Information Systems and Organisations

01 June 2016

Marking Scheme

This marking scheme has been prepared as a **guide only** to markers. This is not a set of model answers, or the exclusive answers to the questions, and there will frequently be alternative responses which will provide a valid answer. Markers are advised that, unless a question specifies that an answer be provided in a particular form, then an answer that is correct (factually or in practical terms) **must** be given the available marks.

If there is doubt as to the correctness of an answer, the relevant NCC Education materials should be the first authority.

The questions in this examination paper are based around the following case study. You should base your answers upon the information in the case study.

Market Online (MO) is an e-commerce organisation that operates within the UK, in a way similar to other auction sites such as eBay. Customers need to have an account with MO to advertise goods for sale or to purchase goods on sale. One difference from other auction site models is that MO operates only within the UK; another difference is that goods purchased are not sent to the purchasers own addresses but these are collected by purchasers from various branches of well-known nationwide retailers (businesses that sell goods directly to the consumers), for example Argos, Sainsbury's, Tesco, etc.

Customers who sell goods are called *sellers*. Those who buy goods are called *buyers*. Nationwide retailers who receive goods from sellers for buyers to collect later are Market Online's *distributors*.

MO are operating a very simple business model but the systems in place must be such that *sellers* and *purchasers* are 100% happy with the business processes i.e.:
- The items paid for must be sent to a distributor, within the time space promised, for the purchasers to collect
- Payments from purchasers are 100% secure
- Customer data remains private so that a third part cannot breach confidentiality
- Any malpractice by customers and sellers is totally avoided
- The issues due to any malpractice are resolved within a given space of time.

For the smooth running of the business, MO have numerous information systems (IS) in place and all the necessary hardware in their data centre.

The five questions that appear in this examination paper are based on this case study. Wherever possible, your answers must relate to this business. When mentioning any hardware or IS, you may use generic and vendor neutral names (e.g. rather than say Toshiba N10, you may refer to it as PC); however, when referring to certain generic but well known software applications, you must name them appropriately (eg ERP, CRM, DSS, MIS, etc.).

Section A
You must answer this question

Question 1

a) List FOUR (4) Information Systems (IS) that form the core of the MO information system portfolio. Mention TWO (2) business processes that each of these systems perform for the smooth running of the business. **12**

Four IS that form core of the IS portfolio include the following. Example business processes are also mentioned:
- *Secure payment system*
  - *receive payments*
  - *credit amounts to sellers*
- *Customer account details database*
  - *keep customer information*
  - *target customers to advertise special deals*
- *IS to record purchases made*
  - *keep record of items for sale and items sold*
  - *keep record of which buyers purchased from which sellers*
- *IS to record transactions*
  - *keep financial statements for inland revenue*
  - *keep history of transactions*
- *IS to keep track of what goods are sent to which distributor*
  - *Keep track of movement of goods*
  - *Keep records for historic purposes*

Up to 12 marks may be allocated in total. Up to 3 marks may be awarded for each IS as follows:
- *1 mark for correctly identified IS*
- *up to 2 marks for 2 relevant examples.*

b) Present TWO (2) ideas that MO can pursue to specialise their operations to give **6**
them a competitive advantage over other similar businesses.
Award up to 3 marks per suggestion depending on how strongly the case is made.

MO have based the business strategy on procedural excellence. In this context, the web platform that allows customers to create accounts, advertise goods, make bids, make payments, etc. must be robust and easy to use. Some relevant ideas to give them competitive advantage include:
  - *provide further guarantees with respect to security of payment and in case of issues, full refund of monies paid*
  - *provide further guarantees that sellers promises are binding*
  - *firm promises that time scales promised are fully adhered to*
  - *In case of issues, binding promise that MO steps in and resolves them within the given time periods.*

c) Identify ONE (1) core IS that MO may be using to interact with their distributors. **7**
Discuss how this system may be proving useful to both MO and their distributors.
A typical answer may suggest a customer relationship system e.g. CRM. In this case, discussion may include the following:
  - *IS similar to CRM are best to synchronize sales and marketing. Such systems track customer activities, including inquiries - here customers can also include partner organisations.*
  - *CRM or a similar IS can also allow business partners to interact with each other for further support and collaboration*
  - *Collaboration can occur in real time even when business partners are in remote locations.*

Marks to be awarded as follows:
  - *1 mark for correctly identified IS*
  - *Up to 6 marks may be awarded based on how good the discussion is. Two solid points forming the basis of discussion would be sufficient (for up to 3 marks each). Three slightly less robust arguments are also acceptable (for 2 marks each).*

d) The CEO is convinced that '*MO is a wonderful example of IS and IT leading to automation*'. Identify THREE (3) factors that could contribute to this belief and discuss whether or not it is valid.   **9**
Award up to 3 points for identifying relevant factors and a further 2 marks each for developing these points. Candidates should arrive at a judgement.

MO has provided a platform that consists of IS and IT that enable its sellers, buyers and distributors to do the following:
- *Create accounts*
- *Sellers to advertise goods (with descriptions and prices)*
- *Buyers to easily purchase these goods*
- *Make secure payments*
- *Distributors to receive relevant information about buyers*

All these processes require no human intervention – and this is due to: 1) use and automated nature of the relevant IS; and 2) automated nature of customer-MO interaction to avail the services provided. Any human intervention that exists is minimal e.g.:
- *Distributors receiving goods and handing these over to buyers*
- *Buyers to visit distributors to receive goods*

The nature of automation is such that CEO's conviction is fully justified.

e) An organisation can be viewed by several different perspectives including: **8**
organisation as an *organism* or as a *context* for human action. Differentiate between these two perspectives providing THREE (3) characteristics of each of these views. Which of these perspectives would you attach to MO and why?
Marks to be awarded as follows:
- *Only 3 characteristics are required in each case. Up to 6 marks may be awarded (1 mark per each correct characteristic).*
- *Up to 2 marks may be awarded for why the chosen perspective applies to MO. This could be argued for either perspective, however, emphasis could be placed on the social changed required in this new market place leading towards an organisation of context.*

Characteristics for organisations as organisms:
- *Operations similar to a living organism*
- *Changes occur by growth in right environment*
- *Resources difficult to gauge in advance*
- *Outcome/benefits take time to emerge*

Characteristics for organisations as context:
- *Operations as result of competing interests*
- *Changes result from social/political action*
- *Challenges often political in nature*
- *Resources/costs subject to negotiation*
- *Outcome based on who is evaluating the system*

f) Define the term *Customer Relationship Management* (CRM) and discuss TWO **8** (2) reasons why a *CRM* system is important for an organisation such as MO. *Award up to 2 marks for showing a good understanding of CRM.*

Up to 3 marks may be awarded for each reason provided (maximum of 6 marks).

Customer Relationship Management (CRM) is an approach for managing company relationships and interactions with customers and potential customers.

The following points may form part of the discussion:
- *CRM uses practices/strategies/technologies to manage and analyse customer interactions to improve business relationships.*
- *High customer satisfaction is highly important as MO are customer focused. For MO, customers can also include distributors.*
- *For MO, use of an appropriate CRM is more important than any other IS, because of the above point.*
- *Appropriate use of CRM can help MO to further improve the customer relationship and also to ensure that web portal is providing excellent and most user friendly interface.*

Total 50 Marks

Section B
Answer any TWO (2) questions from this section

Question 2

a) MO are already focusing on *procedural excellence* rather than *product excellence*. Identify and discuss THREE (3) ways to further help MO to achieve *procedural excellence*.
Award up to 3 marks for 3 mechanisms/ways discussed for a maximum of 9 marks (3 marks each depending on the quality and completeness of the answer).

MO are not selling any products of their own so they must ensure that procedures (for use by customers) are well designed and correctly implemented. Various ways that can help to achieve procedural excellence include:
- *ensuring the human-computer interactions (HCI) that are used to create accounts, pay for goods, advertise goods etc. are intuitive and easy to use*
- *ensuring that the processes of selling, buying, payments and collecting goods is straight forward*
- *ensuring that promises made (with respect to prices, delivery etc.) are fully kept*
- *ensuring that the monitoring of customer activities and IS performance are fully appropriate, and any actions are promptly taken.*

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b) Using the *DIKAR model*, discuss how strategic actions can be devised and results obtained, based on the content of the company's *Document Management System* (DMS), which is used to track, manage and store documents.
Discussion must suggest how content/information moves through various stages of the model to become 'results'. All stages must be mentioned in the discussion. Marks to be awarded as follows:
- *up to 10 marks in total for bringing into discussion the stages of D, I, K, A, and R (2 marks each)*
- *up to 6 marks on how well the discussion on 'transformation' is articulated.*

The underlying logic using DIKAR approach is as follows:
Content in the DMS can be regarded as data that is a means for obtaining information (using content management system) that then becomes knowledge when relating it to a given context (using a KM system).
Using knowledge management models, knowledge so obtained can be converted into a set of demand-led business activities that can help to provide a set of strategic actions to be undertaken for an improved business strategy.

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Total 25 Marks

Question 3

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a) The *balanced scorecard* (BSC) is a performance management tool. What are the   **14** THREE (3) critical characteristics that define BSC? Suggest FOUR (4) steps for the design of a BSC.
Award up to 6 marks for 3 relevant characteristics (2 marks each) and up to a further 8 marks for the 4 design steps (2 marks per correct step).

BSC is a management tool to keep track of execution of activities by staff; and monitor the resulting actions. Three essential characteristics are:
- *It focuses on the strategic agenda of the organisation*
- *Selection/use of sample data for performance monitoring*
- *Mix of financial and non-financial data items in the sample data.*

Four steps to design BSC are:
- *Translating the business goals into operational goals*
- *Linking the business vision to individual performance*
- *Activities planning with respect to business strategy*
- *Feedback, learning and adjustment of the strategy*

b) Differentiate between *tactical* and *strategic* management. Provide TWO (2)   **11** examples each of *tactical business processes* and *strategic business processes*.
Award up to 3 marks each for the 2 definitions and 1 mark for highlighting the main difference. Award a further 4 marks for 4 examples (2 of strategic management processes and 2 of tactical management processes).

Strategic management refers to:
- *setting the strategy and direction for the organization*
- *deciding on what to do and what not to do within the strategy*
- *the allocation of resources to achieve the business mission, as set within the strategy.*

Examples include: managing the project portfolio, deciding on a product line, deciding on a software process initiative.

Tactical management, also known as operational management:
- *refers to operational and administrative processes of selecting appropriate means of achieving plans/objectives in line with the strategic management*
- *requires devising/managing short term plans/actions based on company's strategic plans.*

Examples include: day-to-day operations, handing customer enquiries, ensuring effective group dynamics for team working.

Main difference is that: strategic management takes a longer term view; tactical management looks into achieving the shorter term targets within the longer term view.

Total 25 Marks

Question 4

a) MO business partners (the *distributors)* also keep some of the customer data. **16**
Discuss how the responsibility for keeping this data secure and private, will be
shared between MO and the distributors.
Students are required to discuss based on 3 or 4 relevant points.
• ***In case of 4 relevant points, up to 4 mark per point may be awarded***
• ***In case of 3 relevant points, 5-6 marks may be awarded per point***
made, depending on the quality/completeness of the discussion.

Discussion revolves around the following points:
- ***Legal requirement is that whoever keeps the data has the
  responsibility for accuracy/confidentiality. So responsibility lies with
  distributors***
- ***However, distributors keep only a limited amount of data only for
  customers. Majority of data (in fact all data for all customers) is kept
  by MO so they have a bigger responsibility for ensuring
  privacy/confidentiality.***
- ***Distributors keep data only for short periods of time but MO must
  keep it for longer times for historic reasons***
- ***MO also have the responsibility to move correct data to the
  distributors and only the data that is absolutely necessary.***

b) Assume that one of MO *distributors'* websites gets hacked and customers' data is **9**
stolen. Considering THREE (3) relevant points, discuss the extent of damage this
may cause as opposed to if the MO site was hacked and data stolen.
Award up to 3 marks for each of the 3 relevant points discussed:

Damage would not be as extensive as if the MO site was hacked because:
- ***Distributors keep small amount of data for smaller number of buyers
  for shorter periods of time.***
- ***Distributors will not have the financial data or bank details of the
  customers***
- ***Distributors may not even have full addresses of customers as they
  may be working on the basis of id codes or pin numbers (just to
  identify customers).***

Total 25 Marks

Question 5

a) Information Systems promise many advantages to organisations as well as to individuals associated with the organisations. Identify the following: **9**

  i)   THREE (3) generic benefits for the organisations
      Benefits to organisations include: automation, reduced human error, efficient decision making, clear work flows, better monitoring, efficient logistics, etc

      Award one mark per each relevant benefit to a maximum of 3.

  ii) THREE (3) generic benefits to the management of the organisations.
      Benefits for management include: better information flow, efficient decision management, better project controls, more accurate estimations, effective forecasting, etc.

      Award one mark per each relevant benefit to a maximum of 3.

  iii) THREE (3) generic benefits to the customers of the organisations.
      Benefits to customers include: better services, effective liaison, newer channels of provision/delivery, efficient logistics, rapid response, etc.

      Award one mark per each relevant benefit to a maximum of 3.

b) MO are thinking of implementing a *Forecasting Information System (FIS)*. Explain the purpose of a *FIS* and discuss in detail THREE (3) reasons that could form the basis of an implementation. **16**
Award up to 4 marks for a complete and correct description and up to a further 4 marks each (maximum of 12) for 3 relevant reasons.

FIS is a planning tool that helps the management cope with the uncertainty of the future (to ensure business continuity). Relying mainly on existing and historic data, this IS conducts analysis for possible future trends and present results for decision making by the management.

Reasons for implementation include:
- *Provide better service for customers to retain customer base/loyalty*
- *Target customers based on current trends of selling/buying trends*
- *Ensure business continuity after conducting risk analysis and minimising possible risks to the business*
- *Prepare for technological and future challenges*

Total 25 Marks

End of Examination Paper

Learning Outcomes matrix

Question	Learning Outcomes assessed	Marker can differentiate between varying levels of achievement
1	1,2,4,5,6	Yes
2	1,2,5	Yes
3	2,3,4,5	Yes
4	1,5	Yes
5	2,3,5,6	Yes

Grade descriptors

Learning Outcome	Pass	Merit	Distinction
Analyse the use of Information Systems (IS) within organisations	Demonstrate adequate ability to analyse the topic	Demonstrate ability to provide detailed and coherent analysis of the topic	Demonstrate ability to provide comprehensive, lucid analysis of the topic
Examine the many internal and external uses of an organisation's IS	Provide examination of the subject with some suitable examples and references	Provide detailed examination of the subject with adequate use of appropriate references and examples	Provide consistently critical and detailed examination of the subject with innovative use of highly appropriate references
Critically evaluate the costs and benefits of a range of IS systems	Provide a reasonable assessment of the subject; Ideas are generally coherent and demonstrate some sound critical skills	Provide a generally strong assessment with some well-reasoned assumptions; Ideas are consistently coherent; Demonstrate consistently sound critical skills	Provide a consistently strong assessment with well-reasoned and original assumptions; All ideas are highly coherent; Demonstrate highly developed critical skills
Critically evaluate the cultural, structural and political aspects of IS	Provide a reasonable assessment of the subject; Ideas are generally coherent and demonstrate some sound critical skills	Provide a generally strong assessment with some well-reasoned assumptions; Ideas are consistently coherent; Demonstrate consistently sound critical skills	Provide a consistently strong assessment with well-reasoned and original assumptions; All ideas are highly coherent; Demonstrate highly developed critical skills
Examine the issues associated with human interaction with IS	Provide examination of the subject with some suitable examples and references	Provide detailed examination of the subject with adequate use of appropriate references and examples	Provide consistently critical and detailed examination of the subject with innovative use of highly appropriate references
Assess the effects of technological change on IS and the organisations	Demonstrate an adequate awareness of issues associated with the subject and make some	Demonstrate a sound awareness of issues associated with the subject and make consistently appropriate judgements	Demonstrate a detailed awareness of the complexity of issues associated with the subject and make highly appropriate judgements

	appropriate judgements		

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