

Growing Business Modernization Project

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Information system definition

Information System integrates people, processes, data, and technology to collect, process, store, and distribute information (Laudon and Laudon, 2024).



Improve operational efficiency



Enhance customer experience



Support faster decision-making



Encourage innovation & business growth

Key Insight: Information systems take raw data and turn it into useful information that helps businesses run smoothly and make better decisions. (Laudon and Laudon, 2024).



Transaction Processing Systems (TPS)

TPS is processes routine daily transactions & supports day-to-day business operations.

Example for TPS: Online orders, POS systems, Payroll & Banking transactions

The key TPS Benefits is Fast & accurate, Reduces errors & Improves efficiency

System Limitation is focusing on routine tasks only (OpenStax, 2024)



Management Information Systems (MIS)

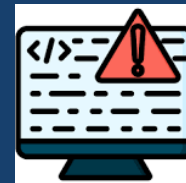
MIS takes daily business data and turns it into simple reports for managers also it helps managers check what is happening in the business and stay organized (Laudon & Laudon, 2021).

Main features:

Scheduled Reports.



Exception Reports:



Advantage & disadvantage

- Helps managers keep track of work in a simple way
- Very rigid and hard to change when something unexpected happens (Davenport, 2018).

Decision Support Systems (DSS)

A system that helps managers solve difficult and new problems (Power, 2019)

Main features:

- Analysis helps managers see what happens if the prices or costs change.
- Sensitivity Analysis: Shows how big risks can affect the business result.

Advantage & Disadvantage

Helps managers make smart decisions quickly in complex situations

Costs a lot of money to make, and if the input data is bad, the answer will be wrong





Comparing the Three Systems

System	Transaction Processing (TPS)	Management Information System(MIS)	Decision Support System (DSS)
Who uses it?	Frontline workers (cashiers)	Middle managers	Senior managers & executives
Main job	Collect daily data fast	Make summary reports	Analyse data and make hard choices
Data type	Daily Sales, receipts, invoices	Summarized internal data	Internal data and market trends
Problem Type	Simple, routine tasks	Regular, structured tasks	Complex problems
Main Benefit	High speed and accurate processing	Easy performance tracking	Flexible planning for future
Main Limitation	No analysis capability	Hard to change fixed reports	Expensive and needs good data

Key Risks



Data privacy

Collecting or holding personal data without a lawful or keeping it longer than needed (Petrović, D., 2022.)

Security

Breach

- Gets into a company's systems or data without permission

Ransomware

- A type of cyberattack that locks or encrypts files and demands money to unlock them

Weak access control

- Excessive data collection



AI Decision making

Companies use automated system or AI to make decisions about people, but nobody can clearly explain why the system made a particular decision (Ivanov, S.H., 2023)
example of decisions making is:-

Credit: An AI decide someone should not get loan

Hiring: Reject job application without explaining the reason behind this rejection

Using AI decision making lead to black box problem which is can not challenge unfair or wrong decision

AI can be unfair if it learns from biased data. For example, a hiring AI might favour men if it has mostly learned from men's applications. This can lead to unfair hiring decisions.



Mitigation strategy

The actions to take to mitigate system risk by responsible use through information governance

Data protection

- Collect necessary data

Cybersecurity

- Strong password
- Limited data access

Training & awareness

- Staff training to recognize scam

Data Backup

- Data backup regularly

- Governance reduce risk by incident response , risk assessment and security audit
(Chalermpong Senarak, 2025)
- Good security build customer trust and protect reputation



Case Study - Amazon

Systems Used: TPS, Analytics, AI/ML & Logistics systems

The challenges: is managing millions of orders daily

Solutions: Automation, Predictive analytics, AI-driven logistics

Ethical Issues: Data privacy, Cybersecurity, Workforce automation

Key Takeaway: Integrated systems enable scalability but require strong governance. (Amazon, 2026).





Case Study - Walmart

Systems Used: TPS, Supply chain system , AI & Automation

The challenges: is Coordinating stores, inventory, and e-commerce.

Solutions: AI-driven supply chain, Digital services

Ethical Issues: privacy, Cybersecurity, Workforce Impact

Key Takeaway: Information systems improve efficiency and customer experience at scale.

(Walmart, 2025).





Conclusion & Recommendations

- ✓ Integrate TPS, MIS, DSS - end-to-end digital transformation.
- ✓ Strengthen Cybersecurity - Protect customer and business data.
- ✓ Improve Data Governance - Clear policies for collection and usage
- ✓ Use AI Responsibly
- ✓ Train Employees



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Thank You