

Title: Component 1- Group Presentation on different information systems

Module: Managing Business information

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What are information systems?

Information systems in the business is a combination of people, processes, data and technology which is used to collect, process, store and distribute information to support organisational activities and decision- making (Laudon and LAudon,2022)

Why do business need Information systems:

Operational efficiency:

- Automates repetitive activities
- Reduces manual data entry and duplication
- Improves speed and accuracy

Decision making:

- Converts business data into useful information
- Provides business data into useful information
- Supports forecasting and planning

Customer experience:

- Creates a more complete view of customers
- Enables faster and more personalised service

Competitive advantage:

- Allows organisations too respond quickly to market changes
- Supports innovation and new digital business models.

Information systems should be viewed as an IT investment; their value depends on how effectively technology supports business strategy and organisational processes (Laudon and Laudon, 2022)

Main types of business information systems

Different systems support different levels of the organisation

Systems	Main Purpose	Typical users	Examples
Transactional processing systems (TPS)	Records routine transactions	Operational staff	Sales, orders, payment
Enterprise Resource Planning (ERP)	Integrates business processes	Managers and departments	Finance, HR, procurement, inventory
Customer Relationship Management (CRM)	Manages customer interactions	Sales and marketing	Customer history, service, campaigns
Management Information Systems (MIS)	Produces structured management reports	Middle managers	Sales and performance reports
Decision support systems/ Business Intelligence (DSS/BI)	Analyses data to support decisions	Managers and executives	Forecasting, dashboards, analytics

These systems are complementary rather than mutually exclusive. For example, TPS data can feed ERP and BI systems, whilst CRM systems can contribute customer data to organisational analytics (Laudon and Laudon, 2022; Valacich, Schneider and Hashim, 2022). The most effective modern information environments is integrated rather than dependent on single systems

Comparing Information systems

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Systems	Key Functions	Benefits	Limitations
TPS	Capture day to day transactions	Speed, accuracy, automation	Limited strategic insight
ERP	Integrates finance, HR, supply chain and operations	Single source of information; process integration	Expensive and complex to implement
CRM	Stores customer information and interactions	personalisation, customer retention, improved service	Privacy concerns; poor data can produce poor customer insight
BI/DSS	Analyses internal and external data	Better decisions, forecasting and performance monitoring	Dependant on data quality; require analytic skills

Analysis:

No individual systems solves every business problem.

- TPS provides the operational foundation.
- ERP connects internal processes.
- CRM focuses on customers and relationships.

BI/DSS transforms data into managerial insight.

Research into information systems success also suggests that value depends on system quality, information quality, service quality and use and user satisfaction, rather than simply installing technology (DeLone and McLean,2003).

ERP: Integrating the Organisation

Enterprise resource planning integrates multiple business functions into a common information environment.

Typical ERP functions:

- Finance and accounting
- Procurement
- Inventory management
- Human resources
- Supply chain
- Production
- Order management

Business benefits

- Duplicate data
- Spreadsheet dependency
- Information silos
- Manual process and delays between departments

However, ERP implementation can create significant financial, technical and organisational challenges. Employees may need to training and business process may need to change.

Recent SAP customers examples illustrate potential benefits: business using cloud ERP have reported improvements such as faster invoice processing, improved financial visibility and reduced month end close times (SAP, 2026).

ERP should be implemented around clearly defined business processes rather than simply replacing existing software.

CRM: Improving customer experience

Customer relationship management systems collect and organise customer information across sales, marketing and service activities.

CRM can provide:

- Customer profiles and purchase history
- Communication records and sales opportunities
- Customer service information and marketing segmentation
- Personalised interactions

Business impact, sales force reports that networking company Expereo used sales cloud and service cloud to standardise customer data and work flows. The company reported 30% faster service delivery and a 58% increase in NPS following implementation (sales force, 2026).

However CRM also creates risks:

- Excessive collection of personal information and unauthorised access
- Poor quality customer data and over personalisation
- Loss of customer trust.

Therefore, CRM should combine customer value with responsible data management.

BI and DSS: Turning data into decisions

Business intelligence and decision support systems analyse information from multiple sources and present it through:

- Dashboards and key performances indicators (KPIs)
- Data visualisations and forecasts
- Trend analysis and what if analysis

This matters because managers can move from what happened to why did it happen. What is likely to happen to what should we do. An example of this is M&S implemented Azure synapse analytics and power BI to integrate data from multiple sources.

The systems enables:

- Faster access to information and real time reporting
- Better access to sales and stock information
- Greater self service analytics and more data driven decision making

Microsoft reports that more than 11,000 supports center and store re management colleagues were actively using reporting each month (Microsoft, 2023). The only limitation is BI is only as reliable as the underlying data. Poor-quality or inconsistent data can lead to inaccurate conclusions.

Ethical issues in modern information systems

Technology creates opportunities- but also responsibilities.

- Data privacy- Business increasingly collect customer and employee data.

Under UK data protection principles, organisations must process personal data lawfully, fairly and transparently, while applying data minimisation, accuracy, storage limitation and appropriate security (UK Government, 2026)

- Cybersecurity- Information systems can become targets for:
- Phishing and malware
- Ransomware and data theft
- Unauthorised access

NIST's Cybersecurity Framework 2.0 provides a structured approach for organisations to identify, manage and communicate cybersecurity risks (NIST, 2024)

- Employee monitoring- Technologies can monitor
- Productivity and keystrokes
- Intern activity and screens
- Location and working time

The ICO stresses that employee monitoring must still comply with data protection principles (ICO, 2026)

AI, Bias and Responsible Decision MAKing

The ethical challenge of AI

AI can improve:

- Recruitment and forecasting
- Customer recommendations and fraud detections
- Pricing and operational planning

However AI systems can reproduce biases present in their training data, design or implementation. For example Amazon developed an experimental recruitment system that analysed CVs. Reuters reported that the systems learned from historical recruitment data that predominantly reflected male applicants and produced outcomes that disadvantaged female candidates. Amazon abandoned the project (Dustin, 2018). The ICO specifically recommends transparency, data minimisation, bias testing and meaningful human involvement when AI is used in recruitment (ICO, 2024).

Case studies: information systems in practice

Case 1-Zara/Inditex- RFID and operational systems and operational systems

Challenge:- Zara needed accurate information about product locations and inventory across its stores.

Solution:- RFID technology was integrated into Zara's operations to identify individual garments throughout the distribution and retail process.

Impact:- Inditex reported that RFID made inventory processes 80% faster and reduced the time required to identify products for replenishment (Inditex, 2015).

Ethical Consideration:- The system demonstrates how tracking technologies can improve efficiency, but organisations should ensure appropriate controls where operational tracking becomes connected with employee or customer personal data.

Key take away:- Accurate real time operational information can directly improve inventory management and customer service.

Case study 2: Marks & Spencer- BI

Challenge:- Large volumes of data existed across multiple sources and systems

Solution:- M&S used Azure synapse and power BI to consolidate, transform and visualise information.

Impact:- The company reported faster access to insight, greater self-service reporting and wider use of data in operational decision making (Microsoft, 2023).

Key takeaway:- BI can create value by making high quality information accessible to people who need to make decisions

Case Study and Recommendations

Case 3: Walmart- Business Intelligence

Walmart's finance organisation adopted power BI to address the challenge of managing extremely large volumes of financial data. The company reported problems involving data centralisation, preparation and consumption. its BI approach created standardised data models and reduced duplicated reporting activity (Microsoft, 2022).

Rather than implementing every system simultaneously, a phase strategy is recommended:

- Established the foundation:-
- Strengthen cybersecurity and standardise core data
- Identify critical business process
- Implementation integrated operational systems:-
- ERO/TPS for finance, operations and inventory.
- Introduce CRM:-
- Create a single customer view and improve sales and customer service
- Build BI/DSS capability
- Integrated data from ERP, CRM and operational systems and introduce dashboards and KPI's.
- Introduce Ai:-
- Use AI where there is a clear business case and maintain human oversight for significant decisions

Conclusion

Key conclusions:- Information systems can help a growing business achieve:

Efficiency:- Automation and integrated process

Better decisions:- accessible, accurate and timely information

Customer experience:- Greater understanding of customer needs

Competitive capability:- Faster responses, innovation and data driven operations

However, successful modernisation required more than purchasing history. The recommended approach is integrate systems + improve data quality + develop employee capability + protect privacy + govern AI responsibility .

The evidence from Zara, M&S and Walmart demonstrate that information systems can produce substantial operational and decision making benefits when technology is aligned with organisational needs. At the same time the Amazon AI case demonstrates why ethical governance must be embedded into system design rather than added afterwards.

Ultimately information systems should be evaluated not only by their business value, usability, security, ethical impact and contribution to organisational objectives (DeLone and McLean, 2003).

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