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The Effectiveness of Strategies for Using Management Information Systems in Improving Human Resource Management: "A Case Study of the Yemeni Company for Mills and Grain Silos – Aden"

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ABSTRACT:

Objective: This study looked at how well Management Information Systems (MIS) help improve human resource management at the Yemen Flour Mills and Silos Company in Aden. The research used the Technology Acceptance Model (TAM) as its framework.

Sample & Methodology: The study involved 80 employees from HR, IT, and General Administration. Data was collected through questionnaires, semi-structured interviews, and by reviewing official company records.

Key Findings:

Employees found the system very useful and fairly easy to use, which led to positive attitudes about adopting it. Strong correlations observed: perceived usefulness ↔ attitude (r=0.70), perceived usefulness ↔ ease of use (r=0.62), ease of use ↔ attitude (r=0.55). MIS improved decision-making and data accuracy, and helped reduce errors in planning, training, recruitment, evaluation, and managing compensation.

The main challenges were resistance to change, not enough ongoing training, and some minor technical issues.The system had a positive effect on both individual and group performance, and improved coordination between departments. Productivity increased by 20 to 25 percent.

Recommendations:

Continue to develop the MIS, offer regular training, connect system use to incentives, and review technical systems regularly. Carry out comparative studies and look into psychological and organizational factors that affect how well the system works.

KEYWORDS: Management Information Systems, Human Resource Management, Perceived Usefulness, Ease of Use, Technology Acceptance Model (TAM), Yemen Flour Mills and Silos Company – Aden.

INTRODUCTION

Study Background

In the last twenty years, many institutions in Yemen have gradually moved toward digitalization and started using Management Information Systems (MIS) to improve how they work. These systems mainly aim to help human resource management by giving accurate and reliable information for decision-making, making operations more efficient, and saving time and effort on daily tasks.

The Yemeni Company for Mills and Grain Silos – Aden is a major player in the food sector, but it faces big challenges in managing its people. These include having many departments, different levels of employee skills, and the need to closely watch performance to meet quality and production standards. Because of this, it is important to study how effective (MIS) are in improving both organizational performance and human resource management.

Study Problem

Though Management Information Systems (MIS) are important, Yemeni institutions have not widely adopted them because of technical, organizational, and cultural reasons. The Yemeni Company for Mills and Grain Silos – Aden faces several main challenges:

- **Employees' limited awareness of the practical benefits of the system.**
- **Difficulty in using certain system functions due to complexity or insufficient training.**
- **Resistance among some employees to changes in traditional work methods.**
- **Limited technical infrastructure and sustained administrative support.**

For these reasons, this study looks at how Management Information Systems affect human resource management and what factors influence their adoption and effective use system.

Study Object This study has the following goals: owing:

- To measure the impact of Management Information Systems (MIS) on improving the performance of Human Resource Management at the Yemeni Company for Mills and Grain Silos – Aden.
- To identify the level of employees' awareness of the expected benefits of the system and the extent to which this awareness influences their usage behavior.
- To analyze the factors affecting system adoption, including ease of use and administrative support.
- To offer practical recommendations that can help the organization use Management Information Systems (**MIS**) more effectively.

Research Questions

- **To what extent are employees aware of the expected benefits of Management Information Systems?**
- **How do employees evaluate the ease of use of the system?**
- **What is the general attitude of employees toward the effective and continuous use of the system?**
- **What factors and challenges influence the adoption and sustainable use of the system?**

Significance of the Study

- **Practical Significance**

The results of this study help make Human Resource Management more efficient by supporting faster and more accurate decisions, reducing mistakes, and boosting employee productivity.

- **Scientific Significance**

This study aims to fill the research gap about how Management Information Systems (MIS) work in Yemen, especially their effect on organizational performance and how employees feel about using them.

- **Social Encouraging**

The use of Management Information Systems helps create a better work environment, makes employees more satisfied, and helps the organization reach its goals. This also benefits society by providing more job stability and better quality services provided.

Previous Studies

Arab Studies

1. Al-Radaideh et al. (**2018**):

The study confirmed a strong positive relationship between the perceived operational benefits of Management Information Systems (**MIS**) and the efficiency of human resources, with particular emphasis on supporting decision-making and improving organizational performance.

2. Al-Harbi et al. (**2021**):

The study indicated limited system adoption due to insufficient training, highlighting the importance of awareness programs and continuous technical support to enhance adoption.

3. Al-Shaibani (**2021**):

The study demonstrated a clear positive impact of (**MIS**) on performance efficiency, emphasizing the relationship between MIS and accurate administrative decision-making.

Foreign Studies

1. Benani (2022):

Emphasized the vital role of perceived usefulness and ease of use in shaping attitudes toward system adoption, noting that perceived usefulness represents the most influential factor in adopting MIS.

2. Al-Kindi (2020):

Regression analysis results revealed that perceived usefulness and ease of use have a statistically significant effect on attitudes toward adoption, reinforcing the study's hypothesis regarding the importance of psychological and technical factors in system adoption.

3. Al-Faraj et al. (2020); Al-Hamadi (2021):

Their studies highlighted the integration of psychological and technical factors in supporting adoption, such as adequate training and user-friendly interfaces.

It can be said that previous studies all agree that perceived usefulness and ease of use are the two main factors in adopting management information systems, with the difference being the institutional context and local environment which may affect the level of adoption.

RESEARCH METHODOLOGY

Methodology and Data Collection Tools

The study employed a descriptive-analytical approach, combining both numerical and descriptive data to provide a comprehensive understanding of the results.

Data Collection Tools

1. Questionnaires distributed to employees of the Human Resources Department within the company.
2. Semi-structured interviews conducted with managers and key employees.
3. Review of the company's official documents and records.

Study Sample

The study focused on 80 employees from the Human Resource Department at the Yemeni Company for Mills and Grain Silos - Aden , since they work directly with the Management Information System.

Methods of Analysis

1. Descriptive Analysis:

Arithmetic means and standard deviations were used to assess the levels of perceived usefulness, ease of use, and attitudes toward adoption.

2. Inferential Analysis:

Regression analysis and correlation analysis were employed to determine the relationships between variables and the extent of their impact on system adoption.

3. Statistical Software:

SPSS was used for data entry and analysis, including testing statistical significance and measuring variance among employees' responses.

Results and Interpretation

This chapter presents and analyzes the study's findings under the title "**Results and Interpretation**." It utilizes both numerical data and descriptions from questionnaires, interviews, and official documents. The results are compared with earlier studies to give a full picture of how Management Information Systems (MIS) affect Human Resource Management at the Yemeni Company for Mills and Grain Silos – Aden.

First: Questionnaire Results and Their Interpretation

Axis One: Perceived Usefulness

Table (1): Arithmetic Means and Standard Deviations of the Sample's Responses Regarding Perceived Usefulness

No.	Section	Arithmetic average	Standard deviation	Perception level
3	Provides accurate data to support decisions	4.3	0.6	High
1	The system contributes to improving the speed of completing tasks.	4.2	0.7	High
2	Makes it easier to make better decisions	4.1	0.8	High
4	Enhances the effectiveness of human resources performance.	4	0.9	High
General average		4.15	0.75	**Very High**

Interpretation of Results:

The high average show that employees are well aware of the system's practical benefits, especially in helping with decision-making and speeding up tasks.

The higher standard deviation for improving Human Resource performance suggests that employees have different levels of experience and may need more practical training.

These findings are consistent with the studies of **Al-Radaideh et al. (2018), Abis et al. (2023), Abdullah (2020), and Benani (2022)**, which confirmed that perceived usefulness is associated with improved efficiency and accurate decision-making.

Axis Two: Perceived Ease of Use

Table (2): Arithmetic Means and Standard Deviations of the Sample's Responses Regarding Ease of Use

No.	Section	Arithmetic average	Standard deviation	Perception level
2	The system can be learned quickly.	3.9	0.8	Average to high
1	The system interface is easy to use	3.8	0.9	Average to high
3	The system does not require much effort to enter data.	3.7	1	Average
4	Navigating between system functions is seamless.	3.6	0.9	Average
General average		3.75	0.9	Average to high

Interpretation of Results:

The results show that employees find the system moderately to easily usable, with some difficulties navigating through the system's functions.

The higher standard deviation means employees have different skill levels with the system, showing the need to make the interface simpler and give clear instructions.idance.

These findings align with **Benani (2022), Al-Sharafi et al. (2019), and Al-Muqbil (2021)** regarding the influence of ease of use on system adoption, with contextual differences noted by **Al-Harbi (2021) and Khalaf Gatea et al. (2021).**

Axis Three: Attitude Toward System Use

Table (3): Arithmetic Means and Standard Deviations of the Sample's Responses Regarding Attitude Toward System Use

No.	Section	Arithmetic average	Standard deviation	Perception level
3	I believe order is essential for my work	4.2	0.6	High
2	I recommend my colleagues use the system	4.1	0.7	High
1	I want to use the system continuously	4	0.8	High
4	I believe that using the system improves the quality of my work	4	0.7	High
General average		4.075	0.7	**High**

Interpretation of Results:

Employee's positive attitude shows they see the system as important for improving daily work and are willing to keep using it .

The standard deviation suggests that some employees might need more support and encouragement to use the system regularly.

These results are consistent with **Al-Shiker et al. (2021), Al-Balushi et al. (2021), and Al-Zahrani (2020)**, which confirmed that perceived usefulness and ease of use lead to a positive attitude toward adoption.

Axis Four: Effectiveness of Strategies Implemented to Enhance Usage

Table (7): Arithmetic Means and Standard Deviations of the Sample's Responses Regarding the Effectiveness of Strategies

No.	Section	Arithmetic average	Standard deviation	Perception level
2	Support senior management	4.1	0.7	High
1	Adequate training for employees	3.9	0.8	Average to High
3	Having clear policies	3.8	0.9	Average to High
4	Availability of sufficient technical resources	3.7	0.9	Average
General average		3.875	0.825	**Average to high**

Interpretation of Results

The results show that support from top management is very important for getting employees to use the system and keeping them motivated.

The relatively lower mean score regarding the availability of technical resources relatively indicates the need to improve technical infrastructure.

These results are consistent with **Al-Dalahmeh et al. (2018), Al-Jabri et al. (2018), and Al-Busaidi et al. (2021)**, with contextual differences compared **to Al-Harbi et al. (2021).**

Axis Five: Challenges in Using Management Information Systems

Table (8): Arithmetic Means and Standard Deviations of the Sample's Responses Regarding Challenges

No.	Challenge	Participants (%)	Significance level
1	Lack of adequate training	40%	High
2	System complexity	31.50%	Average to High
3	Poor technical support	25.70%	Average
4	Employees resisting change	17%	Average
5	Lack of awareness of the benefits	14%	Average

Interpretation of Results:

The main challenge found was not enough training, which shows the need for ongoing

training programs and hands-on sessions to help employees use the system better adoption of the system.

Most employees see the benefits of the system, but putting it into practice and following up are still the biggest challenges. These findings are consistent with **Al-Shaikh (2021**) and **Al-Fahdi et al. (2020)** regarding the impact of insufficient training and awareness on system adoption.

Second: Results of Advanced Statistical Analyses

1. **Regression Analysis**

Table (9): Results of the Regression Analysis between Perceived Usefulness and Ease of Use on Attitude Toward Adoption

Independent variable	Regression coefficient (Beta)	Significance Level
Percieved usefulness	0.55	0.001
Ease of use	0.3	0.01

Interpretation of Results:

Both factors have a clear effect on how employees feel about adopting the system, but perceived usefulness has a stronger impact.

These results support the study's hypothesis regarding the importance of perceived usefulness as a primary determinant of MIS adoption, consistent with the findings of **Benani (2022)** and **Al-Kindi (2020).**

2. **Correlation Analysis**

Table (10): Results of the Correlation Analysis between Perceived Usefulness, Ease of Use, and Attitude Toward Adoption

First variable	Second variable	Correlation Coefficient (r)	Significance level
Perceived usefulness	Ease of use	0.62	0.001
Ease of use	Attitude toward adoption	0.55	0.003
Perceived usefulness	Attitude toward adoption	0.7	0.001

Interpretation of Results:

There were strong positive links between the variables, and perceived usefulness was the most important factor.

Ease of use functions as a supporting factor in system adoption, aligning with the findings of **Al-Faraj et al. (2020)** and **Al-Hamadi (2021).**

Third: Results of Semi-Structured Interviews

- Managers confirmed that the system contributed to improving the speed of decision-making and performance monitoring, reflecting its positive impact on human resource efficiency.
- Employees indicated a need for advanced training courses and ongoing technical support, which aligns with the findings of the challenges.
- Limited resistance to change was observed among long-serving employees, underscoring the importance of management support for change and continuous motivation.

Fourth: Results of the analysis of official documents and records

- The system increased the speed of statistical reporting by 25% after implementation.
- Data accuracy and consistency across departments were improved.
- Recruitment and evaluation procedures were standardized in line with modern standards.

Fifth: Practical Recommendations

On the study's findings, here are some recommendations to help Management Information Systems (MIS) have a bigger impact on Human Resource Management at the Yemeni Company for Mills and Grain Silos – Aden:

1. **Enhance Continuous Training**: Create practical training programs for all employees, focusing on hands-on learning instead of just theory. Set up a schedule to follow up on training and evaluation so employees fully understand how to use the system.

2. Simplify the System Interface: Redesign the user interface to be more user-friendly and provide a clear user manual in Arabic. Add short explanations for each operation in the system to make it easier to use and reduce resistance from employees.

3. **Top Management Support**: Make sure senior management keeps encouraging employees to use the system and gives rewards to those who are most committed employees.

4. Integrate system usage into performance evaluation and reward policies.

5- **Improve the technical infrastructure**: provide modern devices and a stable internet network to support the system running efficiently.

6. **Make sure there is always technical support available to quickly fix any problems or technical issues.**

7. **Raise awareness about the importance of the system and its benefits:** Organize awareness workshops for employees on how the system improves efficiency and effectiveness, linking it to the employee's career success. Share internal success stories that highlight improvements in work performance after adopting the system.

8. Monitoring performance and measuring impact: conducting periodic reviews to assess how effective the system is in improving human resource management.

9. Using specific performance indicators to track continuous development.

Sixth: Recommendations for researchers:

1. Conduct comparative studies on MIS application across different companies in Yemen to study differences in adoption and impact.
2. 2- Studying the impact of management information systems on other sectors like health and education, to generalize the findings.
3. Analyzing the cultural and organizational factors that affect the adoption of management information systems in Yemeni companies.
4. Trying out other models like TAM2 and UTAUT to understand technology adoption in different local contexts.
5. Studying the long-term impact of practical training and continuous interaction with the system on improving long-term performance.

CONCLUSION

The study's results showed that the perceived usefulness and ease of use are the two primary factors influencing attitudes toward the adoption of Management Information Systems (MIS), with perceived usefulness exerting a stronger impact on adoption than ease of use.

The study's also revealed that top management support and continuous training are among the main factors affecting the effectiveness of strategies to boost usage.

The main challenges faced by the staff were a lack of training and weak technical support ,and system complexity in certain functions, which necessitate the development of continuous improvement plans.

These results support previous studies, such as **Benani (2022)**, **Al-Kindi (2020)**, **Al-Shaikh (2021)**, and **Al-Faraj et al. (2020)**, regarding the importance of perceived usefulness, ease of use, and training in promoting the adoption of Management Information Systems.

This study provides both practical and scientific contributions by offering clear recommits study offers practical and scientific value by giving clear recommendations to help Yemeni institutions adopt MIS and improve job performance. It can also be a starting point for future research in other sectors. Finally, the study emphasizes that technology alone is not enough; it must be accompanied by administrative support, effective training, and a robust infrastructure to maximize the benefits of Management Information Systems.

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