

MODULO NAME Managing Business Information

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Information Systems: Systems at HSBC Bank

HSBC Bank uses information systems to carry out its operations worldwide in real-time. These systems allow the bank to process millions of financial transactions securely. They also provide online and mobile banking, offer 24/7 customer support, and support data-driven lending and fraud detection decisions. The key roles of information systems in business are to

1. improve operational efficiency by automating routine tasks,
2. enable faster and more accurate decision-making,
3. meet customer expectations,
4. ensure data security while reducing risks, and
5. gain a competitive edge by adjusting operations as needed.

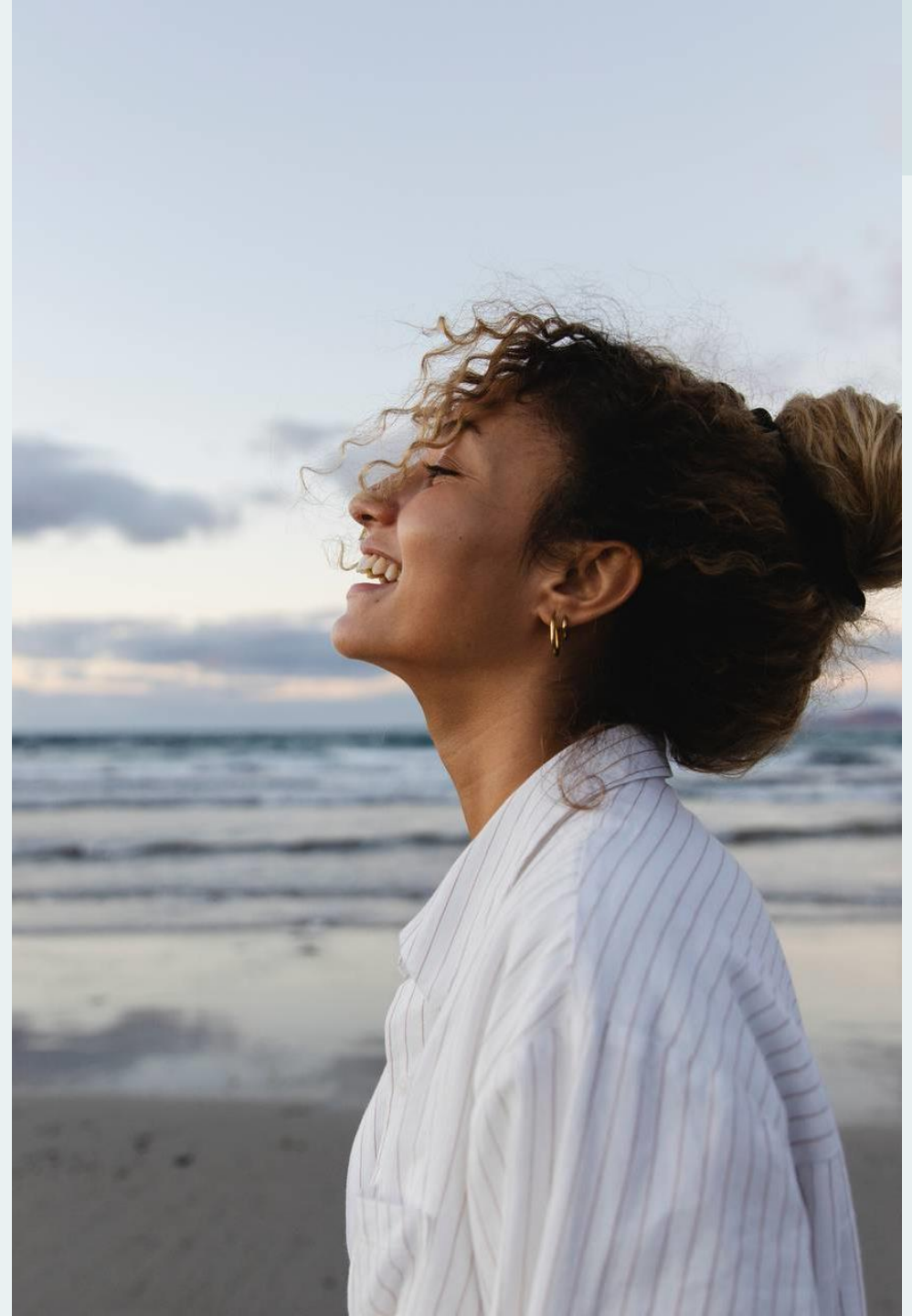
The Main Types of Business Information Systems

There are four levels of information systems in a business, organized from operational to strategic levels.

1. **Operational Level: Transaction Processing Systems (TPS)**
 - Role: Record, process, and store data about business operations such as sales, purchases, and payments.
 - Significance: It is the backbone of all other information systems; without it, a business cannot operate.
 - Impact: TPS improves operational efficiency while lowering costs and errors.
 - Example: Point of Sale (POS) systems, Automated Teller Machines (ATMs), and Payroll systems.

2. **Managerial Level: Management Information Systems (MIS) and Decision Support Systems (DSS)**

- Role: MIS analyzes the data processed by TPS and produces managerial reports to aid decision-making. DSS helps in solving unstructured decision problems.
- Significance: It assists managers in making quicker and more accurate decisions based on information from lower-level systems.
- Impact: It boosts business performance through better planning, budgeting, and resource allocation.
- Example: Monthly sales reports, demand forecasting models, and budget analysis systems.



3. Strategic Level: Executive Information Systems (EIS)

Role: EIS offers information support to senior executives through reports and digital dashboards.

Significance: It helps senior executives make timely and informed decisions to stay ahead of competitors.

Impact: It supports strategic planning and decision-making while speeding up responses to external events.

Example: Dashboards that monitor market trends, revenue, customer behavior, and other important indicators.

4. Enterprise-Wide Systems

These systems are designed to support the entire organization, including finance, human resources, inventory, and operations management.

- Enterprise Resource Planning (ERP): This system integrates all business functions into one platform to eliminate information silos and improve teamwork.

- Impact: It lowers costs while improving data accuracy and analytical insights.

- Customer Relationship Management (CRM): A system that tracks all customer interactions and helps maintain long-term relationships.

- Impact: It enhances customer service, retention, and sales.

- Supply Chain Management (SCM): A system that oversees the entire supply chain, from suppliers to logistics.

- Impact: It cuts costs while improving customer service.

- Business Intelligence (BI) and Knowledge Management Systems (KMS): This system analyzes data to find patterns and helps share knowledge within an organization.

- Impact: It improves decision-making while supporting the storage and reuse of organizational knowledge.

How They Create Competitive Advantage

Business Goal: Best Information Systems and the Impact of Information Systems

1. Run smoother operations: Transaction Processing Systems (TPS) and Enterprise Resource Planning (ERP) reduce manual effort and costs.
2. Make faster decisions: Management Information Systems (MIS), Decision Support Systems (DSS), Executive Information Systems (EIS), and Business Intelligence (BI) cut down decision-making time.
3. Win more customers: Customer Relationship Management (CRM) and Business Intelligence (BI) enhance customer experience while driving sales growth.
4. Scale up or down operations: Enterprise Resource Planning (ERP), Supply Chain Management (SCM), and Cloud-based Information Systems support business growth while lowering costs.
5. Modern businesses can gain a competitive advantage by using information systems to turn data into meaningful insights for decision-making across all operations. Well-Researched Recommendations for a Growing Business For a growing business, I recommend the following information systems in this order:

1. Start with Enterprise Resource Planning (ERP) and Transaction Processing Systems (TPS).
2. Then implement Customer Relationship Management (CRM) and Business Intelligence (BI).
3. Finally, establish Management Information Systems (MIS), Decision Support Systems (DSS), and Executive Information Systems (EIS).

The reasoning behind this recommendation is that ERP and TPS are the foundation for all other information systems. Therefore, a growing business should first invest in automating its core functions before moving on to other systems like CRM to improve customer experience. It is also important to provide management with the tools needed for quicker and more accurate decision-making.



HSBC's Information Systems Framework

HSBC is a multinational banking and financial services organization that serves customers across the globe. To manage its operations, the bank relies on an integrated Information Systems (IS) that supports secure banking, efficient business processes and high-quality customer service.

Purpose of the Information System:

- Ensure banking transactions are processed securely and accurately.
- Deliver reliable digital banking services.
- Provide managers with information for effective decision-making.
- Protect customer information and meet legal requirements.
- Improve the overall customer experience.

Component	Description
Hardware	Servers, data centres, ATMs, desktop computers, laptops, mobile devices, and network infrastructure.
Software	Core banking software, Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), cybersecurity applications, and online/mobile banking platforms.
Data	Customer records, financial transactions, loan information, employee details, compliance records, and financial reports.
Procedures	Payment processing, customer verification, fraud prevention, data backup, system maintenance, and regulatory compliance.
People	Customers, branch staff, managers, IT professionals, cybersecurity specialists, and senior executives.

Business Information Systems for HSBC Bank

ERP and Modern Technologies

HSBC's ERP system could leank major business functions, allowing departments to share information efficiently and improve collaboration.

Supporting Technologies

Cloud Computing – Provides secure storage, system flexibility, and reliable disaster recovery.

Data Analytics – Supports fraud detection, customer behavior analysis, and business forecasting.

Mobile Banking – Allows customers to access banking services anytime and anywhere through secure mobile applications.

Information System	Main Function	Advantages	Disadvantages
Transaction Processing System (TPS)	Handles daily banking activities such as deposits, withdrawals, fund transfers, and payments.	Delivers fast, reliable, and secure transaction processing while supporting continuous banking services.	Mainly supports day-to-day operations and offers limited support for strategic planning.
Management Information System (MIS)	Produces management reports using operational data to assist with planning and monitoring business performance.	Helps managers make informed decisions by providing accurate reports and performance insights.	The quality of reports depends on accurate operational data and offers limited long-term strategic analysis.
Enterprise Resource Planning (ERP)	Integrates departments including finance, HR, procurement, compliance, and operations into one central system.	Improves communication, data sharing, and operational efficiency while reducing duplicated work.	Can be expensive to implement and requires ongoing employee training and system maintenance.

Recommended Solution

HSBC should continue to develop an integrated Information Systems strategy centred on an **Enterprise Resource Planning (ERP)** system, supported by **Transaction Processing Systems (TPS)** and **Management Information Systems (MIS)**. This combination

improves operational performance and supports long-term business growth.

Ethical Consideration

Data Privacy -HSBC must safeguard customer information by complying with data protection legislation and ensuring personal and financial data is handled responsibly.

- **Data Security** -Strong cybersecurity measures, including encryption, multi-factor authentication, and continuous system monitoring, help protect the bank against cyber threats and unauthorized access.

- **Artificial Intelligence (AI)**

AI can improve fraud detection and customer support; however, important decisions should include human oversight to ensure fairness, accuracy, and transparency.

- **Employee Monitoring**

Monitoring systems should be used only where necessary for security and operational purposes while respecting employee privacy and legal requirements.

- **Bias and Fairness**

AI systems should be regularly tested and reviewed to minimize bias, ensuring that automated decisions remain accurate and treat customers fairly.

8 Conclusion

By integrating **TPS**, **MIS**, **ERP**, cloud computing, data analytics, and mobile banking technologies, HSBC can streamline operations, strengthen cybersecurity, improve customer satisfaction, and make better business decisions. This integrated approach supports sustainable growth and helps HSBC remain competitive in the global banking industry.

Conclusion

By integrating **TPS, MIS, ERP**, cloud computing, data analytics, and mobile banking technologies, HSBC can streamline operations, strengthen cybersecurity, improve customer satisfaction, and make better business decisions. This integrated approach supports sustainable growth and helps HSBC remain competitive in the global banking industry.

- **Final Recommendation:**

A fully integrated Information Systems framework, with **ERP as the central platform supported by TPS and MIS**, provides HSBC with the most effective solution for increasing efficiency, maintaining regulatory compliance, and achieving long-term business success.

Analyse and compare systems: ERP vs CRM (HSBC)

Analysis and Comparison of Systems: BI vs DSS (at HSBC)

Ethical Considerations: Data Privacy and Security (HSBC)

Ethical Considerations: AI & Bias, Employee Monitoring (HSBC)

Analyse and compare systems: ERP vs CRM (HSBC)

ERP systems integrate finance, HR and operational processes, leading to enhanced efficiency and data sharing among various areas of businesses (Laudon & Laudon, 2024)

CRM systems manage customer statics, communication history, and service delivery, enabling HSBC to custom tailor banking experiences and foster deeper connections with their clients.

Companies like HSBC are implementing both ERP and CRM and making internal workflow smoother thereby providing faster and customized services to their customers.

Analysis and Comparison of Systems: BI vs DSS (at HSBC)

Business Intelligence (BI) provides dashboards and reports for HSBC to monitor financial performance, customer activities, and internal process trends.

Decision Support Systems, DSS examines the data along with a number of scenarios, and can provide support for lending, investment and risk control decision.

BI is usually used to "report the news", while DSS helps managers decide on a best actio

Ethical Considerations: Data Privacy and Security (HSBC)

The GDPR compliance and cybersecurity cannot be taken lightly especially for HSBC where huge amounts of sensitive financial information are handled.

Loss of trust amongst customers due to cybercrime such as phishing and financial fraud can seriously jeopardize the overall financial stability.

Using encryption, enabling multi-factor authentication and giving staff cybersecurity training regularly can help guard customer information.

Ethical Considerations: AI & Bias, Employee Monitoring (HSBC)

HSBC aim to use AI for fraud detection, credit risk assessment and improve their customer service but biased algorithms can reduce the quality of their decisions.

Appropriate observing of employees in support of security, while safeguarding privacy, should not damage workplace trust.

A combination of regular feedback from humans and common-sense AI audits can ensure fair and transparent results (Russell & Norvig, 2021).

Real-World Case Study – HSBC Bank



HSBC's Use of Information Systems

HSBC uses advanced information systems to improve customer service, enhance security, and support decision-making. Some of the key systems include Transaction Processing Systems (TPS): Process millions of daily banking transactions, including deposits, withdrawals, and online payments.

Management Information Systems (MIS): Generate reports to help managers monitor financial performance and customer activity. Decision Support Systems (DSS): Analyse customer and market data to support lending decisions, fraud detection, and risk management.

Challenge

HSBC faced increasing cyber threats, financial fraud, and the need to manage large amounts of customer data while complying with international regulations.

Solution

The bank invested in artificial intelligence (AI), machine learning, and advanced cybersecurity systems to detect suspicious transactions, improve fraud prevention, and strengthen data protection.

Ethical Issues, Business Impact and Key Takeaways

Ethical Issues

- Protecting customer privacy and confidential financial information.
- Ensuring AI systems do not introduce bias into lending or fraud detection decisions.
- Maintaining transparency when using automated decision-making.
- Complying with data protection regulations such as GDPR.

Impact on Business Performance

- Reduced financial fraud and cybercrime.
- Faster and more accurate banking transactions.
- Improved customer trust and satisfaction.
- Better decision-making through data analytics.
- Increased operational efficiency and reduced costs.

Key Takeaways

- Information systems are essential for secure and efficient banking.
- Ethical use of customer data builds trust and supports legal compliance.
- Continuous investment in technology helps banks remain competitive and resilient against cyber threats.

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