



ADDITIONAL RESOURCES

For any modern organisation, Information and Communication Technology (ICT) is fundamental to how they operate. But how do we actually define ICT's and what is the specific role they play in business? Experts with a lifelong understanding of digital technology guide viewers through: the ICT environment, the ICT needs and solutions for organisations, monitoring and evaluating ICT's and what the future of ICT's might look like. The program offers a variety of visual metaphors, which help to illuminate the inter-connected world of digital communication and how reliant we've become on technology. Upper secondary I.T and business audiences will find this a visually-appealing and highly-accessible program as they seek to learn more about the world of ICT's.

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For Teachers

Introduction

Information Communication Technologies (ICT) are essential to the smooth operation of nearly all modern organisations. Failure to adequately plan, maintain and evaluate ICT systems can have catastrophic effects. In this program the integration of ICT in organisations is investigated with the assistance of industry experts such as: Dr Nick Grainge, Swinburne University of Technology, Aaron Harris, IT Manager of Oximetric Group and John Anderton, Butterfly Internet. The investigation of ICT needs and solutions, testing and evaluating solutions and the future of ICT systems in organisations are presented in this video in an informative manner.

Timeline

00:00:00	What do organisations use ICT for?
00:05:17	Investigating ICT needs and solutions
00:12:04	Testing and evaluating ICT solutions
00:17:41	The future of ICT in organisations
00:20:55	Credits
00:21:42	End program

Related Titles

Developing a Website
IT Networks
ICT Project Management

Recommended Resources

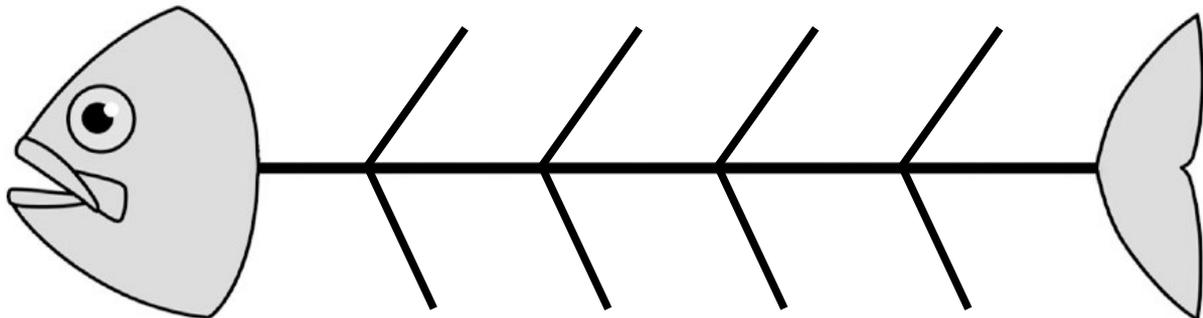
- http://en.wikipedia.org/wiki/Cloud_computing
- http://www.teach-ict.com/news/news_stories/news_computer_failures.htm

Student Worksheet

Initiate Prior Learning

1. Analysis: Fishbone Diagram

What information systems are essential to the operation of most modern organisations?
In small groups complete a fish bone diagram of what information systems are essential to the operation of most modern organisations? (On each fish bone, write an information system that you consider essential e.g. Email.)



ICT in Organisations

2. SWOT

Complete a quick SWOT analysis of ICT needs in organisations. Add two responses in each category.

<p>Strengths</p> <ul style="list-style-type: none">• <i>e.g. Allow for fast and efficient communications all around the world.</i>	<p>Weakness</p> <ul style="list-style-type: none">• <i>e.g. ICT system failure can cause major disruptions to organisations.</i>
<p>Opportunities</p> <ul style="list-style-type: none">• <i>e.g. ICT systems can increase productivity and therefore increase profits.</i>	<p>Threats</p> <ul style="list-style-type: none">• <i>e.g. unauthorised access of data could potentially be used for criminal activities.</i>

ICT in Organisations

3. Research Cloud Computing
Research cloud computing and define the concept.
Using a schematic diagram show how various ICT systems interact together in the cloud.
4. Guest Speaker
Organise a local Business/ICT Manager to visit the class or utilise your connected classroom equipment to hold a video conference. Prepare questions for a Business/ICT Manager prior to the visit and in groups organise who will ask what question.
5. Class Discussion
 - a) Read the following BBC article on a system failure from Microsoft Online.
<http://www.bbc.co.uk/news/technology-14851455>
 - b) Discuss following topics;
 - Consumer confidence
 - Profitability
 - Reputation
 - Preventions

Active Viewing Guide

What do organisations use ICTs for?

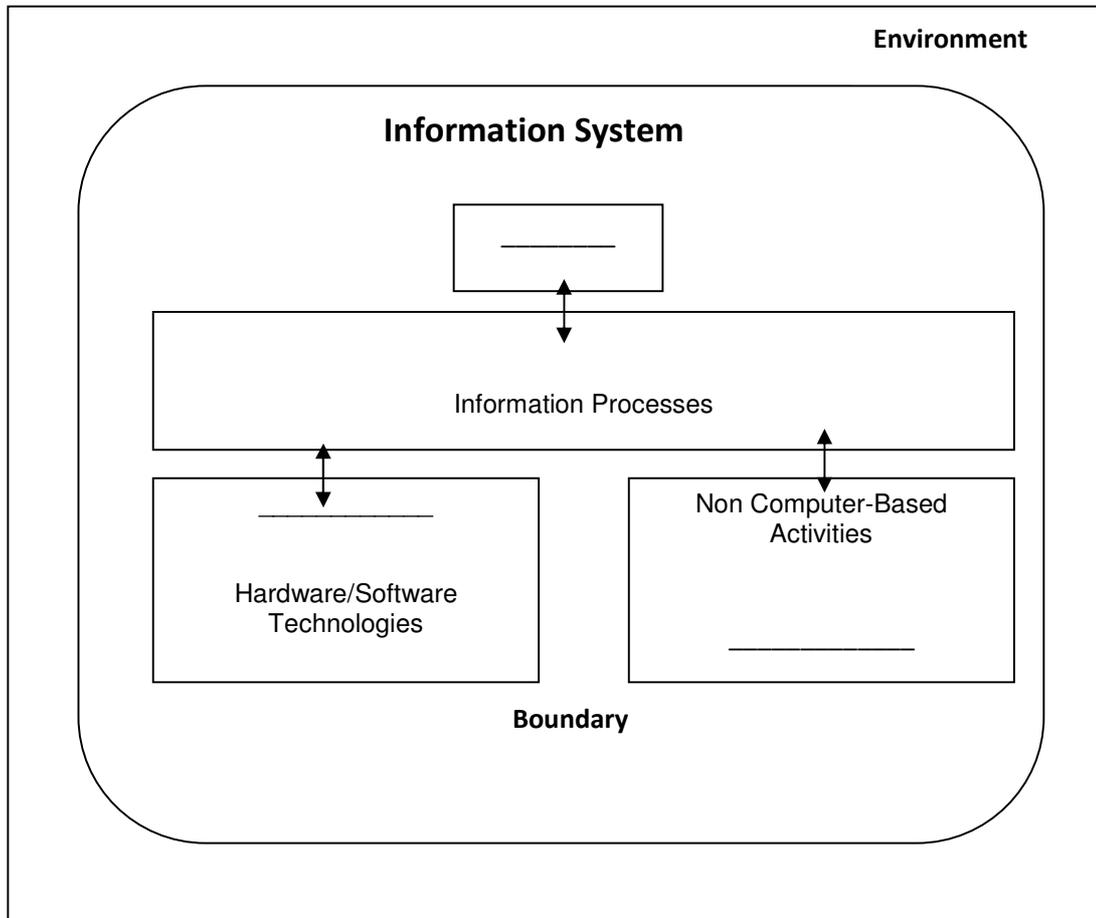
1. All modern organisations are reliant in some way on the use of ICT? True or False

2. Define Information Communication Technologies?

3. Explain why ICT have become fundamental to the way organisations operate? (3 Lines)

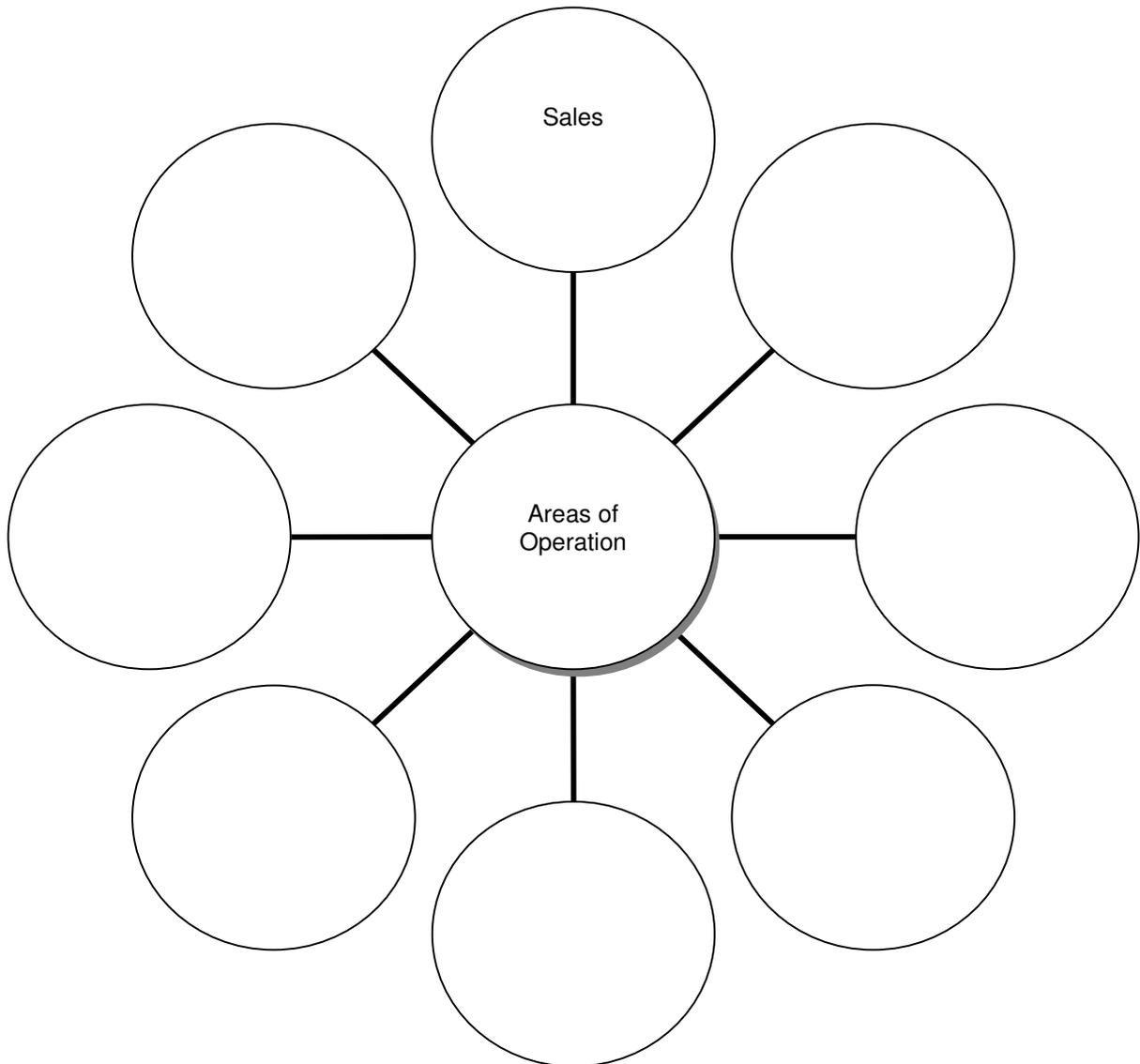
ICT in Organisations

4. All ICT systems exist within a specified space known as the Environment. In the diagram below complete all the missing components within the ICT environment.



ICT in Organisations

5. For large organisations ICT environments exist in all major areas of operation. In the diagram below indicate the major areas of operation.



ICT in Organisations

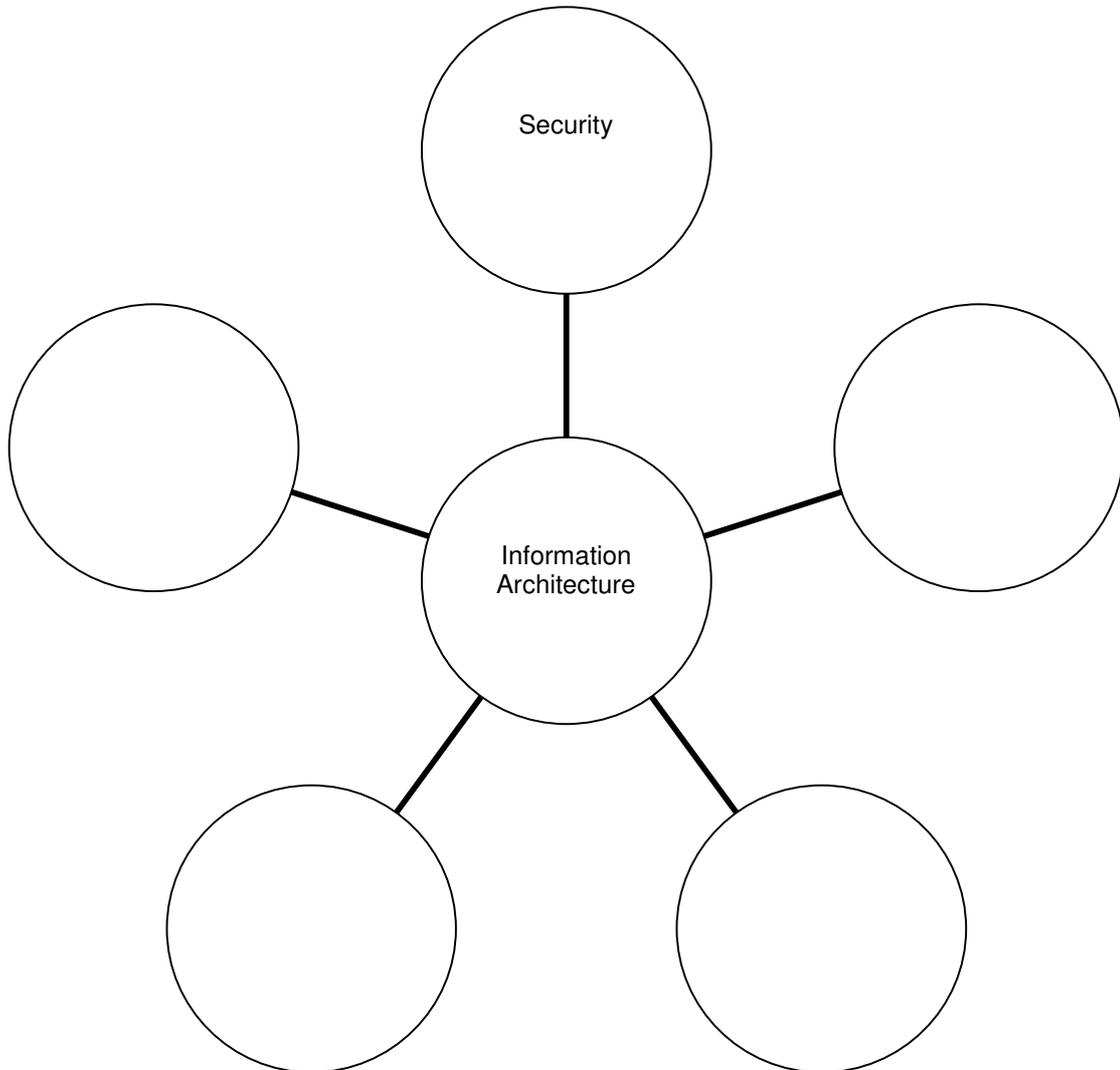
Investigating ICT needs and solutions

6. A range of questions needs to be answered in determining the ICT needs of an organisation. In the table below list 4 ICT needs which are fundamental to an organisation.

No	ICT Need
1	
2	
3	
4	

7. What are the risks associated with the purchase of off the shelf ICT solutions. Circle the correct response.
- a) They can be more expensive to implement than a purpose built ICT system.
 - b) They do not encourage innovation and therefore market advantage could be lost.
 - c) They encourage innovation and therefore market advantage can be gained.
 - d) They are less secure and robust than purpose built ICT systems.

8. Information architecture must be tailored to each individual organisation. In the graphic organiser below indicate some of the elements that will need to be modified to suit the needs of each organisation.



ICT in Organisations

9. Monitoring of ICT systems is important to ensure the success of an organisation. What decisions might an organisation make as a result of monitoring their ICT systems? Circle your response
- a) Purchase software/hardware upgrades
 - b) Ongoing training/support for users
 - c) Testing/trialling products
 - d) All of the above.

Testing and evaluating ICT solutions

10.a) Name one reason organisations are constantly testing and monitoring their ICT systems.

b) Name one negative consequence an organisation may experience if they don't continually monitor their ICT systems.

11. Give two examples of how organisations perform testing and trialling to keep their ICT systems working properly.

ICT in Organisations

The future of ICT in organisations

12. What is Unified Communications? Circle your response.

- a) The ability of different networks to carry similar kinds of services (*e.g.* voice over Internet Protocol (IP) or over circuit switched networks, video over cable television)
- b) Separating similar kinds of services to operate on different devices (*e.g.* voice over Internet Protocol (IP) or over circuit switched networks, video over cable television)
- c) The ability of similar networks to carry similar kinds of services (*e.g.* voice over Internet Protocol (IP) or over circuit switched networks, video over cable television)
- d) Voice over Internet Protocol (IP) or over circuit switched networks, video over cable television on Mac and IBM platforms.

13. Why is there no such thing as a final solution in ICT? Circle your response.

- a) Because all current ICT systems are inadequate for the current needs of most organisations.
- b) ICT will soon be replaced with alternative systems making them all redundant
- c) Because most current ICT systems are inadequate for the current needs of most organisations.
- d) ICT are always changing, and so are the needs of organisations.

Extension Activities

1. In order for ICT systems to be successful they need to be: a. reliable, b. accessible, c. secure, and d. available. For each explain why they are necessary for the success of an organisation's ICT system.
2. Many existing ICT systems are no longer expected to meet the requirements of organisations forever. However, it is rare for new ICT system to be built from scratch? Explain why this is not desirable?
3. What are the advantages for an organisation using Cloud computing?
4. Research:
Find an example of a recent ICT system failure and complete the following questions.
 - a) What was the effect of the failure on customers/users of the ICT system
 - b) What was the effect on the ICT service provider?
 - c) Could the system failure been avoided? If so how?
5. Class Discussion:
Discuss the following topics as a class or in small groups.
 - a) How reliant have individuals and organisations become on ICT?
 - b) What would be the effect on society if all ICT no long existed?
 - c) What are the challenges we have as a society due to our over reliance on ICT systems?
 - d) What will happen to ICT systems in 30 years?
 - e) How do ICT systems influence human behaviour?
6. Design Task

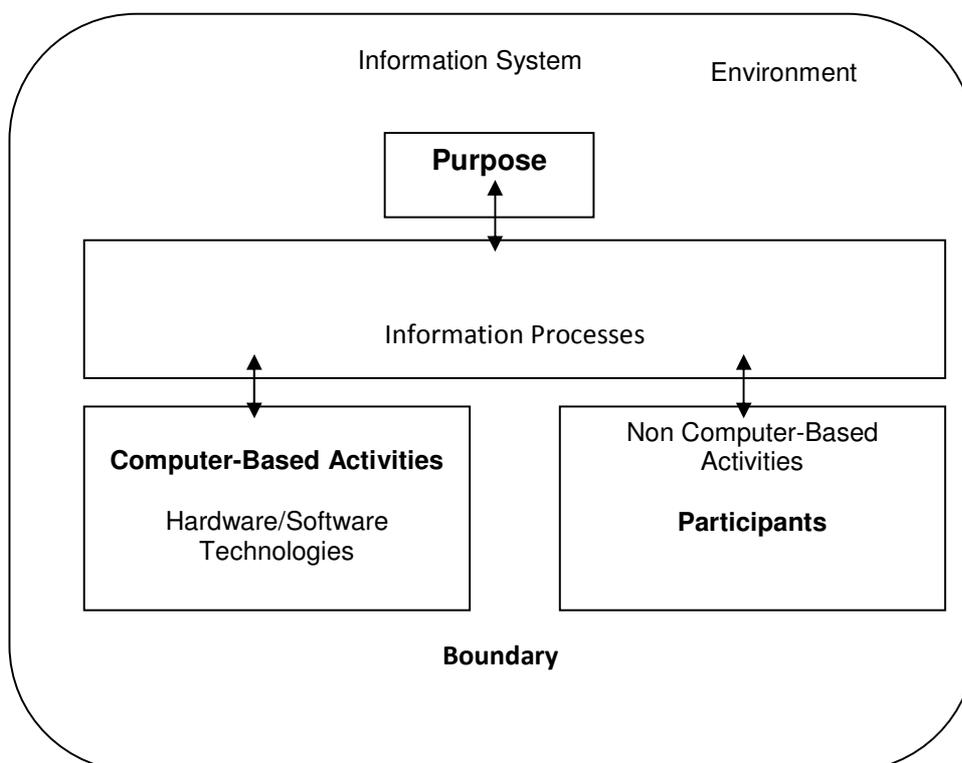
Students are to design a web-based, user interface for an organisation of their choice that has a high level of accessibility. Students must ensure that the interface has links to appropriate Information Systems within the theoretical company, e.g. finance, point of sale, inventories, etc.

Suggested Student Responses

Active Viewing Guide

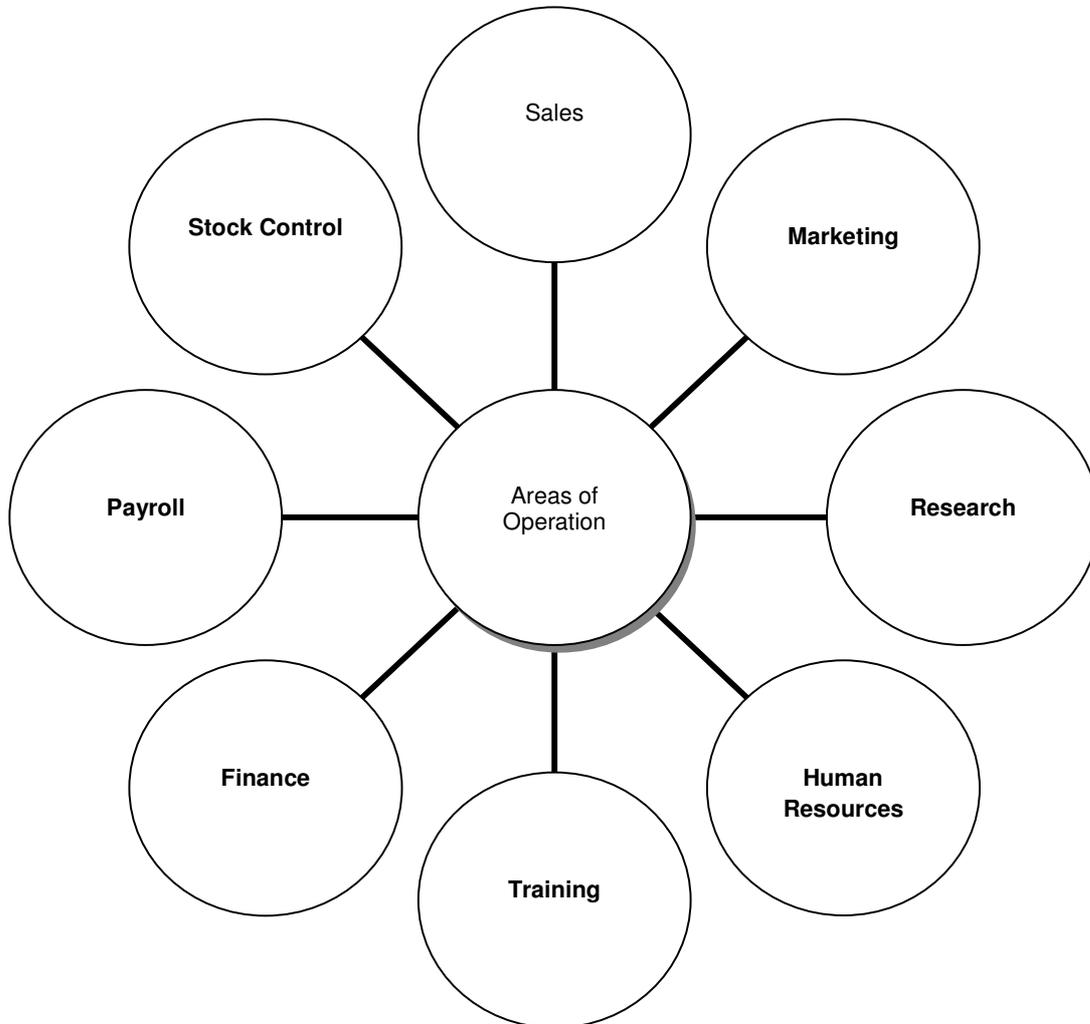
What do organisations use ICTs for?

1. All modern organisations are reliant in some way on the use of ICT? True or False
True
2. Define Information Communication Technologies?
ICT is a means by which digital information is transmitted, received, used, stored and retrieved electronically.
3. Explain why ICT have become fundamental to the way organisations operate? (3 Lines)
It is important, as the world has become more information and knowledge based. Successful organisations are moving away from traditional manufacturing bases into information, which is very reliant on ICT.
4. All ICT systems exist within a specified space known as the Environment. In the diagram below, complete all the missing components within the ICT environment.



ICT in Organisations

5. For large organisations ICT environments exist in all major areas of operation. In the diagram below indicate the major areas of operation.



ICT in Organisations

Investigating ICT needs and solutions

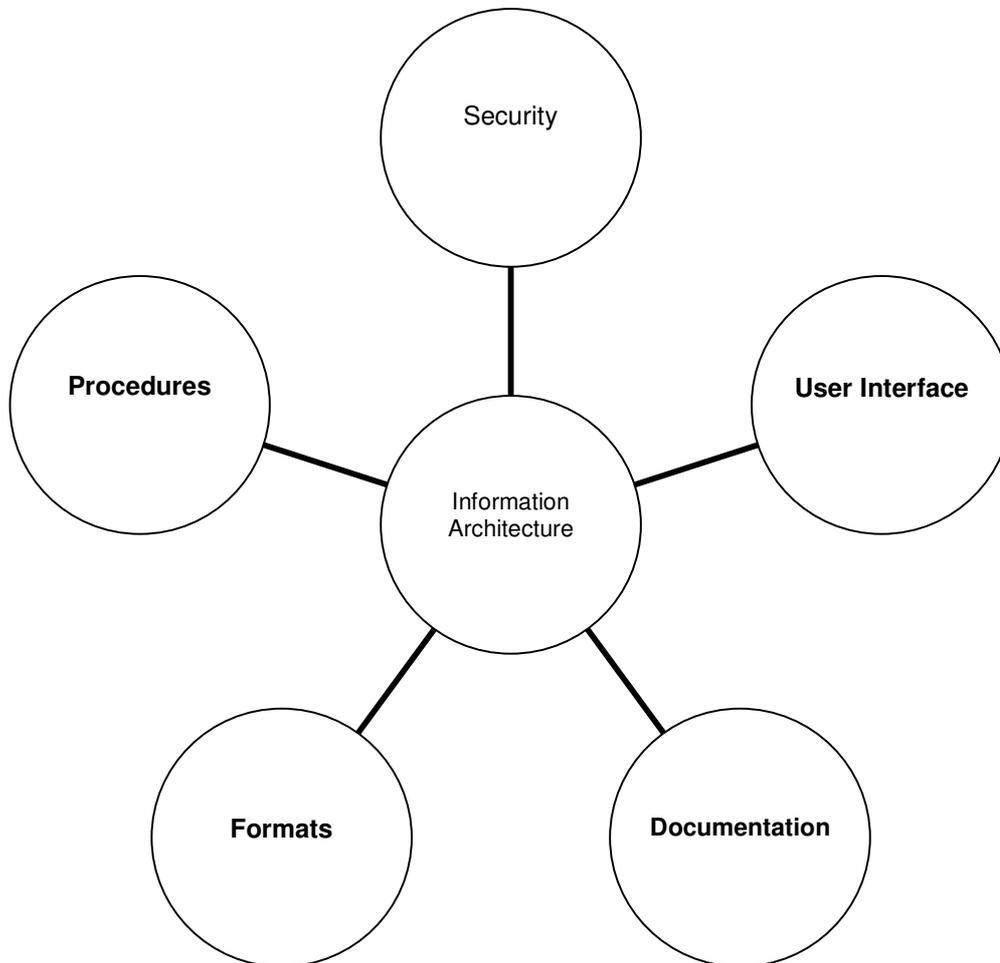
6. A range of questions needs to be answered in determining the ICT needs of an organisation. In the table below list 4 ICT needs which are fundamental to an organisation.

No	ICT Need
1	Strategic goals and how they integrate ICT
2	Current ICT practices
3	Skill level of users
4	Financing

7. What are the risks associated with the purchase of off the shelf ICT solutions. Circle the correct response.
- a) They can be more expensive to implement than a purpose built ICT system.
 - b) They do not encourage innovation and therefore market advantage could be lost.**
 - c) They encourage innovation and therefore market advantage can be gained.
 - d) They are less secure and robust than purpose built ICT systems.

ICT in Organisations

8. Information architecture must be tailored to each individual organisation. In the graphic organiser below, indicate some of the elements that will need to be modified to suit the needs of each organisation.



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- a) Purchase software/hardware upgrades
 - b) Ongoing training/support for users
 - c) Testing/trialling products
 - d) **All of the above.**

ICT in Organisations

Testing and evaluating ICT solutions

- 10.a) Name one reason organisations are constantly testing and monitoring their ICT systems.
To ensure that everything is running smoothly and efficiently.
- b) Name one negative consequence an organisation may experience if they don't continually monitor their ICT systems.
Answers will vary but may include: total system failure, hold-ups, inability to communicate with customers etc.
11. Give two examples of how organisations perform testing and trialling to keep their ICT systems working properly.
Answers will vary but may include: checking when and how data is accessed, keeping data secure, accurate and valid, running alpha and beta testing simulations to find faults before a launch, etc.

The future of ICT in organisations

12. What is Unified Communications? Circle your response.
- a) **The ability of different networks to carry similar kinds of services (e.g. voice over Internet Protocol (IP) or over circuit switched networks, video over cable television)**
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 - c) Because most current ICT systems are inadequate for the current needs of most organisations.
 - d) **ICT are always changing, and so are the needs of organisations.**

Extension Activities

1. In order for ICT systems to be successful they need to be: a. reliable, b. accessible, c. secure, and d. available. For each explain why they are necessary for the success of an organisation's ICT system.
 - a) **Reliable. For an ICT system to be successful it must be reliable. The ICT systems must not be out of action whilst needed by users, data must be protected from loss and the data on the system needs to be accurate and up to date.**
 - b) **Accessible. Information systems must be accessible to all users. Data and information must be easily obtained from ICT systems that are designed to be user friendly. They must be designed to be accessed by all, which may include special considerations for people with special needs, such as vision impairment or hearing loss.**
 - c) **Secure. Data and information in ICT systems must be secure. Unauthorised access to people's personal information can lead to legal prosecution, loss of reputation and potential loss of business. Data and information systems can be protected via firewalls, encryption, virus protection software, etc.**
 - d) **Available. Data and information must be available to users when they require it. Backup system, mirrored sites, etc, are essential to eliminate unnecessary down time. ICT systems that are not available when consumers want them can have disastrous effects on an organisations reputation.**
2. Many existing ICT systems are no longer expected to meet the requirements of organisations forever. However, it is rare for new ICT systems to be built from scratch? Explain why this is not desirable? **ICT systems are rarely built from scratch, as it is very costly and can take many years to perfect. Users in an organisation become familiar with existing ICT systems and major changes would require expensive retraining or even redundancies. Many off the shelf ICT systems also exist that are far more cost effective as the research and development has already been completed.**
3. What are the advantages for an organisation using Cloud computing?
Cloud computing offers organisations many benefits. It allows them to set up what is essentially a virtual office that gives the flexibility of connecting to organisations anywhere, any time. With the growing number of web-enabled devices used today (e.g. smart phones, tablets), access to data is even easier. There are many benefits to moving organisations to the cloud: Reduced IT costs, Scalability, Business continuity, Collaboration efficiency, Flexibility of work practices, Access to automatic updates, etc.

ICT in Organisations

4. Research:

Find an example of a recent ICT system failure and complete the following questions.

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Answers will vary

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