



# **MAASAI MARA UNIVERSITY**

**REGULAR UNIVERSITY EXAMINATIONS**

**2022/2023 ACADEMIC YEAR**

**FIRST YEAR FIRST SEMSTER**

**SCHOOL OF BUSINESS AND ECONOMICS**

**MASTERS OF BUSINESS AND ADMINISTRATION**

**COURSE CODE:MBA 8107**

**COURSE TITLE: MANAGEMENT INFORMATION  
SYSTEMS**

**DATE: 13<sup>TH</sup> DECEMBER 2022**

**TIME: 1430-1630**

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**INSTRUCTIONS:**

**Answer any Four questions**

## QUESTION ONE

**Read the following Case and answer the questions that follow.**

Equity Bank Limited started its operation in 1984 as Equity Building Society, a mortgage company. Targeting the mid and low end of the market has seen Equity grow its client base at an annual rate of 30 per cent. Equity bank is now the largest retail bank in the country, with approximately 2 million customers. This coupled with prospects of more retail clients gave top management responsibility to ensure that it had in place an agile and robust system that would handle such volumes.

By mid-2005, Equity Bank's legacy system, the Windows-based *Bankers Realm* from local supplier, Craft Silicon, was falling short of expectations. In fact, it was proving incapable of managing the increased transactional requirements of an increasing customer base, as it was constantly "hanging", according to Allan Waititu, head of operations at EBL. Further, there were problems with *Bankers Realm*'s capacity to support large volumes of inter-branch transactions. Waititu said the bank's network architecture created 'massive inter-branch reconciliation problems'. In addition, the *Bankers Realm* database software was not sufficiently scalable to support the full centralization of data and transactions on the same database/system, as the customer base grows. These technical issues resulted in constant system downtimes. A further problem arose when it was realized that *Bankers Realm* had not been tested and stabilized for ATM support, even though the bank desperately needed to reduce branch congestion and alleviate customer service problems, through a planned network of 1000 plus ATMs.

There was a clear need to replace the bank's struggling core technology. The systems development programme objectives were driven mainly by Equity Bank's business users, with the IT department called upon to ensure the matching of business requirements with system capabilities. In terms of what was required, Equity Bank sought a robust, tested and secure centralized core banking platform. This platform had to be scalable, with the capacity to properly exploit the existing WAN to enable seamless inter-branch data traffic. This should offer minimal systems downtime so that customers could 'enjoy anywhere branchless banking 24x7x365'. Equity Bank also wanted consolidated balance sheet and Profit and Loss-type reporting for management, all of which should be available online in real-time.

The full system selection project required a current system study followed by an in-depth system and vendor search and selection programme. Equity Bank designed system requirements in detail after a thorough analysis of its legacy system, *Bankers Realm*. Required functionality for the proposed system included, on the operational front, retail savings and loans, cheque clearing, corporate lending, treasury, and trade finance. The entire solution was intended from the start for centralization on an Oracle database accessible via the web.

The central database would be located in the head office in Nairobi. Further, the proposed system should be able to support over 1000 users. Equity Bank has over 500,000 transactions per day, with customer numbers standing at over 2 million. Waititu said network bandwidth, database structure, data storage and server processing speeds have been planned to scale up to 35 million plus customers.

The bank decided that it was more viable to acquire an ERP system from one of the largest vendors, rather than developing it in-house. As part of the selection process, site visits were made in Kenya, the UK, Nigeria, India and Sri Lanka. The visits were undertaken by teams spearheaded by the CEO, the Board chairman, and the head of IT. Three-day product walkthrough demos were arranged, requiring each vendor to present its full banking solution and system architectures. The teams were able to rate each vendor based on these demo walkthroughs. Making it to the shortlist were Infosys with *Finacle*, I-flex Solutions' *Flexcube*, Temenos' *T24*, and Neptune's *Equinox* solution. Infosys' *Finacle* was the chosen partner. The *Finacle* core banking solution consisted of an Oracle database. The system would run on a *Hewlett-Packard* hardware platform.

Equity Bank set up a project steering committee and technical implementation team, consisting of over 40 staff (including newly recruited database administrators and system developers) to handle the whole programme. The schedule of work involved in the first month isolated full-time technical and operational functionality training. Hardware was also sourced in this month. Two months were given to system customization, user acceptance testing, end-user training, and pilot testing. The final three months were devoted to full roll-out from head office to all 30 branches. The implementation was designed around a single-phase, 'big bang' approach.

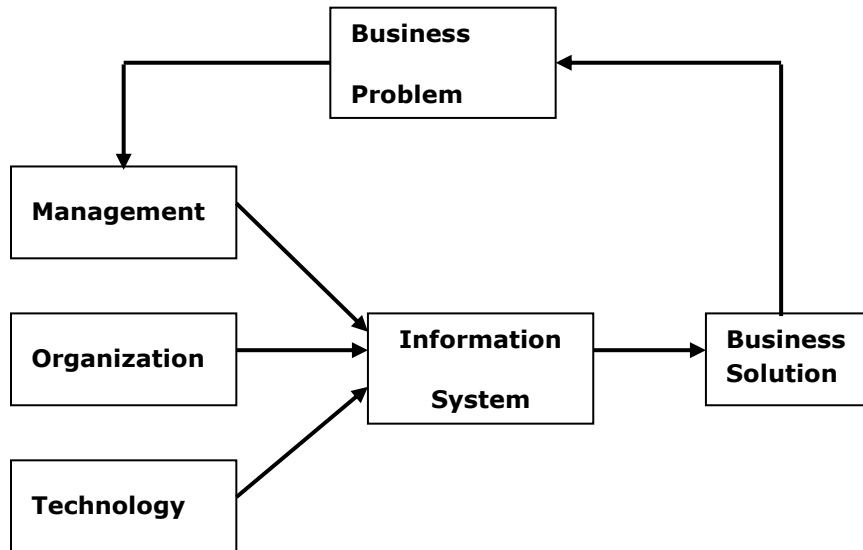
The project was implemented on time and within the allocated budget. Equity Bank feels it now has a robust technology platform. There is less system maintenance as the bank is fully centralized. Customers can enjoy the afore-mentioned 'anywhere branchless banking 24x7x365', and its management now has the consolidated reports it wants, when it wants them. Account openings and cash transactions went from requiring 25-30 minutes to 5-10 minutes, which meant that customers spent less time standing in line. Customer information is available throughout and any change is reflected throughout the bank immediately, as the new system linked the branches, ATMs and mobile banking channels back to the centralized head office for data collection and management. Aside from this, the main benefit has been in the support of the bank's formerly dissatisfied customer base. It has also seen the increase in employee productivity, because by automating processes and cutting down turnaround time, the software has helped the bank eliminate non-productive processes. Further, the bank can now offer powerful corporate m-banking features through mobile devices (mobile phones, notebook computers, etc).

'The system is worth the money and we are happy to have a good core banking platform to support our rapid

expansion strategy,’ stated Waititu. He believes that customer service has improved ‘tremendously’. The system, he concluded, ‘does offer a competitive advantage, particularly as the banking sector in Kenya ‘goes into a phase of consolidation’.

### Questions

The diagram below illustrates the relationships between different dimensions of information systems and the business strategy.



- a) Identify the business problem that faced by Equity Bank (3 marks)
- b) Information systems are more than computers. For an organization to use information systems effectively, it requires an understanding of the organization, the management and the information technology shaping the organizational systems. In what way has Equity’s *Finacle* system benefited the bank as organizational and management solutions to the challenges that they were facing? (5 marks)
- c) An Information system is any organized combination of people, hardware, software, communication networks, data resources, and policies and procedures that stores, retrieves, transforms and disseminates information within an organization. Identify the any three specific components of *Finacle* system mentioned in the case that make it an Information System. (3 marks)
- d) Describe each of the following steps of the Systems Development Lifecycle (SDLC) as used by Equity Bank to acquire and implement *Finacle*.
  - i. System Investigation (feasibility study) (2 marks)
  - ii. System analysis (functional requirements) (2 marks)

### QUESTION TWO

**(15 MARKS)**

- (a) Define the term “Complementary assets of Information systems”. Give Three categories of such assets and show clearly the role they play in information systems (6 marks)
- (b) Business firms invest heavily in information systems to achieve strategic business objectives. Explain with examples any **three** of these objectives. (3 marks)
- (c) Information systems produce the information that organizations need to make decisions, control operations, analyze problems, and create new products or services. Describe the functions or activities in an information system. (6 marks)

### **QUESTION THREE**

**(15 MARKS)**

- a) Using appropriate examples, compare and contrast the following:
- i. Re-engineering -AND- reverse engineering (3 marks)
  - ii. Project management methodologies -AND- systems development methodologies (3 marks)
  - iii. Outsourcing -AND- in-sourcing (3 marks)
- b) For EACH of the following roles, discuss the principal duties and justify why each role is important to the development of large enterprise-wide Business Intelligence (BI) systems.
- i. Business sponsor. (3 marks)
  - ii. Project manager. (3 marks)

### **QUESTION FOUR**

**(15 MARKS)**

- (a) What is the difference between the Internet and the World Wide Web? (1 marks)
- (b) The growth of the retail e-business sector in Kenya has been slowed down by various factors. Discuss three of these factors. (6 marks)
- (c) The initial operation of a new business system can be a difficult task. This typically requires a conversion process from the use of a present system to the operation of a new or improved application. Explain the four major forms of system conversion. (8 marks)

### **QUESTION FIVE**

**(15 MARKS)**

The most popular model for a Decision Support System (DSS) within the MIS literature is the Data-Dialog-Model (DDM) paradigm model.

- a) With the aid of a suitable diagram, describe the DDM paradigm model. (8 marks)
- b) Define Individual DSS and Group DSS, and show how the DDM paradigm model applies to both. (7 marks)

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