOTAL	80	100.0

SOURCE: Primary Data

INTERPRETATION:

From the above table 4.1.8, it is found that, 50.0 % of respondents belong to advance payment, 31.3% of respondents belong to letter of credit, 16.3 % of respondents belong to documentary collection, and 2.5 % of the respondent belongs to open account.

INFERENCE:

Finally, it is concluded that the majority 50.0% of respondents are belong to advance payment

2. GARRETT RANKING

TO KNOW THE FACTORS RESPONDENTS FOR TECHNOLOGIES FACED DURING THE LOGISTICS OPERATION

FACTORS	**I (75)**	**II (60)**	**III (50)**	**IV (40)**	**V (25)**	**TOTAL**	**TOTAL SCORE**	**MEAN SCORE**	**RANK**
Inventory management	11	22	24	13	10	80	4115	51.43	4
	825	1320	1200	520	250				
Transportation management	20	13	22	11	8	80	4020	50.25	5
	1500	780	1100	440	200				
Warehouse management	17	15	17	18	13	80	4070	51.87	3
	1275	900	850	720	325				
Procurement management	**14**	**24**	**25**	**9**	**8**	**80**	**4300**	**53.75**	**1**
	1050	1440	1250	360	200				
Customer service management	12	25	23	9	11	80	4185	52.31	2
	900	1500	1150	360	275				

INTERPRETATION

It is known form the table that according to Garrett ranking the factors which induces the respondents to show the factors responsible for technologies logistical operation prefer more are in this order namely Inventory management (Rank 4), Transportation management (Rank 5), Warehouse management (Rank 3), Procurement management (Rank 1), Customer service management (Rank 2),

INFERENCE

From the analysis it's clear that respondents give much importance to Procurement management and customer service management when compared with the supply chain

Conclusion

Develop a comprehensive logistics strategy to overcome the logistical challenges faced by Water well drilling rigs exporters This may involve investing in technology, optimizing supply chain processes, and collaborating with logistics providers to ensure timely and efficient delivery of products. Place greater emphasis on ensuring product demands of international customers. This may involve conducting regular quality control checks and investing in research and development to improve the improve more technology in water well drilling rigs

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