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Abstract

The procurement expediting process in the oil and gas industry plays a critical role in project success, directly impacting project timelines, costs, and overall efficiency. This study provided an overview of the challenges encountered during the material expediting process under procurement for Engineering, Procurement, and Construction (EPC) projects in the petroleum and gas sector in the Middle East. The research focused on the difficulties associated with coordination between the vendor, client/consultant, and contractor in arranging approvals for drawings, documents, and technical specifications prior to manufacturing. While previous studies have primarily focused on procurement delays, the objective of this research was to survey the challenges faced by expeditors and prioritize the factors leading to construction delays from their perspective. The study employed the Relative Importance Index (RII) method and Delphi study to provide insights into the challenges faced by expeditors. Hypotheses are formulated based on available data and additional data collected through interviews with existing expeditors in the job market, which are then validated at the end of the research. The findings reveal that unreliable vendors, bureaucratic document approval procedures, and poor vendor selection judgment are the most significant factors contributing to delays in the expediting process. The Delphi study, involving experts and a panel of 30 professionals, further validates that the bureaucratic approval process is a major cause of delays in material procurement. The study recommends that organizations should adopt a proactive approach to address these challenges. This includes involving expeditors in the early stages of the project, implementing specific timelines within purchase orders, investing in advanced technological infrastructure, and fostering a culture of collaboration and communication among all stakeholders. By implementing these recommendations, organizations can significantly improve the efficiency of the expediting process, reduce delays, and enhance overall project performance in the competitive petroleum and gas sector in the Middle East region.

Keywords: *Overcoming Challenges, Procurement, Construction Materials, Oil and Gas Industry*

1.0 Literature Review

Expeditors involve in ensuring timely material deliveries, where the complexity of EPC projects often leads to significant delays. The bureaucratic hurdles associated with material procurement, such as lengthy approval processes for documents and permits, can restrain progress and impact overall project timelines (Smith, 2012; Johnson, 2015). The literature highlights that the multitude of approvals required can create major bottlenecks, leading to inefficiencies that extend the procurement timeline (Anderson & Williams, 2016). Implementing advanced technology solutions, such as digital document management systems and automated workflows, has been suggested as a means to streamline these processes and mitigate paperwork-related delays (Lee & Park, 2020).

Communication breakdowns among stakeholders further worsen these challenges. Effective communication is critical in navigating the bureaucratic approval processes that involve multiple parties with differing requirements and timelines. According to Davis and Turner (2017), miscommunications can lead to critical details being lost or misunderstood, causing additional delays in securing approvals. Strategies to enhance communication, such as utilizing centralized platforms and regular updates, can help address these bureaucratic inefficiencies (Taylor & Martin, 2019). Additionally, building strong relationships with regulatory bodies and suppliers can facilitate smoother approvals and preempt potential issues (Smith & Brown, 2021).

Logistical challenges, such as transportation permits and warehouse clearances, also disrupt supply chain efficiency. These logistical issues are often intertwined with bureaucratic delays, complicating the procurement process (Wilson & Clarke, 2018). Regulatory changes, including new tariffs and trade policies, further complicate logistics, necessitating that expeditors remain adaptable to evolving conditions (Limao & Venables, 2001). Hiring experienced customs brokers and proactively managing regulatory changes are essential strategies to navigate these complexities (Golini & Kalchschmidt, 2011). Implementing Transportation Management Systems (TMS) and exploring multimodal transportation options can enhance planning and tracking, thereby improving material delivery timelines (Giannakis & Louis, 2016; Christopher, 2011).

Vendor reliability significantly impacts expediting challenges, with irregularities in supplier performance often resulting in procurement delays (Prajogo & Olhager, 2012). Compounding these issues are logistical difficulties and staffing shortages (Monczka et al., 2009). Developing strong supplier relationships and conducting regular performance monitoring can mitigate these risks (Choi & Krause, 2006). Furthermore, effective inventory management practices, accurate forecasting, and investment in technology can enhance supply chain efficiency and address delays caused by inadequate resources (Gu et al., 2010; Ivanov et al., 2017). In summary, addressing the multifaceted challenges of managing material deliveries for EPC projects requires a comprehensive approach that enhances communication, optimizes logistics, improves supplier performance, and leverages technology. By implementing these strategies, stakeholders can achieve better project outcomes and reduce delays.

2.0 Development of Research Hypothesis

Developing a hypothesis is crucial in this research to provide a clear direction and framework for investigation. It helps narrow down the scope of the research, focusing on relevant variables and factors that are likely to influence expediting process in procurement department. These hypotheses will enable to design appropriate methodologies and gather relevant data to test the hypothesis effectively which in turn offers recommendations for optimizing procurement expediting processes and improving operational efficiency.

Hypothesis 1: Unreliable vendors pose a significant challenge, impacting both project timelines and outcomes. A robust vendor evaluation system may be needed to mitigate these risks. Judicious vendor selection is critical.

Hypothesis 2: Communication challenges with foreign vendors may require dedicated language support or clearer communication protocols to avoid misunderstandings.

Hypothesis 3: Streamlining document approval procedures can significantly reduce delays caused by bureaucratic processes.

3.0 Methods

This research is systematically carried out with both quantitative and qualitative approach to address specific problems faced in material expediting process. Delaying factors are studied and out of some factors, one critical factor is identified using relative important index method. This critical factor or challenge is more deeply analyzed and discussed using Delphi technique. A thorough research approach is essential for obtaining pertinent data and producing insights while examining issues with material expediting in the purchase of materials.

3.1 A Quantitative Research (Relative Important Index Method)

This method involves ranking factors based on respondents' perceived importance. A structured survey is conducted where participants rate the significance of various aspects related to material expediting on a numerical scale. After gathering responses, a numerical representation of each variable's relative importance is obtained. This allows researchers to determine the most critical factors/challenges/problems in material expediting. At first some questionnaire or surveys are done that align with research objectives and the concepts being studied. Then data are collected and employ statistical techniques to assess the reliability and validity of the survey. Then interpretation is done. A list of 25 answers received for the questions from the survey were analyzed using one of the statistical methods “Important Index Method”. A total of 12 expeditors from different companies (client, contractor and government authorities) were asked on below questions. These expeditors only handle Oil and Gas projects in the Middle East (UAE and Qatar only). From the below questions, 25 causes where identified as the factors affecting the expeditors in expediting oil and gas procurement projects. Each cause is considered as a case and for each case, important index is calculated as a function of both frequency and severity index

What challenges do you encounter in managing relationships with vendors during the expediting process? What challenges do you face in cross-departmental collaboration? What challenges or

obstacles do you encounter in the expediting process? To what extent do you engage in negotiations with customers for later deliveries, and what challenges do you face in this process? How often do material shortages, machine breakdowns, and engineering changes contribute to the need for expediting? Are there specific situations or criteria that guide the selection of a particular expediting technique? What coordination challenges do you encounter in the construction project environment, where activities of owners, contractors, subcontractors, and suppliers overlap? Do you face logistics complexities or time zone differences or holidays in different countries as a problem in your work? Do you face cultural differences or communication problems with vendors? How do you ensure the timely delivery of materials, engineering submittals, and equipment in your materials management process? Do you prefer manual tracking of documents or drawings? Is lack of training in specialized software's affecting your work? How do you adapt to changes in project schedules and unforeseen delays affecting the expediting process? To what extent is the client's material take off used for preliminary market research to expedite the procurement process? How do changes in project scope or unforeseen events affect expediting timelines? What strategies do you believe could help mitigate the challenges faced by expeditors in oil and gas construction projects? What role does technology play in addressing or exacerbating expediting challenges? Have you encountered challenges related to poor estimation during the scheduling process that subsequently impacted the expediting of materials? If yes, please elaborate. In your experience, what are the primary factors causing delays in the construction phase of oil and gas projects? Have issues related to clients or contractors significantly impacted project timelines? Is there any lack of visibility into the entire supply chain? What are the uncertainties in the material availability?

Frequency Index: Recurring challenges include unreliable suppliers and bureaucratic document approval processes, which have large frequency indexes (FI) of 52.08% and 81.25%, respectively. Moreover, challenges such as delayed approvals from various departments and the selection of low-priced vendors continue to delay expeditors' efforts, with notable FI percentages of 72.92% and 75% respectively. These obstacles highlight the complexity of expeditor positions, requiring calculated actions to reduce redundancies and reduce supplier reliability and bureaucratic inefficiencies risk factors. Furthermore, expeditors grapple with persistent challenges arising from factors like poor vendor communication, inadequate documentation quality, and frequent changes in project parameters. Notably, challenges such as over involvement of stakeholders and outdated software usage highlight broader organizational issues impacting procurement and inspection activities. Each challenge is numbered as below

1= Unreliable vendor ; 2= Poor judgement in selecting the vendor ; 3= Foreign Vendor's Communication problem; 4= Bureaucratic document approval procedure; 5= Technical clarification during bidding stage was not properly verified or complied ; 6 = Low priced vendors are selected; 7 = Monopoly in vendors ; 8 = Delayed approval from engineering , consultant, owner, client inspection and planning department ; 9 = Vendor not following approved templates or document procedures ; 10 = Poor quality in vendor documentation ; 11 = Expeditors were not aware on earlier technical discussions during bidding stages ; 12 = Expeditors were blamed in the end due to blame culture. ; 13 = micromanagement or over Involvement of stakeholders to bypass necessary steps in procurement or inspection activities ; 14 = Frequent changes in the design ; 15

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= Change in quantity of materials ; 16 = Change in scope of work ; 17 = Outdated software / lack of training on latest software ; 18 = Time difference and vendor holidays ; 19= Delayed ordering of materials ; 20 = Poor scheduling or not able to provide the material at the time of site requirement ; 21 = Delayed invoice approval and payment to the vendor ; 22 = Cross departmental meetings and availability of engineers for discussions or meetings ; 23 = Frequent document revisions ; 24 = Delay in booking vessel ; 25 = Arranging the inspection.

Below formula is used to rank the causes of delay based on frequency of occurrence as explained by the participants.

Frequency Index% for challenge No. 4 = $\sum a(n/N) \times 100 / 4$

$= 39/12 \times 100/ 4 = 81.25\%$

Where a – Weightage given to each response (ranges from 1 to 4)
n – Frequency of the response
N – Total no. of responses

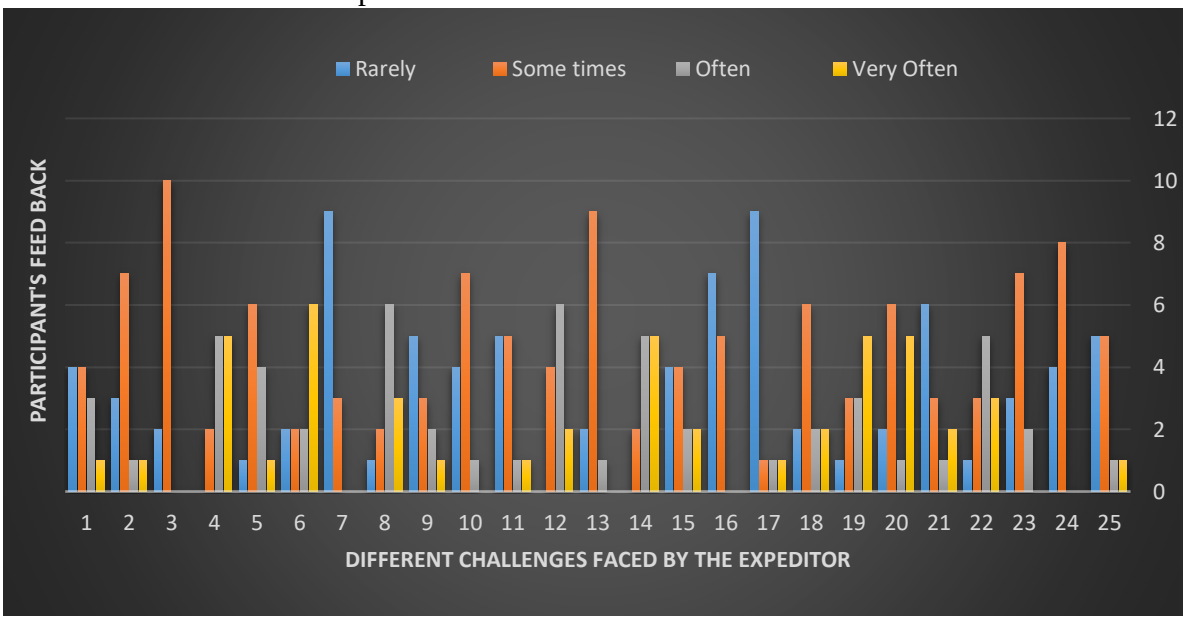

Figure 1: Frequency Index Graph

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Challenges	Rarely (a=1)	Some times(a=2)	Often (a=3)	Very Often(a=4)	FI(%)
1	4	4	3	1	52.083
2	3	7	1	1	50
3	2	10	0	0	45.83
4	0	2	5	5	81.25
5	1	6	4	1	60.42
6	2	2	2	6	75
7	9	3	0	0	31.25
8	1	2	6	3	72.92
9	5	3	2	1	43.75
10	4	7	1	0	43.76
11	5	5	1	1	45.84
12	0	4	6	2	70.84
13	2	9	1	0	47.92
14	0	2	5	5	81.25
15	4	4	2	2	54.17
16	7	5	0	0	35.42
17	9	1	1	1	37.5
18	2	6	2	2	58.4
19	1	3	3	5	75
20	2	6	1	5	77.08
21	6	3	1	2	47.9
22	1	3	5	3	70.84
23	3	7	2	0	47.9
24	4	8	0	0	41.66
25	5	5	1	1	45.83

Table 1: Frequency and Impact of Expediting Challenges

Severity Index

With a huge 75% occurrence rate, unreliable vendors stand out as one of the biggest challenges. Likewise, the difficult nature of bureaucratic document approval processes is demonstrated by their high frequency of occurrence (91.66%). Poor decision-making while choosing a vendor, technical clarifications throughout the bidding process, and delayed departmental approvals are some common issues that occur more frequently than 50% of the time. Below formula is used to rank causes of delay based on severity as informed by the participants.

Severity Index% for Challenge No 4 = ∑a(n/N) x 100 / 4

= 44/12 x 100 /4 =91.66

Where **a** – Weightage given to each response (ranges from 1 to 4)

n – Frequency of the response

N – Total no. of responses

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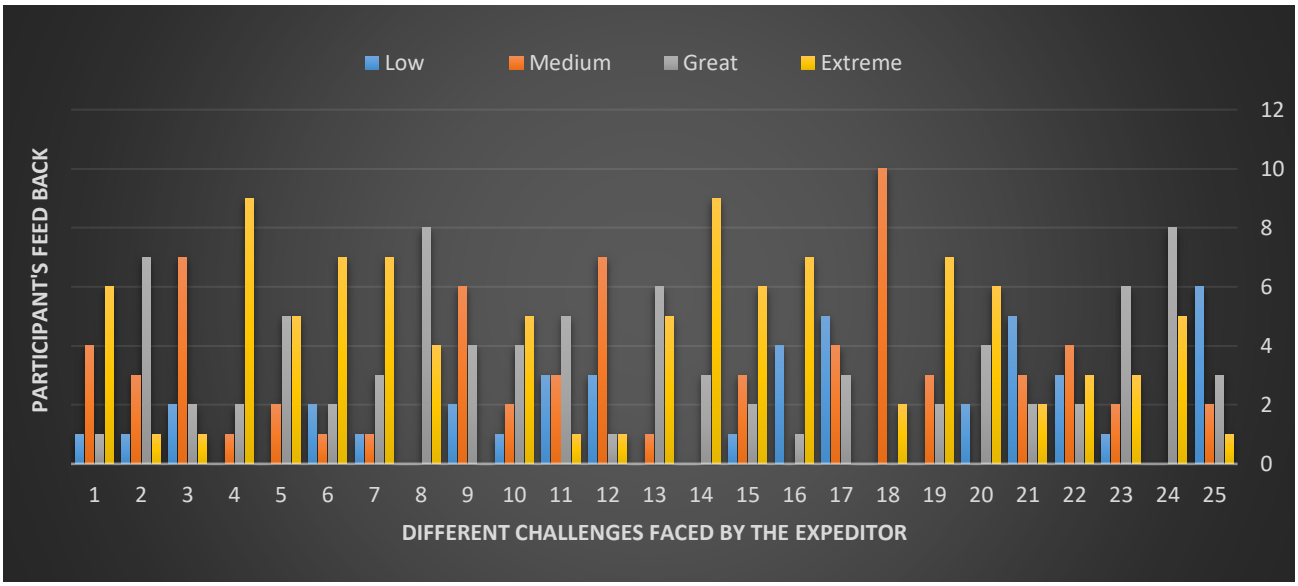

Figure 2: Severity Index Graph

Challenges	Low (a=1)	Medium(a=2)	Great (a=3)	Extreme (a=4)	SI(%)
1	1	4	1	6	75
2	1	3	7	1	66.7
3	2	7	2	1	54.2
4	0	1	2	9	91.66
5	0	2	5	5	81.25
6	2	1	2	7	79.1
7	1	1	3	7	83.33
8	0	0	8	4	83.33
9	2	6	4	0	54.16
10	1	2	4	5	77.08
11	3	3	5	1	58.33
12	3	7	1	1	50
13	0	1	6	5	83.33
14	0	0	3	9	93.31
15	1	3	2	6	77.08
16	4	0	1	7	72.91
17	5	4	3	0	45.83
18	0	10	0	2	58.33
19	0	3	2	7	83.33
20	2	0	4	6	79.16
21	5	3	2	2	52.08
22	3	4	2	3	60.41
23	1	2	6	3	72.91
24	0	0	8	5	91.66
25	6	2	3	1	47.91

Table 2: Severity Chart for Expediting Challenges

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Calculation of Important Index

The importance index is calculated for every challenges identified during the survey to differentiate the most critical causes. The reasons for delay are ranked based on the important index value. A survey is used to identify twenty-five factors. By using the frequency, severity, and importance index, the gathered data was examined. The significance index approach was used to determine the results, and it was found that the main things that hinder expeditors in their work include frequent design modifications, bureaucratic document approval processes and delayed material ordering. Outdated software's or lack of trainings on latest software tools, delay in arranging the inspection and invoicing were the minor factors. From the major factor it is decided to consider the factor bureaucratic documentation approval process to be studied via Delphi method and to find a solution to this problem.

Important Index % for Bureaucratic Document Approval Process = [F.I% x S.I%]/100

Where, **F.I** – Frequency Index

S.I – Severity Index Frequency Index:

Important Index % = 81.25 x 91.66 = 74.47%

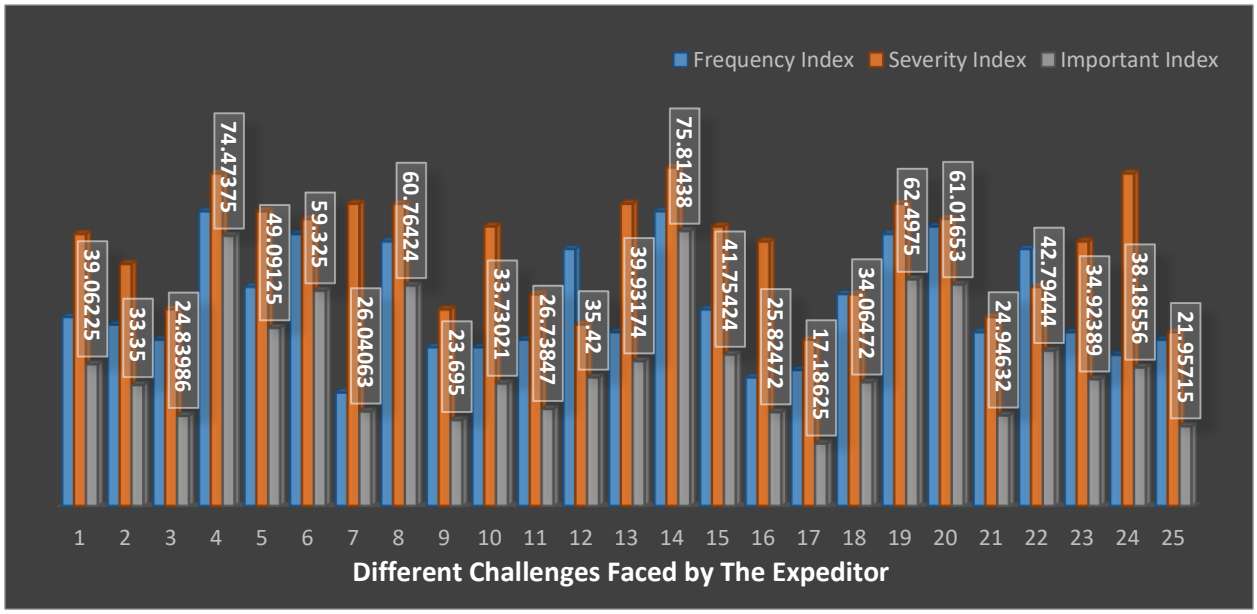

Figure 3: Important Index Graph

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Challenges	Frequency Index	Severity Index	Important Index
1	52.083	75	39.06225
2	50	66.7	33.35
3	45.83	54.2	24.83986
4	81.25	91.66	74.47375
5	60.42	81.25	49.09125
6	75	79.1	59.325
7	31.25	83.33	26.04063
8	72.92	83.33	60.76424
9	43.75	54.16	23.695
10	43.76	77.08	33.73021
11	45.84	58.33	26.73847
12	70.84	50	35.42
13	47.92	83.33	39.93174
14	81.25	93.31	75.81438
15	54.17	77.08	41.75424
16	35.42	72.91	25.82472
17	37.5	45.83	17.18625
18	58.4	58.33	34.06472
19	75	83.33	62.4975
20	77.08	79.16	61.01653
21	47.9	52.08	24.94632
22	70.84	60.41	42.79444
23	47.9	72.91	34.92389
24	41.66	91.66	38.18556
25	45.83	47.91	21.95715

Table 3: Important Index Chart for Expediting Challenges

3.2 B Delphi Analysis (Quantitative Research)

This method involves iterative rounds of expert opinion gathering and feedback to achieve consensus on complex issues. A panel of experts with more than 25 years of experience in various supply chain positions is gathered. Experts anonymously provide their knowledge and thoughts about difficulties and possible solutions surrounding material expediting. After each round, experts receive a feedback on responses. They can amend their views based on the comments from the group. This process continues until all parties agree on important problems and possible solutions.

Round 1

I assembled a panel of four experts to gather their insights on the bureaucratic document approval process, which has been identified as a significant challenge faced by expeditors in obtaining necessary approvals for manufacturing and timely delivery. Each expert, representing different companies and approaches to expediting, contributed to the following collective responses. The experts described the current approval procedure as one that involves multiple levels of departmental or committee evaluation, characterized by hierarchical chains and extensive

documentation requirements. For instance, prior to construction, approvals from architects, engineers, contractors, and regulatory bodies are essential for evaluating construction drawings and specifications, yet this often leads to significant delays in the approval of designs, which expeditors cited as the main cause for subsequent production and delivery delays. Each revision requires continuous follow-up between the vendor and the engineers until the documents achieve an approved status (Code A), allowing manufacturing to commence. The experts identified several primary reasons for the bureaucratic nature of this process, including the historical context of past failures that necessitated strict documentation and review procedures to ensure compliance, accountability, and transparency in decision-making. However, they inevitably lead to inefficiencies and delays in manufacturing and material delivery. To counter these challenges, the experts proposed several best practices, including having the buyer manage the expediting process in collaboration with the engineering department and vendors, integrating expediting within the logistics team, designating a project coordinator specifically for expediting tasks, forming a dedicated expediting team to streamline document arrangement, and allowing expeditors to focus on initial reviews before transferring further responsibilities to the vendor. These insights reflect a comprehensive look at the complexities of bureaucratic document approval and offer practical solutions to enhance efficiency.

Round 2

In the second round of discussions, the collective insights from experts regarding the bureaucratic nature of the document approval process were shared with a diverse panel of 30 professionals, including engineers, buyers, expeditors, procurement managers, project coordinators, and planning engineers from various companies. A series of questions were asked to understand the panel's perspectives on the impact of bureaucracy on material delivery, the role of expeditors in the delivery schedule, and the appropriateness of document reviewers. Specifically, the questions examined whether the bureaucratic approval process contributes to delays in material delivery, if the expediting individual can influence delivery timelines, who is best suited for expediting purchase orders, whether reviewers have adequate time for document review (noting a two-week cycle for the first review), if delays are due to design complexity or heavy workloads among reviewers, and the effects of vendor deviations from technical discussions during the bidding stage on the approval process. The responses indicated a consensus, with a majority agreeing that the bureaucratic approval process does cause delays. Most participants favored the buyer taking on the expediting role, while a smaller group suggested an independent expediting team, and a few indicated the planning team should handle expediting tasks; notably, none supported logistics for this role. Regarding review time, three participants felt the allotted two weeks was insufficient, while six believed it was more than adequate, and 21 agreed that two weeks is sufficient. Additionally, 19 participants identified heavy workloads among reviewers as a significant factor in document delays, and all concurred that deviations from technical agreements during bidding adversely affect the approval process. To quantify the level of agreement among panel members, a seven-point rating scale was employed as part of a Delphi Study, utilizing Kendall’s W method to assess consensus. This statistical approach helps evaluate how respondents feel about specific statements or products. The calculated W value was 0.587, surpassing the critical value of 0.333

associated with the Kendall's coefficient, leading to the rejection of the null hypothesis. This outcome confirms a significant level of agreement among panel members regarding the questions posed.

Round 3

Following Round 2, wherein the majority option was analyzed by experts, a new set of questions addressing both consensus and non-consensus issues was circulated among the 30-member panel in Round 3. The collected data from this questionnaire sheds light on various perspectives regarding expediting and vendor coordination within procurement processes. Initially, there appears to be a divergence of opinions regarding whether expediting should be solely managed by the buyer or involve collaboration. However, there is a consensus regarding the buyer's role in introducing vendor representatives to custodians/reviewers, with subsequent delegation of responsibilities. Yet, opinions are more evenly split when it comes to the choice between utilizing the latest software or traditional manual methods for document approvals. Nonetheless, respondents generally agree that vendors frequently overlook clarifications during the bidding stage. This data underscores the necessity for further exploration and dialogue to refine strategies and establish optimal practices for expediting and document approval processes within procurement workflows.

Round 4

In round 4, the data from the questionnaire sent to the four-member panel of experts provides insights into varying opinions regarding key aspects of procurement processes. Firstly, there's a proposition suggesting that buyers may lack the time necessary for expediting tasks, necessitating the involvement of a separate expeditor. This opinion likely reflects concerns about the workload and priorities of buyers within procurement operations. Secondly, there's a proposal advocating for buyers to not directly introduce vendors to custodians/reviewers, instead coordinating document exchanges and approvals independently. After reviewing and analyzing the outcomes, the panel proposed another set of questionnaires with the 30-member panel in next round.

Round 5

The opinions gathered from the questionnaire addressed to the 30 members offer diverse perspectives on key aspects of vendor coordination and expediting within procurement processes. Firstly, there's a consensus regarding the tendency for vendors to overlook clarifications during the bidding stage, highlighting a common challenge in procurement operations. Secondly, opinions vary regarding whether buyers should lead a team of expeditors, suggesting differing views on the optimal structure of expediting efforts within procurement teams. Thirdly, there's a debate over the effectiveness of email follow-ups versus automated software notifications, reflecting differing preferences for communication methods in expediting processes. Furthermore, there's contention over the role of expeditors in arranging document reviews and meetings between custodians and vendors, indicating differing perspectives on the delegation of responsibilities within procurement workflows. Additionally, there are contrasting opinions regarding the duration of the review cycle for vendors from abroad, with some advocating for a shorter timeframe to expedite processes. Lastly, there's a proposal for local vendors to engage in physical meetings with

custodians/reviewers for instant feedback, suggesting a preference for direct communication channels in certain scenarios. These varied opinions underscore the complexity of vendor coordination and expediting processes in procurement and emphasize the need for tailored approaches to meet diverse needs and preferences within procurement teams.

Round 6

After reviewing the results from Round 5, experts decided to engage with the members who had disagreed to both questions in order to gain further insights. A WhatsApp group was created with 10 selected members for this purpose. The first question pertained to reducing the first review cycle for vendors from abroad to 10 days from the current 2-week period (14 working days). The second question involved local vendors physically visiting custodians/reviewers for instantaneous discussions and reviews, facilitated by expeditors arranging appointments. During the discussion, members elaborated on their reasons for disagreeing with the proposed changes. Many cited the complexity of reviewing instrumentation drawings and mechanical packages, noting that the volume of materials to review makes it impractical to complete the process within a shorter timeframe. Additionally, concerns were raised about the feasibility of physical meetings for local vendors, given the busy schedules of engineers and the time required for inter-vendor coordination. Based on these insights, the panel of experts recommended tailoring review timelines to the nature of items in the purchase order (PO) and assigning separate expeditors specifically for instrumentation and mechanical packages. These expeditors would be solely responsible for handling critical POs in this category. Subsequently, a new questionnaire was prepared and circulated among the 30-member panel to gather further input and refine strategies accordingly.

Round 7

The questionnaire sent to 30 members and four expert panelists explored key aspects of procurement processes, focusing on optimizing document submission and review cycles within purchase orders (POs). It included questions about establishing specific timelines for document submission and review as contractual obligations, the necessity of prompt discussions between vendors and the engineering department following the submission of drawings, and the buyer's role in recommending review and approval timelines in collaboration with the engineering department. The proposal emphasizes that clear timelines can enhance accountability and streamline the review process. It suggests that expeditors should facilitate communication between vendors, reviewers, and buyers, ensuring timely feedback through meetings, especially for local vendors. Involving expeditors early in technical bid clarifications, particularly with international vendors, is also recommended to expedite understanding and processes. The proposal advocates for the duration of the document review cycle to align with technical bidding evaluations and be formally recognized as a contractual obligation. While the use of advanced IT databases for submissions is encouraged, email reminders for follow-ups are preferred to ensure clear communication. Ultimately, the findings underscore that clarity during the bidding stage is essential to prevent delays in document approval, streamline departmental reviews, and minimize processing times.

3.3 Validation of Hypothesis

In evaluating three hypotheses through the Important Index method and Delphi analysis, we found varied insights. For Hypothesis 1, while "unreliable vendors" scored a severity index of 75, it was not deemed critical by the Important Index method. Nevertheless, experts in the Delphi study acknowledged that reliable vendors can help minimize delays in bureaucratic approvals, hinting at their impact on project timelines. Hypothesis 2 regarding communication challenges with foreign vendors showed a 45% acknowledgment in surveys but had a lower severity index of 54.2%, indicating less criticality compared to other issues. Finally, Hypothesis 3, streamlining document approval can reduce bureaucratic delays, was validated as a significant concern, ranking as the second most critical issue with a severity index of 74.47, underscoring the importance of efficient procedures for project success.

4.0 Conclusions

The study concludes that the material expediting process in the procurement of petroleum and gas sector EPC projects in the Middle East region faces complex and multifaceted challenges. The research highlights the critical role of expeditors in navigating bureaucratic hurdles, particularly in the coordination between vendors, clients, consultants, and contractors for arranging approvals of drawings, documents, and technical specifications prior to manufacturing. Through the application of the Relative Importance Index (RII) method and Delphi study, the research identified unreliable vendors, bureaucratic document approval procedures, and poor vendor selection judgement as the most significant factors contributing to delays in the expediting process. The Delphi study, which involved experts and a panel of 30 professionals, further validated the findings, confirming that the bureaucratic approval process is a major cause of delays in material procurement. The study suggests that onsite buyer/procurement engineers can be more effective expeditors compared to a separate expediting team. However, in cases where a separate expediting team is utilized, the research emphasizes the importance of adopting innovative approaches, such as involving expeditors early in the bid clarification stages and implementing specific timelines within purchase orders to ensure accountability and efficiency. Furthermore, the study underscores the significance of tailored strategies and collaborative approaches in overcoming bureaucratic obstacles and streamlining document approval procedures. To achieve success in the dynamic petroleum and gas sector in the Middle East region, organizations must prioritize investments in technological infrastructure, enhance communication channels, and empower expeditors with the necessary tools and resources to effectively navigate complex procurement workflows. By implementing these proactive measures and fostering concerted efforts among stakeholders, significant improvements in expediting processes can be realized, ultimately driving project success and competitiveness in the industry.

5.0 Recommendations

The study recommends that organizations in the petroleum and gas sector EPC projects in the Middle East region should adopt a proactive approach to address the challenges faced by expeditors in the material procurement process. Firstly, companies should prioritize the involvement of expeditors in the early stages of the project, particularly during the bid clarification

phase. This early engagement should allow expeditors to gain a comprehensive understanding of the project requirements, technical specifications, and potential obstacles, enabling them to develop effective strategies for managing the expediting process. Moreover, the study recommends the implementation of specific timelines within purchase orders to ensure accountability and efficiency in the document approval process. These timelines should be established in collaboration with the engineering department and should be formally recognized as contractual obligations. Additionally, organizations should invest in advanced technological infrastructure, such as digital document management systems and automated workflows, to streamline the approval process and reduce bureaucratic delays. Besides, the study recommends that organizations should focus on fostering a culture of collaboration and communication among all stakeholders involved in the material procurement process. This should include regular meetings and open lines of communication between expeditors, vendors, clients, consultants, and contractors. Furthermore, companies should provide expeditors with the necessary training, tools, and resources to effectively navigate complex procurement workflows and adapt to the evolving challenges in the industry. By implementing these recommendations, organizations can significantly improve the efficiency of the expediting process, reduce delays, and enhance overall project performance in the competitive petroleum and gas sector in the Middle East region.

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