

Information Systems, Data & Information - Worksheet Questions Total: 65

1. 13.3 Information flows within an organisation by both formal and informal mechanisms.

(a) What is meant by formal information flow? Give an example of a formal information flow mechanism. (3 marks)

(b) What is meant by informal information flow? Give an example of an informal information flow mechanism. (2 marks)

(a)

- A system with fully documented procedures/agreed procedures/planned procedures/structured procedures (1)
- Stating stages of flow/control/exception handling/distribution (1)
- Such as Business letter, memorandum, formal agenda/regular meeting, meeting minutes, email, SMS messages (1)
- **NOT** plain (unqualified) /letter or meeting

(b)

- Information that **naturally arises/not structured/ad-hoc** (1)
- Such as a phone call, personal conversation, during a meeting or by observation, e-mail, bulletin board, special interest group, texting (1)
- **NOT** memo

NB. Do not give positive/negative as 2 marks

2. 13.4 An accountant calculates an organisations profit and loss based upon financial information from many sources. Name **three** characteristics that this information must have to be described as good information for the accountant and, for each characteristic, state why it is necessary. (6 marks)

1 for characteristic(c), 1 for reason (r) to any 3 x (2,1,0)

NB . need a reason, not just an example; Do not give negatives

- Accurate (c) as precision is of utmost importance when dealing with money (r)
- Complete/up-to-date (c) as the accountant needs all the information to be able to produce correct figures (r)
- Relevant (c) as relevant data will enable the accountant to keep to timescales/make the correct calculations (r)
- From a reliable source/user confidence (c) so that judgements being made based on the information produced from the data will be valid (r)
- In the right format (c), the accountant works with numerical data/ a format easy to electronically merge into the existing data would save time and effort (r)
- At the right time (c), as the accountant is likely to be working to a deadline and needs all the data available to do the calculations (r)

3. 13.3 13.4

A high-street building society uses a data processing system to record receipts and withdrawals from its customers' accounts. The data from branches are sent once a day up to the ICT systems at head office in Yorkshire to update all master accounts, and all data is then input into various management information systems.

(a) For each of the following users, state the level of information that is needed by:

(i) a Customer Service Clerk in a local branch;

- (ii) a Branch Manager;
(iii) the Managing Director of the building society. (1 mark x 3)

(b) For each of the following individuals, name a suitable output, state how it may be used, and give a typical item of data that it may contain.

- (i) a Customer Service Clerk in a local branch;
(ii) a Branch manager;
(iii) the ICT Manager, controlling all ICT systems within the building society;
(iv) the Managing Director of the building society. (3 marks x 4)

(c) Explain why the information used by the Customer Service Clerk is not appropriate for the Managing Director. (3 marks)

(a)
1 mark for each and this order only

- i. Operational
- ii. Tactical/Implementation
- iii. Strategic

(b) 1 for output (o), 1 for how used (u) and 1 for item of data (d) to 4x(3,2,1,0)

Examples (*Other output at the correct level are also valid*):

- i. Report of a single customer's account details (o), to check current balance (d) so that the clerk can see if the customer can make a withdrawal (u)
- ii. List of daily branch deposit and withdrawal totals (o), containing number of transactions of each type and total amounts (d) so that he/she can check against the balance of cash/number of cheques etc at the end of the day (u)
- iii. Network accounting log (o) for applying usage charges to each branch (u) containing branch id/processor time used in a time period/resources used in a time period etc (d)
- iv. A comparative study report of all branches over a time period (o) showing branch transaction handling in descending order of efficiency (d) to help him/her decide how many and which branches to close down (u)

(c) Any 3 x 1

- CSC working at operational/day-to-day/transaction level
- MD at strategic/decision-making/long-term level
- CSC needs detail
- MD uses summarised information
- CSC uses internal information
- MD also access external information
- Information not relevant to each other
- CSC uses Data Processing System
- MD uses Management Information System

4. 13.4 One way of classifying information is by its source, examples of which are internal, external, primary or secondary.

State **four** other ways of classifying information, giving an example of each classification stated. (8 marks)

1 for classification, 1 for example to 4 x (2,1,0)

Ways

Nature

Time

Frequency

Use/purpose

Form

Type

Level

Example

structured, unstructured

historical, current, future

real-time, hourly, daily, monthly

planning, control, decision

written, visual, aural, sensory

disaggregated, aggregated, sampled

operational, tactical, strategic

NOT Source (given)

5. 13.4

An ice-cream manufacturer is considering introducing frozen yoghurts to its product range. A market research company is to find out if there is a market for the product by asking a sample of people in city centres the same set of questions.

A paper questionnaire, like the example in Figure 1, will be filled out with the responses given by each person. Some responses are written as a cross in a box, or as a circle around a number or letter. Other responses will be written down as free text, recording the comments made by the interviewees. The responses recorded on the questionnaires will be processed by an ICT system, and summary information will be produced for the ice cream manufacturer.

(a) For the free text responses:

(i) suggest a suitable data capture method; (1 mark)

(ii) describe a suitable method for trying to ensure accurate data entry. (2 marks)

(b) For the crossed or circled responses:

(i) suggest a different data capture method that would be suitable for these responses; (1 mark)

(ii) describe a suitable method for trying to ensure accurate data entry. (2 marks)

(c)

For the information that will be presented to the ice-cream manufacturer, suggest and justify a suitable output format for:

(i) summarising the free text responses; (2 marks)

(ii) summarising the crossed and circled responses; (2 marks)

(d) Explain why the market research company has chosen to use an ICT system to process the responses. (2 marks)

(a)

Free Text

i. Any 1 from list

- Keyboard entry/Keying/Typing
- Optical Character Recognition
- Voice Recognition

ii. Any 1 x (2,1,0)

- Double-entry verification (1), where a second person overtypes the first entry(1);
- Sight/spell verification (1) to check OCR has correctly translated the input text (1)
- Sight verification (1) check back with original document (1)

(b)

Coded

i. Any 1 from list

- Optical Mark Recognition
- Optical character recognition (if not used in (a) i)
- Mouse-click

ii. Any 1 x (2,1,0)

- Validation (1), to prevent out of range answers being entered (1);
- Verification by sight(1), to check the OMR reader has read the pages properly (1)

(c)

(i) *1 mark for format, 1 mark for justification*

Précis of comments/report with management summary (1), most frequent comments highlighted/because management do not need to see every detail (1)

(ii) *1 mark for format, 1 mark for justification*

Graphs/charts/numerical summary (1), easy to see bulky results (1)

(d) *1 mark for reason, 1 for contextualising the answer (2nd mark is for explaining why this company is using ICT for this survey)*

- process large number
- results received faster
- displayed suitably/easier to read
- reduce errors/better accuracy
- could combine with other internal or external data

6.13.3 Information Flow

The structure of an organisation can influence the flow of information through it.

*Explain **two** effects that the structure of an organisation could have on the flow of information.*

4 marks

1 for the effect on flow, 1 for description/example/expansion related to structure to any **2 x (2,1,0)**

Look for the effect first, then look for the why or how in relation to structure. If states .no structure. or .no well-defined structure, then give as a .bod.

Effects are:

- ϕ Time (slower/faster)
- ϕ Accuracy (distorted)
- ϕ Style (formal/informal)
- ϕ Types
- ϕ Quality

Examples:

- Hierarchical, or pyramid shape organisation has longer more formal paths for information flow (1) may take longer (1)
- Flatter, matrix/mesh shape tends to allow shorter routes (1), information may be less reliable/idea of Chinese whispers (1)

7.13.3 Information

Information produced by ICT systems may be required both within (internal) and outside (external) organisations such as schools and supermarkets.

(a) Describe **two** examples of internal information requirements, stating for each:

- who needs the information;
- what information they require;
- what it is to be used for. 6 marks

(b) Describe **two** examples of external information requirements, stating for each:

- who needs the information;
- what information they require;
- what it is to be used for. 6 marks

(a)

1 for who (**w**), 1 for what info (**i**), 1 for use (**u**). **Any 2 x (3,2,1,0)**

examples .

- A supermarket fresh produce department manager (**w**), needs information about current stock levels on the shelf (**i**), so they can decide what needs stocking up and ultimately reordering from the warehouse (**u**)
- A pastoral tutor in a college (**w**), needs up-to-date grades and attendance records (**i**), to use in a one-to-one progress review with their tutee (**u**)
- The accountant at a hotel (**w**) needs to see what bookings have been made (**i**) so that they can predict revenue expected (**u**)

(b) 1 for who (**w**), 1 for what info (**i**), 1 for use (**u**). **Any 2 x (3,2,1,0)** examples.

- The inland revenue (**w**) receives lists of tax paid from payroll systems (**i**) so they can work out if any tax has been under or over paid (**u**)
- Suppliers (**w**) receive automatic ordering information from customer stock control systems (**i**) so that they can fill the orders and satisfy their customers. requirements (**u**)
- Examination boards (**w**) receive lists of candidate names and subjects from school exam control systems (**i**) so that they can administer their examination entry and result systems more efficiently (**u**)
- Shareholders (**w**) who want to see details of profit & loss (**i**) so they can decide whether to sell or buy more shares (**u**)
- Parents (**w**) who like to see performance statistics for the school (**i**) to decide whether or not to send their child there(**u**)

NB. Use must be active, not just to see. . normally the computer can do the adding up!