

Management Information Systems (MIS)



MIS Definition and Functions

MIS serve middle managers by **generating scheduled reports** like weekly sales totals or quarterly resource summaries from TPS data on operations such as **orders, production, and accounting**. These systems use simple routines for aggregation and comparison, delivered online or in print, to **monitor performance and predict trends**.

[Laudon & Laudon, 2021] [Oz, 2012]

Management Information Systems (MIS)

Benefits



Provides timely, accurate insights for control and planning.
[Laudon & Laudon, 2015]

Automates routine monitoring, boosting efficiency. [Oz, 2012]

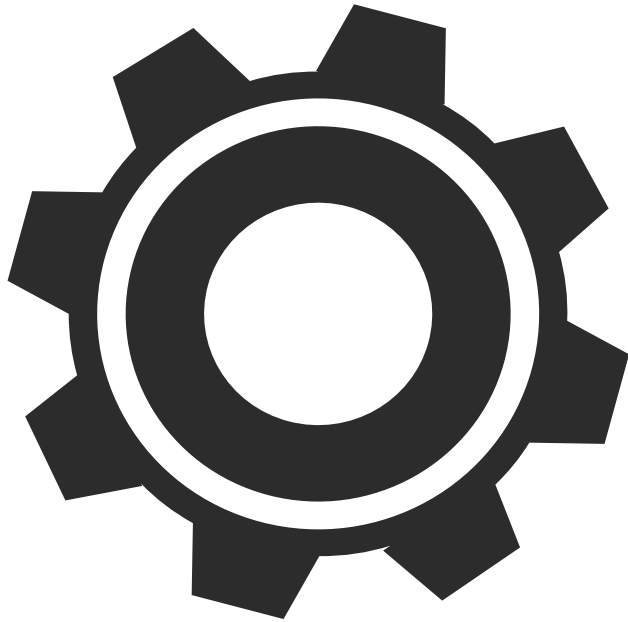
Rigid structure limits ad-hoc queries and advanced analytics. [O'Brien & Marakas, 2010]

Risks data overload or inaccuracy if TPS inputs falter.
[Laudon & Laudon, 2006]

Limitations



Decision Support Systems (DSS)



DSS Definition and Functions

DSS tackle **non-routine decisions** with interactive models, blending TPS/MIS data and external inputs (e.g., competitor prices) for "what-if" scenarios, like voyage-estimating systems that compute shipping costs, fuel use, and port delays.

[Bonczek et al., 1981] [Banerjee & Bandyopadhyay, 2024]

Decision Support Systems (DSS)

Benefits



Supports complex simulations and rapid responses to change.
[Banerjee & Bandyopadhyay, 2024]

Enhances creativity through direct user interaction.
[Bonczek et al., 1981]

High costs and steep learning curves for setup.
[O'Brien & Marakas, 2010]

Depends on quality data; can't fully replace human intuition. [Banerjee & Bandyopadhyay, 2024]

Limitations



Transaction Processing Systems (TPS)



TPS Definition and Functions

TPS automate routine, high-volume transactions like order processing, payroll, and inventory updates, ensuring data accuracy, speed, and reliability through real-time recording and error-checking. [Laudon & Laudon, 2015] [O'Brien & Marakas, 2010]

They capture raw operational data (e.g., sales orders, production logs) as the foundational input for MIS and DSS. [Laudon & Laudon, 2006]

Transaction Processing Systems (TPS)

Benefits



Ensures operational efficiency and data integrity for daily business. [Oz, 2012]

Provides reliable raw data for higher-level analysis. [Laudon & Laudon, 2021]

Focused only on routine tasks; no analytical or forecasting capability. [O'Brien & Marakas, 2010]

Vulnerable to system failures or high volumes causing delays. [Laudon & Laudon, 2015]

Limitations



TPS vs. MIS vs. DSS Comparison

Aspect	TPS	MIS	DSS
Focus	Daily operational transactions	Routine performance reports	Non-routine decision analysis
Users	Operational staff	Middle managers	Senior managers/analysts
Data Handling	Real-time capture, no summarization	Summarizes TPS data periodically	Models TPS/MIS + external data
Flexibility	Very low; structured inputs	Low; predefined reports	High; interactive scenarios
Output	Transaction records	Summary reports (e.g., sales totals)	Simulations (e.g., "what-if" impacts)

References

Laudon, K. C., & Laudon, J. P. (2021). Management Information Systems: Managing the Digital Firm. – Pearson.

Laudon, K. C., & Laudon, J. P. (2015). Management Information Systems: Managing the Digital Firm. – Pearson. – ISBN 978-0133898163.

Oz, E. (2012). Management Information Systems. 7-ме вид. – Cengage Learning.

O'Brien, J. A., & Marakas, G. M. (2010). Management Information Systems. 10-те вид. – McGraw-Hill/Irwin.

Bonczek, R. H., Holsapple, C. W., & Whinston, A. B. (1981). Foundations of Decision Support Systems. – Academic Press.

Banerjee, P., & Bandyopadhyay, S. (2024). Decision Support System: Tools and Techniques. – Routledge.
