



THE 21ST INTERNATIONAL
OPERATIONS & MAINTENANCE
CONFERENCE IN THE ARAB COUNTRIES

The Impact of Digital Transformation on Maintenance in The Utility Sector

Eng: Fahad Faleh Alotaibi

 #OmaintecConf

An Initiative by

Organized by



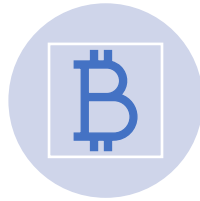
EXICON.
International Group
مجموعة أكزيكون الدولية



Digital transformation



\$1.5 trillion was spent on digital transformation in 2021



\$6.8 trillion by 2023.



55% of CEOs have said DT increased their profits



Operational efficiency increased 40%



Customer satisfaction at 35%



Research methodology

A systematic literature review from Scopus and Web of Science.

This study opted for 25 papers to respond to the research questions.

The paper keywords "utility sector", "utility sector maintenance", "digital transformation", and "impact of digitalization."



The Main Research Question



What are the advantages and disadvantages of implementing digitalization in the utility sector?



What are the implications of digital transformation for sustainability in the maintenance of the utility sector?



How digitalization transformed the maintenance in the utility sector?



The Advantages of Digital Transformation

1

Managing assets properly

2

Leads & enhance operational efficiency

3

Reduce the cost

4

Avoid equipment failures

5

Increased prospects of PM

6

Manage & monitor underprivileged areas

7

Improve the scope of maintenance

8

Helps in environmental sustainability

The Disadvantages of Digital Transformation



High initial cost



Poses a severe threat to the security



Limits people's abilities



Additional burden



Sustainability of Utility Sector Organizations



Upgrading asset conditions & enhancing the quality of service with reduced costs



Digitalization ensures predictive maintenance and improves resource allocation



Helps consumers to be aware of the provision of utility services that result in customer engagement and further aggravates the use of digital source



Digitalization creates convenience and awareness among consumers due to prompt resolution and reporting



Adoption of Digital Transformation in Utility





Digital Software

1

(POMMS)
Pipeline
operation
and
maintenance
management
system

2

(BIM)
Building
information
modelling

3

(GIS)
Geographic
information
system

4

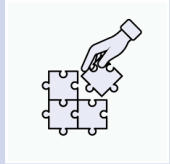
(AR)
Augmented
reality

5

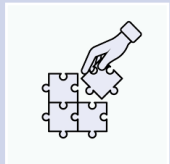
(API)
Application
programming
interface



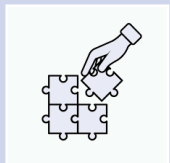
Conclusion



Digital transformation significantly impacts maintenance practices in the utility sector, offering numerous advantages.



Implementing change and providing technical assistance to workers such as mobile applications, tablets, which enable immediate access to manuals, diagrams, and maintenance histories.



Digital transformation has also enabled workforce enablement with collaboration platforms and remote assistance tools facilitate real-time guidance from experts, thereby augmenting the capabilities of technicians and the caliber of their maintenance work.



Recommendations



We recommend integrating digital technology into the operation and maintenance sector, taking into consideration to focus on environmental and economic sustainability factors so that we can obtain better results in the long term.



Utilities sector management must set regulations and laws that support the integration of technology in operation and maintenance sectors.



With the implementation of digital transformation, we should not neglect the development of the training aspect regarding engineering and craft specializations in order to enable employees to develop their capabilities.



THE 21ST INTERNATIONAL
OPERATIONS & MAINTENANCE
CONFERENCE IN THE ARAB COUNTRIES

THANK YOU



Eng: Fahad Alotaibi



Email: Eng.fhd2030@gmail.com



Phone: 0540922239

 #OmaintecConf

An Initiative by

Organized by



EXICON.
International Group
مجموعة أكزيكون الدولية