Assignment 1

Unit 3

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UTC Reading

Contents

[Contents 1](#_Toc449000498)

[P1 2](#_Toc449000499)

[Types of Information 2](#_Toc449000500)

[Qualitative 2](#_Toc449000501)

[Quantitative 2](#_Toc449000502)

[Sources of Information 2](#_Toc449000503)

[Primary 2](#_Toc449000504)

[Secondary 2](#_Toc449000505)

[Purpose of Information 2](#_Toc449000506)

[Operational Support – EPOS 2](#_Toc449000507)

[Analysis 2](#_Toc449000508)

[Decision Making 2](#_Toc449000509)

[Gaining Advantages 2](#_Toc449000510)

[Business functional areas 3](#_Toc449000511)

[M1 4](#_Toc449000512)

[Diagram 4](#_Toc449000513)

[Explanation 4](#_Toc449000514)

[P2 5](#_Toc449000515)

[Validity 5](#_Toc449000516)

[Reliability 5](#_Toc449000517)

[Timely 5](#_Toc449000518)

[Accuracy 5](#_Toc449000519)

[P3 and M2 6](#_Toc449000520)

[Legal Issues 6](#_Toc449000521)

[Ethical Issues 6](#_Toc449000522)

[Operational Issues 7](#_Toc449000523)

[D1 8](#_Toc449000524)

[Benefits of collecting and using information 8](#_Toc449000525)

[Operational Support – EPOS 8](#_Toc449000526)

[Analysis 8](#_Toc449000527)

[Decision Making 8](#_Toc449000528)

[Gaining Advantages 8](#_Toc449000529)

[New system options 8](#_Toc449000530)

# P1

## Types of Information

There are two types of information: Qualitative and Quantitative.

### Qualitative

Qualitative data is data that describes feelings, opinions etc. It cannot contain numbers or yes/no questions but question such as “How do you feel about…”

### Quantitative

Quantitative data is data that is *pure* data. It is thing such as name, mobile number etc. Not all data that is numerical is quantitative. Questions such as “out of 10, rate…” would be qualitative as they are surveying opinions.

## Sources of Information

Information sources can split up into two sections: Primary and Secondary.

### Primary

Primary information is information that was sourced directly by you (person or company). This information is usually very expensive but can be very specific to what you need from it. This type of information is often called “tailor-made data” as it is so specific to the need. This is usually sourced with: surveys/questionnaires, CCTV, logs, observations etc.

### Secondary

Secondary information is information that was sourced. This means that you didn’t collect the information yourself but you used information someone else collected. This type of information is usually cheaper but less specific to the case you need it for. It can be found from: the internet, television, articles etc.

## Purpose of Information

Information is used for many things in the work place. Some examples are:

### Operational Support – EPOS

This is where information is collected from the business’s operations and changes are made from that. Due to the fact that this information is so specialised this data has to be primary. One example of using EPOS is a supermarket. If the supermarket starts to get quite busy then there is more of a need for people on the checkouts to prevent queues, so more people will be put on checkouts.

### Analysis

Analysis is where you collect data over a period of time to spot patterns and trends. This is closely linked to Big Data. If a supermarket starts to spot that the supermarket is getting busier and busier then they know they will need to employ more staff. They can also spot the busiest parts of the day/week to bring more staff in at those times. Analysis is all about trying to pre-empt things so that they are not as big of a deal when they come

### Decision Making

Using data for decision making is very similar to that of analysis. The differences between them is that decision making uses information about event not closely related to your company whereas analysis uses information directly linked to the company. This means that you can use secondary data for decision making. An example of decision making is National Grid finds out that the most popular time to watch TV is at 8:30 pm. This means that National Grid knows to supply more electricity to households at this time to deal with the excessive need.

### Gaining Advantages

Gaining advantage is again, very closely linked to decision making. The main difference here is that the information found has potential for advantage rather than disadvantage. In decision making it is needed to find information and act upon it so that your company doesn’t get effected by it (National Grid having a power outage for not supplying enough power). In gaining advantages the company wants to seek profit from these events. An example of this is Sainsbury’s finding that the most popular time of year to watch a movie is during summer, they could directly advertise popcorn that they make the most money on during the summer, so that people will buy it and it will make Sainsbury’s lots of money.

## Business functional areas

Businesses create information. They can be made internal or externally. Here is a list of common departments that make information and what type of information it is.

|  |  |
| --- | --- |
| Department | Type of Information Produced |
| Administration | Some organizations store any data with administration for security purposes(archives) or for general recall of information. |
| Finance | Information about cash flow, income, payroll, assets, taxes etc. |
| Manufacturing | Information about resources used and time-scale information such as throughput, resource lead time etc. |
| Marketing | Customers' information such as ID, age, name, D.O.B. etc. |
| HR. | Organizations employees, work flow, wage, grade, skill etc. |

Here is a list of external sources information and type of information available from each source.

|  |  |
| --- | --- |
| External Source | Type of Information Produced |
| Commercially available databases | Companies that monitor the markets will often have databases about the markets that are open to the public and business’s. Available information is dependant on what the market is. One example of this is 'Which?'. They provide advice to the public on the best products within certain markets. To do this they gather lots of information about the market. For a vacuum cleaner they might find the best selling vacuums on the market. They would then find people who bought them and ask some questions. They would also review the product themselves. At the end of this they would publish their opinions and also raw data about their findings (interview notes, market data, features about each product they liked and disliked etc.) A company such as Hoover could then read these reports and act upon them accordingly. |
| Government | Most governments require information about companies in the area. This could be for uses from tax calculation through to what area of the economy needs a boost. This information will then be processed by the government and then used for whatever purposes it is required. After this point it is common that the government publishes its findings and the data received. This is, however, usually very specialised so not to be of any infringements of data protection acts. This means it is often not very useful for other business’s |
| Researchers | It is quite common that a company outsources some of its work to other companies that are more specialised in the area. This is not untrue of information gathering. There are many business's that offer research. They will use highly trained workers that know exactly where to look and how to uncover obscure pieces of data. This saves other companies lots of time but it often comes at a high cost. |

# M1

## Diagram

## Explanation

The worker will be someone who will be directly interfacing with the user, the product, system etc. When the user finds something that he is unsure how to fix with his own knowledge he will call his line manager over and tell him the problem. If the line manager doesn’t know what to do he will firstly check the archives for any solution that he can relay to his staff. This type of information will also be relayed to staff on training days.

If no solutions are found then the fault is taken forward more formally. The line manager will notify the technician with an email or letter (something that can be later archived). The technician (more skilled than the line manager) will give any advice he has to fix the error. If this is not successful then the technician will again check the archives. This is because he may have higher access rights to the archives to things that may not have been fully written up, he may be able to understand some of the information a bit better and because the archives may have been updated since the line manager checked.

If the technician still can’t find anything he will directly contact the head of cyber security. He will then find resolutions to the error which can be passed back down the line so that the problem is resolved. If the head of cyber security believes it to be past the abilities of the worker then he may either get the technician to complete the task or do it himself.

Once a correct solution has been found, this will then be written up into the archives in a manner that is easy to use for reference and explains all without need of personal contact to the head of security.

# P2

Below are some characteristics of “good information”. These characteristics should be checked for when finding new information. Doing this will ensure that all of the information that you receive is valid and correct.

### Validity

The data should be unbiased, representative of what it is trying to show and also verifiable with other sources. This will ensure that whatever the data is being used for will give a usable answer

### Reliability

The Source should be known and trustworthy. The information should fit in with other *facts* that you know.

### Timely

The information should be around when it is needed rather than after. If the information is old when using it, it may be less reliable.

### Accuracy

The information should contain the required accuracy (e.g. not rounded to the nearest 10% when you need to be very accurate)

# P3 and M2

Issues surrounding the company’s customer data can be sectioned into three main areas: Legal Issues, Ethical Issues, and Operational Issues. I will also explain how each of these issues may affect the TelX.

### Legal Issues

#### Data Protection Act (1998)

The data protection acts provides a structure that ensures all information is handled and processed in a proper way. It also gives individuals rights about what information is stored by companies or other people. The act says that anyone who processes personal information must, by law, register with the DPA registrar. The DPA requires anyone registered with them to follow the eight principles. They ensure that personal information is:

* Fairly and lawfully processed
* Processed for limited purposes
* Adequate, relevant and not excessive
* Not kept for longer than is necessary
* Processed in line with user rights
* Securely stored
* Not transferred to other countries without adequate protection.

TelX needs to be aware of these laws. They also need to be vigilant on what its staff are doing so that they can stop any wrong doing before it causes any harm. They need to have a secure way of storing and accessing information and only distribute it to the necessary levels of the company.

#### Freedom of Information Act (2000)

#### The Freedom of Information act is an act for users and business’s rather than governments. It says that any person or business has the right to ask a government for information from public authorities. These include:

* The NHS
* Schools/colleges
* Police
* Fires Service
* Libraries

If the government doesn’t give this type of information then they can be sued against the freedom of information act.

TelX may be able to use this information to their advantage. If they find that there is a need for their services in the public sector then they may be able to move their business towards this area. If they do start to work with the public sector, they need to be aware that they may be needed to publish and share some of its data. They need to separate the public and private data so not to publish any private information. If they are unable to do this then they could break the data protection act.

### Ethical Issues

#### Code of Practice

It is very common for companies to have a code of practise scheme. This is a set of rules that users agree to follow when signing up/logging in. If these rules are broken there are no legal implications, just the threat of the service being cancelled. The code of practise can also serve as a reminder to the user of the laws above. This can include things like “the extent of use of other users information” etc.

TelX could use a code of practise on any software they have. This could be used both for users and staff of the company. The code of practise can protect TelX from legal issues. This is because your code of conduct can give the users responsibilities while being on your software/program. Staff can also then become liable for errors that they have made rather than the company

#### Information Ownership

Users/departments who own information have a duty to correctly catalogue this information in a timely and correct manner. Most of the time the department that made/received the data is responsible for it, however, sometimes it is not sensible to do this. One example of it not being a good idea for this is making the IT department in charge of all of the network traffic. They would need to be in charge of information such as logins, passwords etc. but traffic should be archived in a higher up department.

If departments do not correctly catalogue their information it will be lost. This may not be as big of an issue, however, it could be anything from network usage to usernames and passwords. Departments may even store their information in unsafe areas. This means that personal information may be released to the general public. This will break the Data Protection Act (1998) which may create legal issues. It may be necessary to have staff operating on the storage areas to prevent these types of errors, and also to train staff on how to correctly use them.

### Operational Issues

#### Backups

Regular backups should be made to the system. This could range from just backing up the main data to backing up the whole network. Doing regular backups can help to prevent data loss in case of emergencies. This is often a point of security failure. The backups made need to be just as secure as the current information but still accessible.

Backups can only be made of what’s stored on the network. If a staff member/department decides that they want to store information separately (private drives, USB drive, cloud storage) then they cannot be backed up by TelX. This means that if these drives get damaged/lost then there is very little that can be done to recover the information stored. It may be necessary to create a method to ensure that all information is stored on the network. Creating copies of personal information could also breach the Data Protection Act (1998).

#### Organisational Policies

The policies of an organisation may have a large effect on the way that it treats information. This could be anything from the way that they store information through to the methods of receiving new information. These all will have to follow the legal rules shown above.

TelX must have an organisational policy. When staff join the company they need to agree to follow these rules or risk punishment. This could be the way that TelX deals with the issues arisen above. This means that they could include that ‘No staff member can use a private drive to store information’ etc. This can ensure that the least amount of mistakes possible will be made.

# D1

## Benefits of collecting and using information and ways that TelX could use them

### Operational Support – EPOS

One example of the way that TelX could use EPOS is their network traffic. Its has already been established above that staff/departments using their own drives is an issue that needs to be eliminated to ensure information security. Using network traffic information, system administration can identify these data banks by tracing data and finding the largest sources that are not the network storage drives. This will eliminate the use of larger data banks but will not deal with USB sticks or smaller drives. To find these system administration could trace through the network, the file format that they save their information and data files as (.txt, .xml, .sql, .json etc.) Once their destinations have been found, they can be traced and investigated. This shows that using EPOS TelX can remove the danger of information being stolen or lost along with multiple legal implications.

### Analysis

TelX can use analysis to massively boost their sales system. If they record almost all information going into the sales department over a period of time (and periodically) then they can compile all of this information into one data base to create a 'model' of the sales department. Leaders from each of the teams in association with the sales department can sit down with the sales department leadership team to decide areas which are not working. Any type of solution can be found here but it all depends on how much information you gather. If a small amount of information is gathered then very few resolutions will be made making the whole project a waste of time and money. Any solutions that are found may be proven to not work as the leadership teams haven’t considered other areas of the company (more data that could have been collected). The main type of change that can be expected is workforce being re-factored. You could find that you have four people sitting on the phones for one product all week, but you only get one call a day to enquire about it.

### Decision Making

If uses decision making within its business they can diagnose a lot of current problems as well as prepare for future ones. One department that decision making could benefit is Sales. They can achieve this by collecting data from the local community, the communities of their clients and also the market that they are in. From this information changes can be monitored. Using past experience and some predictions some possible problems could be found. One example of this is found in its competitors. If a company stops some advertisements, cuts off some staff etc. (saves money) but doesn’t seem to be losing sales then it could be a sign that they are going to invest money into something, which is why they have been saving. Predicting what they are going to invest their money in can be a little harder but at least now you know to monitor them a little more. You also know that you should also begin to stock up on a bit of money so that you can afford to keep with the market.

### Gaining Advantages

If TelX do choose to use decision making, I would suggest that they also opt for gaining advantages as well. This is because it creates a really solid base for future actions (not only preventing problems but also making benefits), it also can often be achieved from the same data sets as decision making. One example of gaining advantages is in general stock of the company. If, from the data sets above, TelX see that one of their competitors may be going downhill or even going bankrupt, they can advance on this as a benefit. If TelX approach the company and suggest that they help out with their funds issues by buying some of their stock off of them, they will be able to get it very cheaply. It will also create very good relations with the company meaning that if they do go bankrupt, they will be much more likely to sell their stock to you cheaply rather than TeX’s competitors. The company may also suggest that their staff's contracts could be carried on by TelX. This in effect means that TelX have consumed a company for very cheaply. This also means that you can now afford to push yourself forward in the market, pushing your competitors out.