

جامعة ميدأوشن

كلية الإدارة

قسم / تخصص ماجستير ادارة مشاريع



عنوان البحث

Enhancing Scheduling and Cost Efficiency in Shutdown, Turnaround,
and Outage (STO) Projects Through ERP-Integrated Solutions

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مقدمة:

Shutdown, Turnaround, and Outage (STO) projects are critical maintenance activities that ensure operational efficiency in industries such as oil and gas, petrochemicals, and manufacturing. These projects are often high-stakes and require precision in planning and execution due to their impact on operational downtime and cost. The integration of Enterprise Resource Planning (ERP) systems with specialized STO solutions offers an opportunity to address common challenges such as delays, resource inefficiencies, and cost overruns. This research aims to explore how these integrated solutions can improve scheduling accuracy, enhance execution efficiency, and reduce overall project cost

مشكلة الدراسة:

Despite their critical importance, STO projects frequently face inefficiencies such as resource mismanagement, inaccurate scheduling, and poor real-time visibility. These challenges lead to extended project durations and increased costs. Standard ERP systems often lack the granular tools required to address STO-specific complexities. This study seeks to investigate how ERP-integrated STO solutions can overcome these challenges and contribute to better project outcomes

أهمية الدراسة:

- Highlights the potential of ERP-integrated solutions to address common challenges in STO projects
- Provides actionable insights for industries aiming to optimize scheduling resource management
- Contributes to the growing body of knowledge on leveraging technology for cost reduction and efficiency improvement in project management

أهداف الدراسة:

- To analyze the impact of ERP-integrated STO solutions on scheduling accuracy.
- To evaluate their effectiveness in enhancing execution efficiency and minimizing downtime.
- To identify best practices for implementing ERP-integrated solutions in STO projects.

تساؤلات الدراسة

- How do ERP-integrated STO solutions improve scheduling accuracy in turnaround projects?
- What is the impact of these solutions on execution efficiency and resource optimization?
- How can organizations implement these solutions to achieve better project outcomes?

فروض الدراسة:

- ERP-integrated STO solutions improve schedule adherence through real-time data and enhanced task coordination.
- These solutions enhance execution efficiency by reducing delays and improving resource utilization.
- The use of these tools results in significant cost savings by minimizing unplanned scope changes and optimizing resource allocation.

الدراسات السابقة:

This section will review existing literature and cases on the challenges faced in STO projects, the limitations of traditional ERP systems, and the benefits of integrating specialized solutions.

المنطلقات النظرية للدراسة:

The study will be based on:

- Resource-Based Theory: Examining how optimal resource allocation contributes to better project outcomes.
- Project Management Frameworks: Applying scheduling and cost control principles to STO projects.
- Technology Integration Models: Exploring how technological tools enhance traditional ERP functionalities.

المنهجية وطرق البحث:

The study will employ a mixed-methods approach:

- Data Collection:
 - Case studies from organizations using ERP-integrated STO solutions.
 - Surveys and interviews with project managers, ERP specialists, and team members.
- Comparative Analysis:
 - Evaluate key performance indicators (e.g., schedule adherence, cost savings) before and after implementing ERP-integrated solutions.
- Scope of Study:
 - Industries: Oil and gas, petrochemicals, and heavy manufacturing.
 - Timeframe: STO projects completed in the last five years

أدوات الدراسة :

- Surveys and structured interviews to collect qualitative and quantitative data.
- Analytical tools to compare performance metrics pre- and post-implementation of ERP-integrated solutions.
- Review of project documentation and reports for data validation

حدود الدراسة :

Subject Boundaries: Limited to ERP-integrated solutions addressing scheduling, resource allocation, and cost management in STO projects

المراجع:

The references section will include:

- Academic journals on project management, ERP systems, and STO challenges.
- Case studies from industry reports on ERP-integrated STO solutions.
- Relevant books and manuals on turnaround project management.