ANALYZING THE RELATIONSHIP BETWEEN SUSTAINABILITY AND MAINTENANCE IN THE FACILITIES SECTOR

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Operation & Maintenance

Life-Cycle Cost

Systems Acquisition

Operating and Support

20%–40%

60%–80%

30+ Years

Credit: Defense Acquisition University website
Sustainability
Goals and objectives

• To examine the connection between maintenance and sustainability concerns.
• To investigate the maintenance impacts on the sustainability of facility industries.
• To find out the indicators used for measuring sustainability impacts.
Research methodology

• A systematic literature review from Scopus and Web of Science.
• 46 papers were considered relevant.
• 29 articles pertain to the research questions.
• 17 studies examine the links between maintenance and sustainability in the 3 dimensions of economic, environmental, and social sustainability.
The relationship between maintenance and sustainability issues?

- Direct Relation
- Costs can be reduced by 40%
- Energy consumption by 10%.
The maintenance impact on the sustainability of the facility industry?

- Negative Impact
- Positive Impact
The indicators that are used for assessing such impacts?

- Quantitative Indicators
- Efficiency Indicators
- Effectiveness Indicators
- Workload Indicators
The indicators that are used for assessing such impacts?

1. Identify a specific weakness.
2. Determine its goals, targets, due date.
3. Implement the strategy and assess its results.
Why Sustainable Maintenance?

➢ Reduce human influence on the environment and eliminate waste.

➢ Raise the economic, social, and environmental performance of any organization.

➢ Creates a low, neutral, or even positive influence on the environment.

➢ Conserving, recycling, and reusing materials.
➢ Helps a facilities sector improve productivity by maintaining quality in every element.

➢ Support production system efficiency by maintaining quality.

➢ Helps in maintaining the national environment sustainable.
Recommendations
Digitalization is one of the best approaches to modernizing maintenance and it allows the emergence of advanced tools for making industries more competitive, effective, and sustainable in the field of maintenance.

➢ In order to combine between maintenance and sustainability, we have to integrate Digital technologies in the Operation & Maintenance practices.

➢ Utilities sector management must set regulations and laws that support the integration of technology in operation and maintenance.
➢ Decrease accidents by anticipating, diagnosing, and avoiding malfunctions early and remotely.

➢ It fosters a culture of safety, encourages responsible conduct, and ensures a secure and healthy workplace.

➢ Creates a significant impact, unlock new efficiencies and reduce material consumption and energy usage across the value chain for a climate-positive future.
THANK YOU!
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