

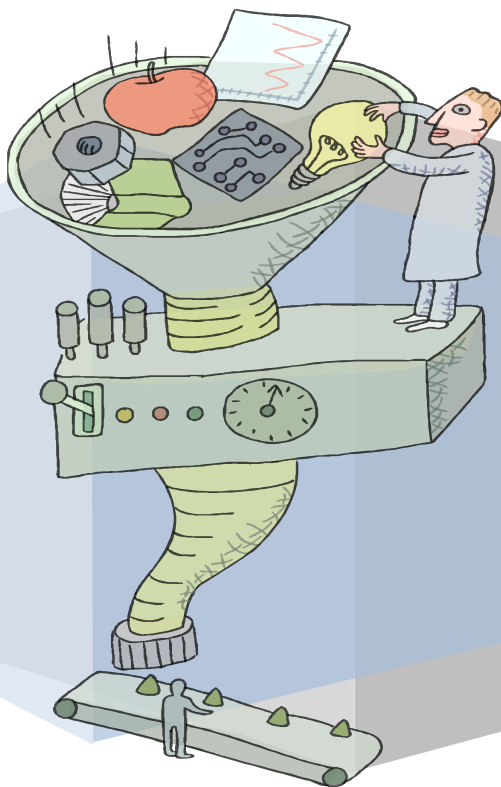
Business Management

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N5

Management of Marketing and Operations

2.2 – Operations



**Learner's
Notes**

Introduction

In this topic you will find out about the following things.

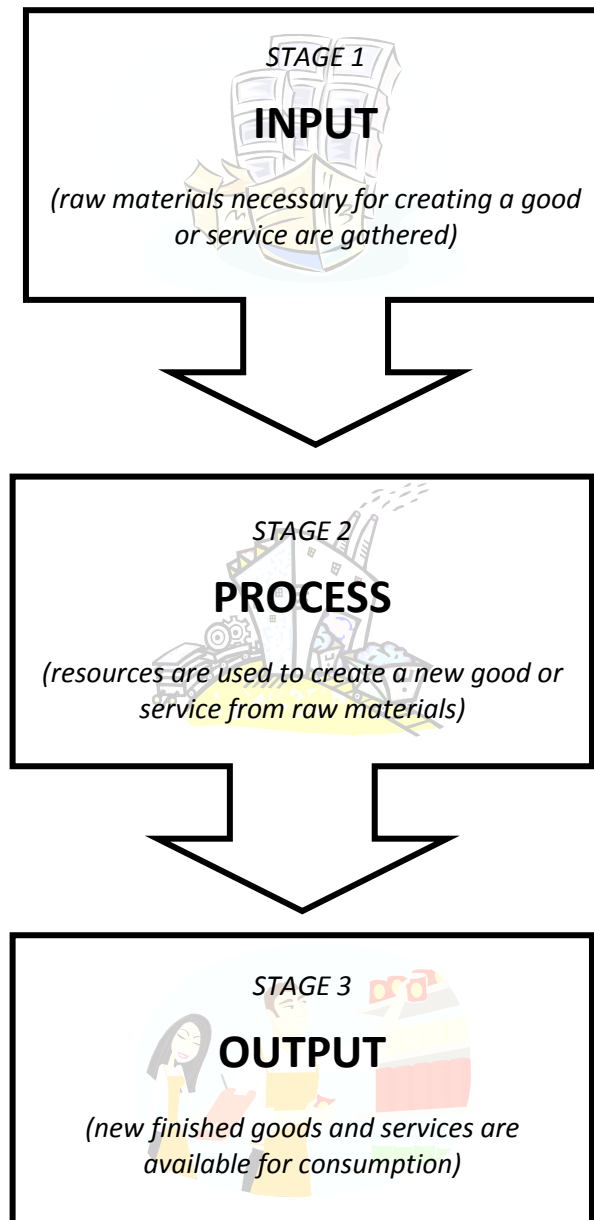
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|----------------------------------|--|
| Stock Management | <ul style="list-style-type: none">• <i>OVERSTOCKING AND UNDERSTOCKING</i>• <i>ECONOMIC STOCK LEVEL STOCK MANAGEMENT^H</i>• <i>JUST IN TIME STOCK MANAGEMENT^H</i> |
| Suppliers | <ul style="list-style-type: none">• <i>CHOOSING A SUPPLIER</i> |
| Factors of Production | <ul style="list-style-type: none">• <i>FACTORS OF PRODUCTION</i>• <i>CAPITAL v LABOUR INTENSIVE^H</i> |
| Production Processes | <ul style="list-style-type: none">• <i>SCHEDULING^H</i>• <i>DIVISION OF LABOUR^H</i>• <i>PRODUCTION LINES^H</i>• <i>METHODS OF PRODUCTION</i><ul style="list-style-type: none">○ <i>Job production</i>○ <i>Batch production</i>○ <i>Flow production</i> |
| Quality | <ul style="list-style-type: none">• <i>RESOURCES AND RAW MATERIALS</i>• <i>QUALITY CONTROL</i>• <i>QUALITY ASSURANCE</i>• <i>QUALITY MANAGEMENT^H</i>• <i>EXTERNAL QUALITY STANDARDS^H</i>• <i>BENCHMARKING^H</i>• <i>MYSTERY SHOPPERS^H</i> |
| Ethical and Environmental | <ul style="list-style-type: none">• <i>ENVIRONMENTAL ISSUES</i>• <i>FAIR TRADE^H</i> |
| Output Issues | <ul style="list-style-type: none">• <i>WAREHOUSING^H</i>• <i>LOGISTICS^H</i>• <i>CUSTOMER SERVICE</i> |
| Technology | <ul style="list-style-type: none">• <i>ROLE OF TECHNOLOGY IN MANAGING OPERATIONS</i> |

^H – HIGHER ONLY

THE ROLE OF OPERATIONS

The role of **OPERATIONS** in a business is to **PRODUCE** goods and services to a **SUITABLE STANDARD** as **EFFICIENTLY** (minimum in – maximum out) as possible.

Operations staff will do this by managing the **PRODUCTION PROCESS** for the business. All production processes are made up of the following 3 linked stages.



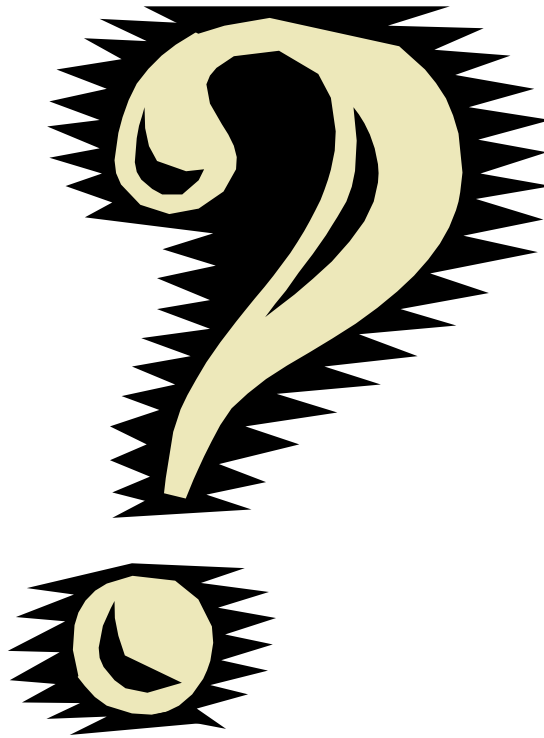
This work will be linked to the work of marketing staff as they will decide on the **PRODUCT** that has to be produced in the first place.

The main activities that Operations staff are involved with when they are managing production are linked to the 3 stages of the production process as follows.

- *STOCK MANAGEMENT SYSTEM (INPUT ISSUE)*
- *CHOOSING SUPPLIERS (INPUT ISSUES)*
- *FACTORS OF PRODUCTION (INPUT ISSUE)*
- *PRODUCTION METHODS (PROCESS ISSUE)*
- *QUALITY ISSUES (PROCESS ISSUE)*
- *ETHICAL PRODUCTION (PROCESS ISSUE)*
- *WAREHOUSING (OUTPUT ISSUE)*
- *LOGISTICS (OUTPUT ISSUE)*
- *CUSTOMER SERVICE (OUTPUT ISSUE)*

This Operations work is very important to any kind of business in an economy (ie PRIVATE, PUBLIC or THIRD sector), because if it is done properly then it can bring the following benefits.

- *SURVIVAL (all businesses need to produce goods and services for their consumers or they will fail)*
- *INCREASE IN PRODUCT QUALITY (due to better qualified and motivated staff and systems)*
- *DECREASED COSTS (due to less wastage and better systems)*
- *OPPORTUNITY TO DECREASE PRICES FOR CONSUMERS (due to lowered costs)*
- *POSITIVE BUSINESS IMAGE (from high quality products and any lowered prices)*
- *INCREASED CONSUMER SATISFACTION (from provision of suitable products perhaps at low prices)*
- *INCREASED USE OF THE BUSINESS BY CONSUMERS (CONSUMER LOYALTY)*
- *INCREASED PROFITS, BUDGETS OR DONATIONS (from consumer loyalty)*



INPUT ISSUE – STOCK MANAGEMENT SYSTEM

STOCK MANAGEMENT SYSTEMS aim to make sure that the business has a **STOCK LEVEL** that minimises **OVERSTOCKING PROBLEMS** and **UNDERSTOCKING PROBLEMS**.



Stock in any business is an **UNUSED AMOUNT** of something, and the main types of stock are:

- *RAW MATERIALS (basic parts still to be used in production);*
- *WORK IN PROGRESS [WIP] (products that have been started but not yet finished);*
- *FINISHED GOODS (products that are complete and ready to be sold to consumers).*

Businesses will always want to have some stocks available for the following reasons.

- *PRODUCTION CAN ALWAYS BE CARRIED OUT AS STOCKS ARE CONSTANTLY AVAILABLE*
- *CONSUMERS WILL ALWAYS BE ABLE TO BUY PRODUCTS AS STOCKS ARE AVAILABLE*
- *SALES AND USAGE ARE MAXIMISED AS CONSUMERS CAN ALWAYS ACCESS STOCKS OF PRODUCTS*

However, businesses have to be careful when they decide on the specific amount of stock that they hold in order to prevent the following problems.

Stock Problem	Description
<p style="margin: 0;">OVERSTOCKING</p> 	<p>Overstocking means that a business has bought in MORE stock than it regularly needs and so will face the following problems due to extra unnecessary stock.</p> <ul style="list-style-type: none"> • <i>HIGH LABOUR COSTS FOR SECURITY STAFF TO PREVENT THEFT OF STOCK</i> • <i>HIGH LABOUR COSTS FOR WAREHOUSE STAFF TO MANAGE STOCKS</i> • <i>HIGH STORAGE COSTS FOR LARGE PREMISES TO STORE STOCK</i> • <i>HIGH COSTS OF INSURANCE FOR LARGE AMOUNTS OF STOCK</i> • <i>LESS CHANCE OF WASTAGE OR THEFT BEING NOTICED AND DEALT WITH</i> • <i>RISK OF LOSING MONEY ON STOCK THAT BECOMES OBSOLETE¹</i>
<p style="margin: 0;">UNDERSTOCKING</p> 	<p>Understocking means that a business has NOT bought in enough stock to continue with its ordinary activities and so will face the following problems from a lack of stock.</p> <ul style="list-style-type: none"> • <i>LARGE NUMBERS OF SMALL STOCK ORDERS WILL HAVE TO BE MADE</i> • <i>SMALL ORDERS CAN RAISE COSTS AS BULK BUYING DISCOUNTS ARE LOST</i> • <i>PRODUCTION MAY HAVE TO STOP</i> • <i>STOCKOUTS MAY OCCUR (this means there is no stock for consumers)</i> • <i>SALES AND USAGE OF THE BUSINESS ARE DECREASED BY STOCKOUTS</i> • <i>REPUTATION OF BUSINESS MAY BE DAMAGED BY STOCKOUTS</i> • <i>CONSUMER LOYALTY MAY BE DECREASED BY STOCKOUTS</i>

¹ Obsolete means it is **OUT OF DATE** and consumers no longer want it due to changes in laws, tastes or technology.






There are 2 main **STOCK MANAGEMENT SYSTEMS** that can be used by businesses to try and prevent over and understocking. Information about their features, benefits and drawbacks can be seen below.

1 ECONOMIC STOCK LEVEL (ESL) STOCK MANAGEMENT

Here a business always holds some stock by deciding on the following.

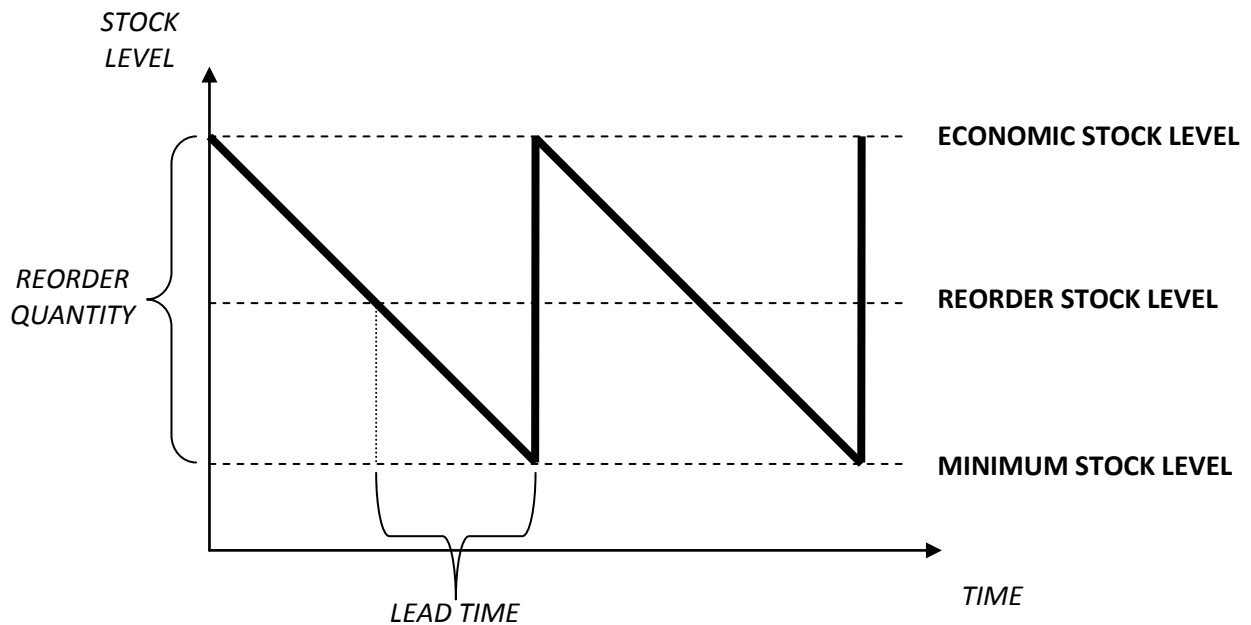
- *ECONOMIC STOCK LEVEL (this is a MAXIMUM stock level that should minimise overstocking costs)*
- *MINIMUM STOCK LEVEL (this should prevent under stocking problems)*
- *REORDER STOCK LEVEL (this is when new stocks should be ordered to prevent stock outs)*

The precise values for these stock levels will depend on the following factors².

Stock Factor	Description
PRODUCT DEMAND 	Businesses have to make sure that their stock levels are set high enough to prevent stockouts and so meet the expected demand of consumers. This means if a product is very popular then the stock levels should be high and if sales are low then stocks should be low too.
SEASONAL FACTORS 	Product demand will change at different times of the year – for example, demand for shorts will be high in Summer and lower in Winter. This means that businesses have to make sure that their stock levels are set high during periods of high demand (to prevent stock outs) and then lowered when demand falls (to prevent overstocking).
FINANCE AVAILABLE 	Holding stock costs money to buy it and for insurance, premises and staff to manage and keep it secure. This means that a business can only hold as much stock as they can afford to pay for.
STOCK TYPE 	Some stock will not last very long before it becomes useless. This could be due to stock becoming OBSOLETE (ie a lack of interest from consumers as it is out of date) or because it is PERISHABLE (ie becomes wasted quickly - eg food going out of date). This means that businesses who use stock which can easily become obsolete or perish should try to minimise stock levels to prevent any wastage.
LEAD TIME 	Almost all stock can take a little time to deliver from suppliers – this time is known as LEAD TIME . Businesses which have a long lead time should maximise stock levels to prevent stockouts while waiting for another delivery to be made. Businesses should understand that lead time can increase in times of poor weather and shortages and plan accordingly.

² Therefore, if a business finds that it has over stocked or under stocked it will be because it has not accurately accounted for these factors.

Once these stock levels have been established by the business, then the actual operation of the ESL system over time involves starting with stocks up at the economic stock level and then systematically reordering more stock when the reorder stock level is reached. The amount of stock ordered at this point is known as the **REORDER QUANTITY**. By doing this the business should ensure that stocks arrive before stock levels fall below the minimum stock level and under stocking problems begin to occur. This process can be seen graphically below.



The main **ADVANTAGES** of using ESL include the following.

- *PREVENTS THE PROBLEMS FROM OVERSTOCKING*
- *PREVENTS LOST SALES FROM STOCK OUTS (as there should always be stock available)*
- *FLEXIBILITY (suppliers can be easily changed to access special offers as there is always a min stock to use)*

The main **DRAWBACKS** of using ESL include the following.

- *SOME STORAGE COSTS MUST BE PAID (as stocks are still being held)*
- *SOME RISK OF LOSS FROM STOCK THEFT, DAMAGE OR OBSOLESCENCE (as stocks are still being held)*



2 JUST IN TIME (JIT) STOCK MANAGEMENT

The Just In Time (JIT) stock management system is an alternative to traditional ESL purchasing which originated in Japan. In this system, very little or indeed **ZERO** stock is kept by the business and the specific amount of stock needed is ordered and delivered **JUST IN TIME** to be used.

Use of JIT stock management can bring a business the following **BENEFITS**.

- *LOW STOCK HOLDING COSTS (as there is little to no need for storage, security, etc)*
- *LESS STOCK WASTAGE, OBSOLESCENCE AND DAMAGE (as there are little or no stocks)*
- *IMPROVED CASH FLOW (as money is not tied up in stock)*
- *MORE PROFITS (due to lowered costs)*

However, JIT stock management has the following **DRAWBACKS**.







- *HIGH STOCK COSTS FROM USING RELIABLE SUPPLIERS (to prevent problems, shortages and lost sales)*
- *HIGH STOCK TRANSPORT COSTS (from frequent small purchases)*
- *HIGH STOCK COSTS FROM A LACK OF BULK DISCOUNTS (due to continuous small purchases)*
- *HIGH COSTS OF USING SKILLED WORKERS (to prevent errors, shortages and lost sales)*
- *SALES CAN BE LOST IF DEMAND CHANGES QUICKLY (due to a lack of stock at hand)*
- *SUPPLIER PROBLEMS CAN CAUSE STOCK OUTS (this can mean lost sales/loyalty)*



INPUT ISSUE – CHOOSING A SUPPLIER

The input issue of **CHOOSING A SUPPLIER** deals with deciding **WHO** the business should buy **STOCK** from.





The main factors that small to medium business usually consider when choosing which supplier they will use can be seen below.

Factor	Description
PRICE 	A business will usually want to use a supplier that sells at a low price. This is to MINIMISE COSTS for the business. This is also important because a business can only buy from suppliers that it has the FINANCE to be able to afford.
QUALITY 	A business will want to use a supplier that provides stock of a suitable level of QUALITY . This is to make sure that you use quality materials to make products of a high enough QUALITY to keep consumers happy.
CONTINUITY 	A business will want to use a supplier that can CONTINUE to supply to them. This is to MINIMISE THE INCONVENIENCE of changing suppliers which could cause delays to production, losing discounts, etc.
RELIABILITY 	A business will want to use a supplier that is RELIABLE . This means that they can always supply them with the correct amount stock, when they expect to receive it and to the same standards every time. This is to MINIMISE THE INCONVENIENCE of unexpected poor quality, lack of stock, delays, etc.
LOCATION 	A business will usually want to use a supplier that is CLOSE TO THEM . This MINIMISES COSTS by reducing delivery charges.
STOCK CONTROL 	JIT businesses will decide on supplier based on quality and continuity. This is because this business must make sure that materials are of a high quality (as there are no spares in case of errors) and that suppliers are always able to provide them. Here supplies may be expensive as high quality and reliable suppliers can be costly to use. On the other hand, ESL businesses can consider cost more as they have enough stock to allow them to change supplier if they wish to lower costs or access special offers.

INPUT ISSUE – ORGANISING THE FACTORS OF PRODUCTION

*The input issue of organising the **FACTORS OF PRODUCTION** involves gathering together the specific **RESOURCES** (useful things) that a business has decided that it wants to use in order to carry out the **PROCESS** part of production.*

The main Factors of Production that can be used by businesses to make products are as follows. They can be remembered as **CELL**.

Factor of Production	Description
CAPITAL 	Capital describes MONEY and all of the EQUIPMENT it can be used to buy. Capital has to be paid for through INTEREST (extra money paid from borrowing or lost through spending). Capital is a MAN MADE resource.
ENTERPRISE 	Enterprise covers all of the IDEAS for goods and services a business has and the ORGANISATION OF RESOURCES undertaken by MANAGERS to make these ideas turn into real goods and services. Enterprise earns PROFITS .
LAND 	Land is the Earth and all of the NATURAL RESOURCES in it or on it (eg oil, wood, animals, crops, etc). Land is paid for through RENT (money paid for the use of the land).
LABOUR 	Labour is all of the work that is done by PEOPLE (aka the HUMAN RESOURCE). Labour is paid for by WAGES .

The **AMOUNT** and **TYPE** of the factors of production that are used in a business are likely to be influenced by the following.

- *AVAILABILITY (unavailable resources simply cannot be used, eg lack of capital in 3rd world)*
- *COST (low cost resources are likely to be used to maximise profits, eg cheap 3rd world workers)*
- *FLEXIBILITY REQUIRED (labour can be more flexible than capital due to training and development)*
- *QUALITY REQUIRED (capital can provide consistent high quality output)*

When a business has decided on the quantities and types of resources that it is going to use, it can usually be described as one of the following types of business.

1 LABOUR INTENSIVE

This type of business uses **LARGE** amounts of **LABOUR** at all levels of its activities. Common examples of labour intensive businesses include medicine, teaching, accountancy, hairdressing, etc.

The main **ADVANTAGES** of being labour intensive are as follows.

- Staff are **FLEXIBLE** (due to training) and so help the business change over time and create a range of products to meet customers' demands. This can mean increased sales.
- Staff can come up with **NEW IDEAS** which can improve save money or time in production or increase sales. This can lead to improved profits.
- **CUSTOMER PREFERENCE** may be to interact with staff rather than equipment. Therefore staff can increase satisfaction, sales and profits.

The main **DRAWBACKS** of being labour intensive are as follows.

- Staff can be **ABSENT** (through illness, etc) which can lower production and sales.
- Staff are **EXPENSIVE** due to **CONSTANT PAYMENTS** (eg wages, pensions, etc).
- Staff need **BREAKS** and **HOLIDAYS** which can lower output and sales.
- Staff may make **MISTAKES** (ie "human error" from tiredness, distraction, lack of skill, etc) which can lower quality, customer satisfaction and sales.



2 CAPITAL INTENSIVE

This type of business uses **LARGE** amounts of **CAPITAL** at all levels of its activities. Here work is said to be **MECHANISED**, and if **ONLY** capital is used then work is said to be **AUTOMATED**. Common examples of capital intensive businesses include car manufacturers, tv manufacturers, computer manufacturers, phone manufacturers, etc.

The main **ADVANTAGES** of being capital intensive are as follows.

- *Higher output and sales can be achieved due to **SPEED** at which capital can complete work.*
- *Higher output and sales can be achieved due to the **LACK OF BREAKS** required by capital.*
- ***IMPROVED QUALITY** can be achieved as capital should be able to accurately complete a task every time. This can increase customer satisfaction and sales.*
- *Running costs can be lowered as there are **FEW CONSTANT PAYMENTS** from using capital as it does not require wages, etc. This can result in lowered prices for consumers and in turn increasing sales.*

The main **DRAWBACKS** of being capital intensive are as follows.

- *Capital can be **EXPENSIVE TO BUY** which can limit its use and impact negatively on the cashflow of the business.*
- *Capital does not require wages but it does have **MAINTENANCE COSTS** which can be expensive.*
- *Capital may be **INFLEXIBLE** (ie can only do **ONE** thing) and so may limit the ability of the business to change over time to meet customers' needs. This may lead to decreasing sales.*
- ***CUSTOMER PREFERENCE** may be to interact with staff rather than equipment. Therefore if customers are forced to use capital (eg telephone banking, automated customer service lines, etc) then they may choose to use another business instead which can decrease sales and profits.*



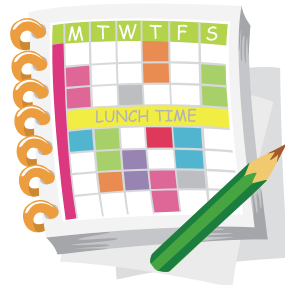
PROCESS ISSUE – PRODUCTION PROCESSES

PRODUCTION PROCESSES deals with the way that a business organises and uses the factors of production to convert raw materials into finished products.

In almost all modern businesses, production processes focus on the application of the following concepts.

1 SCHEDULING

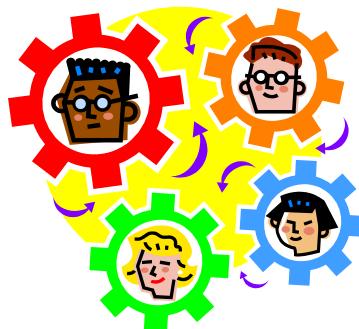
Before starting the production of a product, a business must be clear about how much it needs to make of it during a given period of time. This process is usually known as scheduling (also sometimes known as **PRODUCTION PLANNING**) and is important as it aims to prevent wasting resources (by creating more products than are required) or losing sales (by not making enough products to satisfy current demand).



2 DIVISION OF LABOUR

Division of labour involves every worker being given a specific job to carry out in the production process. This is sometimes also known as **SPECIALISATION** and can allow workers to do the job that is best suited to their skills and, in turn, become better at it through repeated performance and practice. Division of labour in production should bring the following benefits to a business.

- *INCREASED OUTPUT (as staff are able to use their expertise to complete jobs quickly)*
- *INCREASED QUALITY (as staff are able to use their expertise to complete jobs quickly)*
- *INCREASED SALES (from more products available for sale)*
- *INCREASED CUSTOMER SATISFACTION (from increased quality of products)*



3 ASSEMBLY LINE

Most modern production facilities will make use of an assembly line (aka **PROGRESSIVE ASSEMBLY**). This means that the production facilities will be organised so that a product is made by moving through a linked series of separate but sequential activities (which have their own dedicated capital and/or labour).

For example, the assembly line for a car could involve the following linked steps – building the chassis, sending the car to the paint shop to be painted, passing the painted vehicle along the assembly line for the engine to be put in, moving the car along the assembly line to have the electrics fitted and then finally sending it to get the interior inserted. In fact, the car was amongst the first products created on an assembly line as Henry Ford introduced it to make the Ford Model T car in 1913.

The main **BENEFITS** to using an assembly line (instead of flexible capital or labour which could create products from start to finish themselves) can be seen below.

- *DIVISION OF LABOUR (this allows specialisation and so increases worker efficiency and output)*
- *REDUCED TRAINING COSTS (as staff only have to know how to complete one specific assembly task)*
- *IMPROVED QUALITY (as specialisation in a single production stage should mean fewer errors)*
- *INCREASED OUTPUT (from fewer delays and improving working speed and output)*
- *LOWERED COSTS (as staff may be cheap and less time is wasted changing tasks or awaiting work)*
- *INCREASED SAFETY (as specialisation decreases the changes of accidents and injury to staff)*
- *LOWER CONSUMER PRICES (as profits can be maintained through falling costs and increased output)*
- *INCREASED SALES AND PROFITS (from, falling prices, improving quality and increased output)*

However, despite these numerous benefits from the use of the assembly line, there are sometimes the following **CONCERNS** about its' use.

- *TECHNOLOGICAL REDUNDANCY (many assembly lines have replaced workers with equipment)*
- *FALLING WAGES (as staff may not be very well paid as they may only have a few skills)*
- *DEMOTIVATING WORKING ENVIRONMENT (as staff have no variety in their working day)*



4 METHOD OF PRODUCTION

Although most modern production facilities will make use of division of labour and an assembly line, the specific way that these ideas are employed will depend on the **METHOD OF PRODUCTION** used. This is because the term method of production refers to the specific way that the business will use all of its' resources to create a finished product. The following are the 3 main methods of production used by businesses.

a JOB PRODUCTION

The main **FEATURES** of Job production are as follows.

- *Each product is made **ONE AT A TIME** as a single separate piece of work (or **JOB**).*
- *Each product made will be **UNIQUE** because it has been designed to meet specific standards that the customer has set.*
- *Lots of (normally skilled) labour is usually used - this means it is known as a **LABOUR INTENSIVE** method of production.*

The main **ADVANTAGES** of Job Production include the following.

- *Job production should provide a variety of work for staff to complete which should **INCREASE** their **MOTIVATION, SKILLS** and **PRODUCT QUALITY**.*
- *Job production should provide a very **HIGH LEVEL** of **CUSTOMER SATISFACTION** because it provides a high quality and unique product that meets their specific needs.*
- *Job production should result in **HIGH PRICES** (and profits) because customers will pay a lot for high quality products that meet their specific needs.*
- *Staff can think for themselves – this means that they suggest changes which would help improve quality, production or consumer satisfaction. This can mean that production may become **MORE EFFICIENT**.*

The main **DISADVANTAGES** of Job Production include the following.

- *Job production can be **EXPENSIVE** to run because skilled staff will often expect **HIGH WAGES**.*
- *Job production can be **EXPENSIVE** to run because as each product is unique there will be **FEW ECONOMIES OF SCALE**. An **ECONOMY OF SCALE** a **DECREASE** in the cost of **EACH UNIT** made due the large number (or **SCALE**) of products made by a business.*
- *Job production can take a long time to complete (especially on big jobs) which can cause **CASHFLOW PROBLEMS** while waiting for payment.*
- *Job production usually results in **LOW LEVELS OF OUTPUT** – this limits the amount of sales a business can make.*

Examples of products made using job production would include custom jewellery, roads, and buildings.



b BATCH PRODUCTION

The main **FEATURES** of Batch production are as follows.

- *A group of products (known as **BATCH**) is made **TOGETHER** at the same time.*
- *Each product **WITHIN** a batch is **IDENTICAL**.*
- *Separate batches can be **SLIGHTLY DIFFERENT** from each other.*
- *Although there can be some variation between batches, all products made will be **BROADLY SIMILAR**.*
- *Often uses lots of capital equipment - this means it is known as a **CAPITAL INTENSIVE** method of production.*

The **ADVANTAGES** of Batch Production include the following.

- *The slight variations that can be made between batches provides a business with **SOME FLEXIBILITY** and the ability to make a **RANGE OF PRODUCTS**. This means a business can **INCREASE SALES** by satisfying the needs and wants of a variety of consumers.*
- *The use of **CAPITAL EQUIPMENT** can allow a relatively **LARGE NUMBER OF PRODUCTS** to be made **QUICKLY**. This can allow a business to easily make **HIGH SALES**.*
- *The use of **CAPITAL EQUIPMENT** can allow a relatively **LARGE NUMBER OF PRODUCTS** to be made without paying for lots of workers. This can **LOWER PRODUCTION COSTS**.*
- *The use of **CAPITAL EQUIPMENT** often means that many staff used do not carry out complex work as machines do it for them. This can mean staff will be fairly **CHEAP** to employ as they will need few skills. This can **LOWER PRODUCTION COSTS**.*
- *The use of **CAPITAL EQUIPMENT** can mean **QUALITY** could **IMPROVE**. This is because machines are often more accurate than humans as they do not get tired or distracted.*

The **DISADVANTAGES** of Batch Production include the following.

- *The simple similar processes batch production often needs staff to do can be **BORING** and so **DECREASE** their **MOTIVATION, SKILLS** and **PRODUCT QUALITY**.*
- *Any mistakes can be very **COSTLY** as a whole batch of products could be damaged or wasted at once.*
- *Any changes in batch types will result in **DELAYS** (to reset machines, etc) which can **DECREASE PRODUCTION**.*

Examples of products made using batch production would include different types of pizza, soup, etc.



c **FLOW PRODUCTION**

The main **FEATURES** of Flow production are as follows.

- A constant **FLOW** of **IDENTICAL** products is made through a series of step-by-step linked activities.
- Uses lots of capital equipment - this means it is known as a **CAPITAL INTENSIVE** method of production.
- There will be **HIGH LEVELS OF OUTPUT**.
- There is **NO FLEXIBILITY** in the products made – they are all the same from this process.

The **ADVANTAGES** of Flow Production are as follows.

- The use of **CAPITAL EQUIPMENT** allows a **LARGE NUMBER OF PRODUCTS** to be made **QUICKLY**. This can allow a business to make **HIGH SALES**.
- The use of **CAPITAL EQUIPMENT** can mean **QUALITY** could **IMPROVE**. This is because machines are often more accurate than humans as they do not get tired or distracted.
- The use of **CAPITAL EQUIPMENT** allows a **LARGE NUMBER OF PRODUCTS** to be made without paying for many of workers. This can **LOWER PRODUCTION COSTS**.
- The use of **CAPITAL EQUIPMENT** means that any staff used may do not need to carry out complex work as the machines do it for them. This can mean staff will be fairly **CHEAP** to employ as they will need few skills. This can **LOWER PRODUCTION COSTS**.
- High levels of production can mean use of **ECONOMIES OF SCALE** which can **LOWER COSTS**.
- Lowered costs can mean **LOWERED PRICES** for the **CONSUMER**. This can mean **INCREASED SALES** and profits of the business as more people can now afford to buy from them.


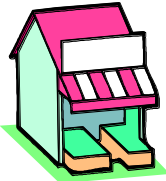
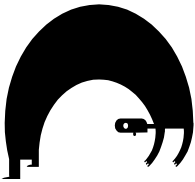



The **DISADVANTAGES** of Flow Production include the following.

- *Flow production may result in a **LOW LEVEL** of **CUSTOMER SATISFACTION** because it does not have any flexibility to provide unique products that meet specific customer needs.*
- *The simple similar processes flow production needs staff to do can be **BORING** and so **DECREASE** their **MOTIVATION, SKILLS** and **PRODUCT QUALITY**.*
- *Any problem in one part of the system can cause **DELAYS** later on in the flow that **DECREASE PRODUCTION**.*
- *Any drops in demand can mean that a business ends up **WASTING MONEY** as a number of the products they have quickly made are no longer wanted and so go unsold.*
- *The capital equipment needed can be very expensive to buy and set up. This means that businesses will have to use lots of finance which could mean that they end up with **HIGH DEBTS** and a **LACK OF CASH**.*

Examples of products made using flow production would include a newspaper, computer game, etc.







The factors that are likely to influence the method of production which is used can be seen below.

Factor	Description
<p>PRODUCT TYPE</p> 	<p>If a product is to be a “one off” (eg custom jewellery) then this suits job production due to the high skill levels and flexibility of staff. On the other hand, “standardised” products (eg bar of soap) can be made using flow production as variety and flexibility are not needed.</p>
<p>MARKET SIZE</p> 	<p>If the market for a product is large then this suits batch and flow production due to their high production levels. On the other hand, products with a small market can be made using job production as very high levels of output are not required.</p>
<p>FLEXIBILITY</p> 	<p>If production requires flexibility in the products it produces then a business is likely to use job production as it is skilled and trained staff can alter what they can do more easily than machines.</p>
<p>AVAILABILITY</p> 	<p>If a resource is not available, then it simply cannot be used. For example in the third world, there is little capital equipment and so most production is labour intensive job production.</p>
<p>FINANCE</p> 	<p>Businesses will require large amounts of finance to install the equipment often used for batch and flow production – if this is not available these systems could not be used.</p>
<p>QUALITY</p> 	<p>If a business requires high quality production then it may choose to use job production to maximise the accuracy of the work done.</p>





PROCESS ISSUE – PRODUCT QUALITY



*The process issue of **PRODUCT QUALITY** deals with making sure that the products produced **DO WHAT CONSUMERS EXPECT** and are **RELIABLE** (relative to the **PRICE** they are sold for).*




Quality is an important issue for businesses because if finished products do not meet the expectations of consumers then they will stop using a business and so sales and profits will fall. The business could also face legal action and fines if they have broken any of the following laws.

Law	Description
<p style="text-align: center;">SALE OF GOODS ACT (1979)</p> 	<p>This law states that products which are sold must be of MERCHANTABLE QUALITY (ie they are not defective or damaged).</p>
<p style="text-align: center;">TRADE DESCRIPTIONS ACT (1968)</p> 	<p>This law prevents businesses advertising or describing their products FALSELY (ie in a way that is not true).</p>
<p style="text-align: center;">WEIGHTS AND MEASURES ACT (1951)</p> 	<p>This law prevents businesses from selling products that are UNDERWEIGHT or SHORT MEASURED (ie weigh less than there should be).</p>
<p style="text-align: center;">FOOD AND DRUGS ACT (1955)</p> 	<p>This law sets minimum standard for what must be contained in foods and makes it illegal to sell food that is “unfit for human consumption”.</p>

Therefore, to prevent lost sales or legal problems from poor quality, businesses can use the following activities to ensure or improve quality.

Activities	Description
<p>HIGH QUALITY STOCK</p> 	<p>Businesses will want to use suitably high quality STOCKS for production because if they are not then finished goods will not be of a high enough standard. This is because “rubbish in will equal rubbish out”.</p>
<p>HIGH QUALITY RESOURCES</p> 	<p>Businesses must make sure that the FACTORS OF PRODUCTION that they use will be of a high enough standard to produce the finished product to a suitable standard. This can be achieved through providing TRAINING for staff and repairing and MAINTAINING capital equipment.</p>
<p>QUALITY CONTROL</p> 	<p>Quality control is about checking at the END OF PRODUCTION that products are of a high enough quality. Any poor quality products that are found are scrapped or sent back to be fixed.</p> <p>Quality control helps improve quality for the following reasons.</p> <ul style="list-style-type: none"> • <i>POOR QUALITY PRODUCTS CAN BE FOUND AND SO ARE PREVENTED FROM LEAVING THE BUSINESS AND CAUSING PROBLEMS</i> <p>However, quality control does have the following drawbacks.</p> <ul style="list-style-type: none"> • <i>STAFF ARE ONLY TRYING TO FIND PROBLEMS AND NOT PREVENT THEM, SO MISTAKES CAN STILL HAPPEN AND BE MISSED WHICH CREATES PROBLEMS</i> • <i>THE SYSTEM IS EXPENSIVE BECAUSE IT DOES NOT PREVENT PROBLEMS AND COSTS A LOT TO FIX OR SCRAP ANY THAT ARE FOUND</i>
<p>QUALITY ASSURANCE</p> 	<p>Quality assurance is about setting expected quality standards, making them clear to staff before they start work and then checking that products meet these standards at SEVERAL STAGES OF PRODUCTION. Any mistakes found will be fixed before the product moves on.</p> <p>Quality assurance helps improve quality for the following reasons.</p> <ul style="list-style-type: none"> • <i>STAFF ARE TRYING TO ACTIVELY WORK TO HIGH QUALITY STANDARDS AND SO MISTAKES ARE LESS LIKELY TO HAPPEN</i> • <i>THE SYSTEM CAN CUT COSTS BECAUSE IT AIMS TO PREVENT PROBLEMS AND MINIMISE REPAIR COSTS AS ERRORS CAN BE FIXED CHEAPLY AS THEY ARE FOUND</i> • <i>POOR QUALITY PRODUCTS ARE HIGHLY UNLIKELY TO LEAVE THE BUSINESS AND CAUSE PROBLEMS BECAUSE OF THE STANDARDS SET AND MANY CHECKS DONE</i> <p>However, quality assurance does have the following drawback.</p> <ul style="list-style-type: none"> • <i>IT IS EXPENSIVE TO SET UP THE SYSTEM DUE TO TRAINING STAFF TO MEET STANDARDS AND THE MACHINERY NEEDED FOR ALL THE QUALITY CHECKS</i>

Activities	Description
<p>QUALITY MANAGEMENT</p> 	<p>Quality management (also sometimes known as TOTAL QUALITY MANAGEMENT [TQM]) is about aiming for zero errors in ALL aspects of the business (not just operations) so that it providing customers with a “perfect “ product every time.</p> <p>This is achieved by setting CUSTOMER FOCUSED standards and constantly checking that they are being met in ALL areas of the business (instead of only in operations). Eg operation will check a product is fine before it leaves the factory AND the delivery staff will also check that the product is still in good condition before giving it the customer.</p> <p>Quality management helps improve quality for the following reasons.</p> <ul style="list-style-type: none"> • <i>STAFF ARE TRYING TO ACTIVELY WORK TO AGREED STANDARDS AND SO MISTAKES ARE LESS LIKELY TO HAPPEN</i> • <i>THE SYSTEM IS CAN CUT COSTS BECAUSE IT AIMS TO PREVENT PROBLEMS AS ISSUES CAN BE FIXED CHEAPLY AS THEY ARE FOUND</i> • <i>CUSTOMERS SHOULD BE VERY HAPPY WITH THE OVERALL BUSINESS AS THEY ARE UNLIKELY TO RECEIVE POOR QUALITY PRODUCTS BECAUSE THE STANDARDS SET HAVE BEEN FOCUSED ON MEETING THEIR EXPECTATIONS – THIS CAN INCREASE LOYALTY AND SALES</i> <p>However, quality management does have the following drawbacks.</p> <ul style="list-style-type: none"> • <i>IT CAN BE VERY EXPENSIVE TO SET UP THE BUSINESS WIDE SYSTEM DUE TO THE NEED TO IDENTIFY AND SET STANDARDS AND TRAIN ALL STAFF TO MEET THEM</i> • <i>IT IS TIME CONSUMING AND COSTLY TO CARRY OUT AND MAINTAIN THE ONGOING QUALITY CHECKS NECESSARY IN ALL AREAS OF THE SYSTEM</i>
<p>EXTERNAL QUALITY STANDARDS</p> 	<p>Quality assurance and quality management systems require standards of about what is to be done to be set. Many businesses choose to set these standards by using external quality standard measures. This means that they use a standard that has been set by another organisation rather than the business itself. Examples of external quality standards that can be used include the following.</p> <ul style="list-style-type: none"> • <i>BRITISH STANDARDS INSTITUTION (eg Kitemark quality standard)</i> • <i>INTERNATIONAL ORGANISATION FOR STANDARDISATION (eg ISO9000 for TQM)</i> • <i>EUROPEAN FOUNDATION FOR QUALITY MANAGEMENT (TQM award)</i> • <i>INVESTORS IN PEOPLE AWARD (looks at quality of staff development in HRM)</i> • <i>PROFESSIONAL STANDARDS (eg ABTA offers standards to travel agents)</i> <p>Although the use of external quality standards can be expensive (due to initial compliance and ongoing maintenance costs) they can reassure consumers about the quality of a business by allowing them to more easily compare and understand the standards being used. This in turn may increase sales and loyalty.</p>



Activities	Description
<p>BENCHMARKING</p> 	<p>Quality assurance and quality management systems require standards of about what is to be done to be set. Benchmarking involves looking at the quality standards of the market leader and then setting the standards for your business at these levels. This should improve customer loyalty and increase sales because the quality that your business is providing is now as good as the best currently available in the market.</p>
<p>QUALITY CIRCLE</p> 	<p>A quality circle is a group of workers who are trained to work with a supervisor (or an elected team leader) to identify, analyse and solve work based problems and then present their solutions to management in order to improve the quality and performance of a business.</p> <p>Although the use of quality circles can be costly in terms of time and training they can bring the following benefits.</p> <ul style="list-style-type: none"> • <i>IMPROVEMENTS THAT MANAGERS WOULD NOT THINK OF (AS THEY DO NOT COMPLETE JOBS PERSONALLY) CAN BE HIGHLIGHTED BY WORKERS AND IMPLEMENTED TO RAISE QUALITY TO A HIGHER LEVEL THAN OTHERWISE POSSIBLE</i> • <i>STAFF CAN BECOME MORE MOTIVATED BY BEING CONSULTED AND ABLE TO AFFECT THEIR WORKING CONDITIONS WHICH CAN INCREASE THEIR COMMITMENT AND OUTPUT</i>
<p>MYSTERY SHOPPER</p> 	<p>Mystery shoppers are people who are employed to secretly use a business and give feedback on the quality of service from staff (eg compliance with regulations, knowledge of products and services, dealing with a complaint, etc). This feedback information is then used by managers to identify actions which can be taken to address any concerns highlighted in order to improve the quality of service provided. However, businesses should try to ensure that mystery shopper data is used for positive change rather than staff punishment and dismissal as this can create a lack of trust and staff demotivation which can negatively affect output.</p>



PROCESS ISSUE – ETHICAL AND ENVIRONMENTAL OPERATIONS

The process issue of **ETHICAL AND ENVIRONMENTAL OPERATIONS** deals with making sure that the production process is **FAIR** and **MINIMISES NEGATIVE IMPACTS**.

Many consumers nowadays will not buy products which have been made in a way that is unfair to staff or which misuses or damages the Earth's resources. This means that more and more businesses are trying to make sure that their production process is not wasteful by reducing, reusing and recycling. Businesses are likely to share this information about their ethical and environmental work in a written **POLICY** they can share with consumers (perhaps as part of their **MISSION STATEMENT**).

Common activities that businesses can undertake to try to be ethical and environmentally friendly in their production can be seen below.

Issue	Description
<p style="text-align: center;">STAFF TREATMENT</p> 	<p>Businesses will usually want to make sure that they treat their staff fairly in terms of:</p> <ul style="list-style-type: none"> • <i>WAGES</i> • <i>WORKING CONDITIONS (eg safety, holidays etc)</i> <p>This will be the case for the following reasons:</p> <ul style="list-style-type: none"> • <i>WELL TREATED STAFF ARE LIKELY TO BE MOTIVATED AND SO PRODUCE QUALITY ITEMS</i> • <i>WELL TREATED STAFF ARE LESS LIKELY TO TAKE INDUSTRIAL ACTION (eg strike)</i> • <i>POSITIVE STAFF TREATMENT AVOIDS CREATING DAMAGING BAD PUBLICITY</i> • <i>CORRECT TREATMENT OF STAFF AVOIDS LEGAL ACTION FOR BREAKING LAWS</i>
<p style="text-align: center;">RAW MATERIALS</p> 	<p>Businesses will usually want to consider the following issues when choosing raw materials.</p> <ul style="list-style-type: none"> • <i>MINIMISING ENVIRONMENTAL DAMAGE FROM MATERIAL DELIVERIES (eg using local suppliers to cut down on pollution from delivery vans)</i> • <i>USING RAW MATERIALS THAT DON'T DAMAGE THE ENVIRONMENT (eg using suppliers who plant new trees to replace the ones that they use)</i> • <i>CHOOSING RECYCLED RAW MATERIALS (eg choosing to use recycled plastics, paper or cardboard for packaging materials)</i> • <i>MINIMISING WASTAGE IN RAW MATERIALS (eg only ordering what is need for current demand to prevent wasted stocks)</i> • <i>MINIMISING THE PACKAGING USED ON RAW MATERIALS (eg choosing suppliers who minimise packaging used by offering bulk packaging)</i> • <i>RECYCLING PACKAGING OR UNUSED MATERIALS</i> <p>This will be the case for the following reasons:</p> <ul style="list-style-type: none"> • <i>CREATE A POSITIVE IMPRESSION FOR CONSUMERS</i> • <i>MINIMISE COSTS OF BUYING RAW MATERIALS</i>

Issue	Description
<p>FAIR TRADE</p> 	<p>The key idea of Fair Trade is to ensure that workers in “poorer” parts of the world receive a fair (rather than minimal) payment for the goods that they produce so that they can maintain a decent and dignified livelihood and develop their full potential.</p> <p>Therefore, a business may wish to use fair trade when producing their goods in order to receive a FAIRTRADE MARK for their products. This is an external quality standard from the FAIRTRADE FOUNDATION (an independent non-profit organisation) that promotes fair trade and checks to see if a business is meeting the internationally agreed Fairtrade standards.</p> <p>Businesses may want to do this for the following reasons:</p> <ul style="list-style-type: none"> • <i>IMPROVED PUBLIC IMAGE (can increase long term sales and profits)</i> • <i>PREVENTS LOST SALES FROM NEGATIVE PUBLIC IMAGE</i> • <i>HELPS REALISE CORPORATE SOCIAL RESPONSIBILITY OBJECTIVE</i>
<p>PRODUCTION PROCESSES</p> 	<p>Businesses will usually want to consider the following issues when carrying out the process stage of production.</p> <ul style="list-style-type: none"> • <i>TRAINING STAFF TO MINIMISE MISTAKES AND WASTAGE (this will cut down on wasted raw materials and environmental damage)</i> • <i>MAINTAINING MACHINES TO MINIMISE MISTAKES AND WASTAGE (this will cut down on wasted raw materials and environmental damage)</i> • <i>CUTTING DOWN ON THE AMOUNT OF PRODUCT PACKAGING (eg some coffee makers now sell bagged refills for glass jars)</i> • <i>GIVING CONSUMERS ADVICE ABOUT HOW TO RECYCLE (eg most instruction manuals give advice about how to recycle the product)</i> • <i>CREATING RECYCLING SCHEMES FOR CONSUMERS TO USE (eg printer companies offering to recycle cartridges for consumers)</i> • <i>MINIMISING POLLUTION FROM PRODUCTION PROCESSES (eg using solar power to operate machinery)</i> • <i>DEALING PROPERLY WITH ANY POLLUTION FROM PRODUCTION PROCESSES (eg cleaning water used in production to prevent chemicals entering rivers)</i> • <i>OFFERING SUPPORT TO STAFF WHO ARE REPLACED BY MACHINES (eg offering retraining courses and redundancy to staff who are replaced by capital)</i> <p>This will be the case for the following reasons:</p> <ul style="list-style-type: none"> • <i>CREATES A POSITIVE IMPRESSION FOR CONSUMERS</i> • <i>MINIMISE COSTS OF PRODUCING PRODUCTS</i>

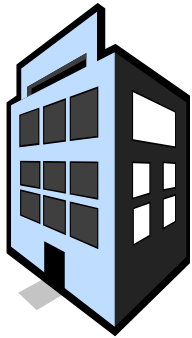

OUTPUT ISSUE – WAREHOUSING

WAREHOUSING deals with trying to make sure that the stocks of the business are stored suitably and securely.

When setting up a warehousing and storage area for their stocks a business will have to address the following issues.

1 WAREHOUSE ORGANISATION

Operations will have to decide on the best way to organise and position their warehouse storage. The main options for this decision are as follows.

Storage	Description
<p>CENTRALISED</p> 	<p>Here ALL stocks are kept together in ONE place, with the following BENEFITS.</p> <ul style="list-style-type: none"> • <i>IMPROVED SECURITY (from specialised procedures, facilities, staff)</i> • <i>IMPROVED EFFICIENCY (from specialised procedures, facilities, staff)</i> • <i>LOW COST OF ONLY ONE EFFICIENT STORAGE AREA</i> • <i>LARGE ORDERS CAN BE MADE FOR DISCOUNTS</i> <p>DRAWBACKS of centralised storage include the following.</p> <ul style="list-style-type: none"> • <i>TIME CAN BE WASTED TRAVELLING TO CENTRALISED STORAGE AREAS</i> • <i>COSTS OF SPECIALIST STAFF AND EQUIPMENT CAN BE HIGH</i>
<p>DECENTRALISED</p> 	<p>Here stocks are kept in SEPARATE places with the following BENEFITS.</p> <ul style="list-style-type: none"> • <i>STOCK IS ALWAYS “AT HAND” IN THE AREAS IT IS NEEDED WHICH SAVES TIME</i> • <i>SMALL STOCKS MEAN QUICK TURNOVER AND LESS OBSOLESCE/SPOILAGE</i> <p>DRAWBACKS of decentralised storage include the following.</p> <ul style="list-style-type: none"> • <i>LESS SPECIALISED SUPPORT MAY MEAN MORE WASTAGE AND THEFT</i> • <i>COSTS OF MAINTAINING MULTIPLE STORAGE SITES CAN BE HIGH</i> • <i>COSTS OF EQUIPMENT FOR MULTIPLE STORAGE SITES CAN BE HIGH</i> • <i>FEW OPPORTUNITIES FOR DISCOUNTS (due to small separate orders)</i>

2 WAREHOUSE DESIGN

The physical layout of the centralised or decentralised warehouse storage area should have the following features in order to help keep the stock secure and easy to access.

- *SUITABLE ACCESS POINTS FOR DELIVERY VEHICLES USED*
- *APPROPRIATE EQUIPMENT (eg forklifts, etc) FOR EFFICIENT STOCK MOVEMENT*
- *ADEQUATE SPACE TO MOVE STOCK AROUND THE WAREHOUSE*
- *DESIGNATED AREAS FOR DIFFERENT PRODUCTS TO MAKE THEM EASY TO FIND*
- *LABELLED SHELVING TO MAKE STOCK EASY TO FIND*
- *SPECIALISED STORAGE AREAS AS REQUIRED (eg refrigerated areas)*
- *SECURITY SYSTEM (eg alarm) TO PREVENT THEFT OF STOCK*



3 WAREHOUSE SAFETY

The operation of the centralised or decentralised warehouse storage area should ensure the following in order to keep staff safe.

- *PROVISION OF SUITABLE SAFETY EQUIPMENT/MACHINERY*
- *REGULAR MAINTENANCE OF EQUIPMENT/MACHINERY*
- *MONITORING OF STAFF CLOSELY*
- *PROVISION OF SAFETY CLOTHING FOR STAFF*
- *FOLLOW SAFETY LEGISLATION*



4 STOCK CONTROL SYSTEM

All stock stored in the centralised or decentralised warehouse area will have to be reordered when necessary and looked after to prevent wastage or theft. Businesses will do this through a process known as **STOCK CONTROL**. The main steps in a stock control system are as follows.

- a *RECORD ALL OF THE STOCK THAT HAS BEEN RECEIVED AND IS AVAILABLE
(This provides a business with information about the total amount of stock that they have available and confirms that stock they have paid for has actually been received)*
- b *UPDATE THE AMOUNT OF STOCK AVAILABLE BY SUBTRACTING ANY STOCK THAT IS ISSUED
(This allows a business to keep an up to date record of how much stock they have by subtracting any issued or sold stock. To prevent theft of stock any staff wishing to get stock will have to have a REQUISITION FORM. This is a form signed by their manager to prove that they need the stock.)*
- c *DOUBLE CHECK THAT STOCK LEVELS ARE CORRECT
(Businesses should do STOCK TAKES - this a physical count and check on stock. This will make sure that no items of recorded stock have become wasted, lost or stolen)*
- d *REORDER STOCKS AS REQUIRED AND ADDING THEM TO THE AMOUNT OF STOCK AVAILABLE
(Businesses will have to reorder stock of items they still want to use. This will be done when the ongoing stock records reach the REORDER POINT. This is a level of stock where more will have to be ordered or stocks will run out before new deliveries arrive.)*

This work to keep track of what is happening to stocks can be done either **MANUALLY** (by hand using a record known as a **STOCK CARD**) or by **COMPUTERS** linked to **BAR CODE** reading **SCANNERS**. Nowadays, many businesses are switching to the use of computerised systems for stock control due to the following **ADVANTAGES** that they provide.

- *COMPUTERS CAN ACCURATELY CALCULATE STOCK FIGURES QUICKLY*
- *COMPUTERS MAY BE ABLE TO REPLACE STAFF IN STOCK CONTROL WHICH SAVES ON WAGES*
- *COMPUTERS CAN AUTOMATICALLY REMIND STAFF WHEN THE REORDER LEVEL HAS BEEN REACHED*
- *REMINDING STAFF OF WHEN TO REORDER SHOULD LOWER THE CHANCE OF RUNNING OUT OF STOCK*
- *COMPUTERS CAN AUTOMATICALLY REORDER STOCK TO PREVENT ANY CHANCE OF STAFF FORGETTING*






However, computerised stock control does have to be protected from the potential **PROBLEM** of computers being hacked or overridden to hide theft or wastage.



OUTPUT ISSUE – LOGISTICS

LOGISTICS is about the management of the flow of stock to ensure that the right number of products are in the right place at the right time for sales to be made.

Logistics can be broken down into different areas (eg procurement logistics deals with ordering stocks) but the main output logistical issue is to do with distribution logistics (aka **DISTRIBUTION**). This element of logistics is mainly concerned with the delivery of the finished products to the customer and involves order processing, warehousing, and transportation. When trying to decide on the transportation aspect of this work, Operations staff will usually work alongside the Marketing staff to make sure the decisions made suit the product and marketing mix. The main methods of transport available are as follows.

Method	Description
ROAD 	Road based methods of distribution use the road network to deliver goods and services. Examples of road based methods of distribution include tankers, transporters, refrigerated vehicles, trucks, and vans.
RAIL 	Rail based methods of distribution use the railway network to deliver goods and services. Examples of rail based methods of distribution involve trains using flatbed, storage, refrigerated and tanker carriages.
AIR 	Air based methods of distribution use aircraft and helicopters to deliver goods and services. Examples of air based methods of distribution include freight and refrigerated aircraft.
WATER 	Water based methods of distribution use the sea and canals to deliver goods and services. Examples of water based methods of distribution involve supertankers, refrigerated ships, cargo container ships and barges.
PIPELINE 	Pipeline based methods of distribution use the pipes and cables to deliver services. Examples of pipeline based methods of distribution involve phonelines, internet connections, gas, water and electricity.

The choice of transport method chosen will depend on the following factors.





- *COST OF METHOD AND FINANCE AVAILABLE*
- *PRODUCT TYPE*
- *DELIVERY SPEED REQUIRED*
- *NUMBER OF DELIVERIES REQUIRED*

OUTPUT ISSUE – CUSTOMER SERVICE

The output issue of **CUSTOMER SERVICE** deals with making sure that consumers are happy with the way they are treated by the business.

As well as **PRODUCT QUALITY** and **ENVIRONMENTAL IMPACT**, consumers will base their decision to use the products of a business on the level of **CUSTOMER SERVICE** that they receive. This is because even if consumers are happy with the products of a business, they may decide to stop using the business if they feel badly treated or unimportant.





Therefore, businesses will try to prevent this problem by maximising the level of customer service that they provide through the following activities.

Activities	Description
<p>SERVICE STANDARDS</p> 	<p>Businesses will want to provide their staff with training in the following areas to ensure that they provide high standards of customer service.</p> <ul style="list-style-type: none"> • <i>EXPECTED STANDARDS OF POLITENESS WHEN DEALING WITH CUSTOMERS</i> • <i>MINIMISING THE TIME TAKEN TO BE SERVED</i> • <i>PRODUCT KNOWLEDGE TO BE ABLE TO ADVISE CONSUMERS</i> <p>These standards of customer service may be shared with consumers to make them confident that the business will treat them properly.</p>
<p>LOYALTY SCHEMES</p> 	<p>Businesses may offer consumers rewards if they use the business regularly to show them that they value them. This should encourage consumers to be happy with the business and continue to use it. An example of a loyalty scheme would be Tesco Clubcard.</p>
<p>COMPLAINTS PROCESS</p> 	<p>Businesses may have a publicised procedure or staff for trying to deal with complaints so any that any dissatisfied consumers can be helped and encouraged to use the business again despite their disappointment with something in the past.</p>
<p>PRODUCT SUPPORT</p> 	<p>Businesses will may provide assistance to customers to help them understand how to use and get the most use out of their products after they have bought them. Examples of this product support will include the following.</p> <ul style="list-style-type: none"> • <i>CUSTOMER SUPPORT HELPLINES</i> • <i>WARRANTIES AND GUARANTEES</i>







WHICH FACTORS CAN AFFECT THE SUCCESS OF OPERATIONS ACTIVITIES?

The success of any operations activities undertaken by a business will be affected by the following factors. Therefore, a business should monitor each of these factors carefully and adjust their operations activities to deal with them in order to make sure that its' operations are as successful as possible.

1 INTERNAL FACTORS

Issue	Activity
<p>FINANCE</p> 	<p>When a business has LOTS of finance (money) then it can make afford to carry out lots of helpful operational activities – eg setting high quality standards, developing good customer services, use of best resources and materials. When a business does not have lots of money then the efficiency and quality of its operations is likely to be limited.</p>
<p>EQUIPMENT</p> 	<p>When a business has LOTS of modern and efficient equipment then it can make undertake efficient capital intensive production. When a business has out of date or poorly maintained equipment then production quality and output will decrease.</p>
<p>HUMAN RESOURCES</p> 	<p>When a business has LOTS of well trained staff then it can undertake effective operations by carrying out high quality work in production. When a business has ineffective staff then mistakes will be made and poor quality, output and customer service can occur.</p>
<p>MANAGEMENT</p> 	<p>When a business has a SKILLED and COMMITTED operations management team then beneficial decisions about resources, stocks, production processes, quality, distribution logistics and customer service will be made. If the operations management team is not effective then the efficiency and quality of output will decline and create problems with customers.</p>

2 EXTERNAL FACTORS

Issue	Activity
<p>POLITICAL ISSUES</p> 	<p>The Government may affect an organisation's operations through legislation and policies that affect quality standards to be met or ways that resources are used. For example, the increase in the legal minimum wage may encourage businesses to become capital intensive in order to avoid expensive staff costs.</p>
<p>ECONOMIC ISSUES</p> 	<p>Economic forces such as INTEREST, UNEMPLOYMENT and INFLATION RATES may affect an organisation's operations by increasing or decreasing the costs and availability of materials and resources, etc. For example, inflation will make the cost of raw materials increase which may cause production to start using cheaper poorer quality supplies.</p>
<p>SOCIAL ISSUES</p> 	<p>The expectations and demands of the consumers in the market regularly vary and change. These factors must be constantly accounted for in the production process in order to make sure that it continues to produce products that consumers actually want in an ethical and acceptable manner.</p>
<p>TECHNOLOGY ISSUES</p> 	<p>Technology has drastically affected operations in the following ways.</p> <ul style="list-style-type: none"> • CAPITAL BASED PRODUCTION HAS INCREASED QUALITY AND OUTPUT • BAR CODING AND COMPUTERISED STOCK CHECKING AND ORDERING • ONLINE DISTRIBUTION METHODS • ONLINE AND PHONE BASED CUSTOMER SERVICE SYSTEMS
<p>ENVIRONMENT ISSUES</p> 	<p>Production processes which are environmentally friendly have become more necessary in recent years due to increasing public support for these ethical practices and political changes which have increase environmental compliance in terms of recycling, etc.</p>
<p>COMPETITIVE ISSUES</p> 	<p>High levels of competition (ie other businesses doing the same type of work) can affect operations. This is because businesses will have to make sure that their production processes make high quality products to ensure that consumers are happy and do not start to use competitor businesses.</p>