

A business system for
technicians
commerce essay



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Business, now-a-days is vitally affected by the economic, social, legal, technological and political factors. These factors collectively form business environment. Business environment, as such, is the total of all external forces, which affect the organisation and operations of business. The environment of an organisation has got internal, operational and general factory managers must be aware of these three environmental levels and their relationship and importance.

Economic dimensions of environment

Economic environment refers to the aggregate of the nature of economic system of the country, the structural anatomy of the economy to economic policies of the government the organisation of the capital market, the nature of factor endowment, business cycles, the socio-economic infrastructure etc. The successful businessman visualizes the external factors affecting the business, anticipating the prospective market situations and makes suitable changes to get the maximum with minimize cost.

Social dimensions or environment

The social dimension or environment of a nation determines the value system of the society which, in turn affects the functioning of the business. Sociological factors such as costs structure, customs and conventions, cultural heritage, view toward wealth and income and scientific methods, respect for seniority, mobility of labour etc. have far-reaching impact on the business. These factors determine the work culture and mobility of labour, work groups etc. For instance, the nature of goods and services to be

produced depends upon the demand of the people which in turn is affected by their attitudes, customs, so as cultural values fashion etc.

Political environment

The political environment of a country is influenced by the political organisations such as philosophy of political parties, ideology of government or party in power, nature and extent of bureaucracy influence of primary groups etc. political stability in the country, foreign policy, Defence and military policy, image of the country and its leaders in and outside the country.

Legal regulatory environment

Legal environment includes flexibility and adaptability of law and other legal rules governing the business. It may include the exact rulings and decision of the courts. These affect the business and its managers to a great extent.

Technical environment

Business in a country is greatly influenced by the technological development. The technology adopted by the industries determines the type and quality of goods and services to be produced and the type and quality of plant and equipment to be used. Technological environment influences the business in terms of investment in technology, consistent application of technology and the effects of technology on markets.

(P5) Part A

The following is an example of the basic health and safety which needs to be addressed within an engineering company:-

GENERAL REQUIREMENT

FIRE/EMERGENCY PROCEDURES

GENERAL SAFETY CODE

OFFICE SAFETY

WORKING WITH DISPLAY SCREEN EQUIPMENT

SAFE USE OF ELECTRICAL EQUIPMENT

SAFETY PROCEDURES IN HARDWARE

PRACTICAL CLASSES IN ROOM 16G27

SAFETY PROCEDURES IN ELECTRONICS

LABORATORY AND WORKSHOP SAFETY

CONTROL OF SUBSTANCES HAZARDOUS

SAFETY FOR TECHNICAL SUPPORT STAFF

FIRST AID AND EMERGENCY FACILITIES

REPORTING HAZARDS

The Health & Safety at work Act 1974

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The Health and Safety at Work etc Act 1974 , also referred to as HASAW or HSW, is the primary piece of legislation covering occupational health and safety in the United Kingdom. The Health and Safety Executive is responsible for enforcing the Act and a number of other Acts and Statutory Instruments relevant to the working environment.

Fire precautions Act 1971

The Act furthers the provisions for the protection of persons from fire risks. If any premises are put to use and are designated a certificate is required from the fire authority. Although classes of use cover the provisions of sleeping accommodation; use as an institution; use for the purposes of entertainment, recreation, instruction, teaching, training or research; use involving access to the premises by members of the public and use as a place of work have been designated

Management of Health and Safety at Work Regulation at Work regulations 1999

The Management of Health and Safety at Work Regulations 1999 places a duty on employers to assess and manage risks to their employees and others arising from work activities.

Employers must also make arrangements to ensure the health and safety of the workplace, including making arrangements for emergencies, adequate information and training for employees, and for health surveillance where appropriate.

Employees must work safely in accordance with their training and instructions given to them. Employees must also notify the employer or the person responsible for health and safety of any serious or immediate danger to health and safety or any shortcoming in health and safety arrangements.

Working Time Regulations 1998

The Regulations came into effect on 1 October 1998 to implement a 1993 EC Directive (the Working Time Directive 93/104EC) which was introduced as a Health and Safety measure to protect workers across Europe. Since their introduction, the Regulations have been updated and amended through additional legislation to cover an even wider range of workers, and granted additional rights to young workers. While special rules apply in respect of young workers and junior doctors, the core rights at the heart of the Regulations remain the same.

Describe the environmental constraints that are to be considered for sustainability and the use of renewable resources.

Renewable energy is energy generated from natural resources such as sunlight, wind, rain, tides, and geothermal heat, which are renewable (naturally replenished). Natural resources can be easily sustained as their supply is through natural means via nature and planet earth. Business are trying to work more with renewable resources as that will allow them to carry on with their business and non-renewable resources such as oil and coal will eventually decrease. However due to the increase in global warming the earth is suffering from impacts on the environment. The constant decline in

the way the earth is changing could risk the use of renewable resources as they will have a direct impact due to the changes.

Using natural resources i. e. renewable resources such as solar radiation, tides, winds and hydroelectricity, these resources are not under threat of being finished as the world will not be lacking in them as they are available through the means of nature.

Renewable resources may also mean commodities such as wood, paper, and leather, if harvesting is performed in a sustainable manner. This is key, for example if the world wishes to have a regularly supply of paper in offices, schools etc it is vital that they sustain the trees and make sure they are re-planting the same or even more trees in replacement to the ones that they have cut and used for making paper. This has an overall impact on the green house effect. The less the trees there are on the planet it will have a negative impact on how the earth works. Green house gases can cause extreme damage to the earth which leads to bad weather conditions. Pollution is also an issue which has been raised for the constant threat it causes to the environment and how the natural habitats of animals and forest are being destroyed due to pollution and tree harvesting.

What impact do the following social constraints have upon the operation of an engineering company: workforce skill levels and training requirement, and the impact of outsourcing?

Workforce skill levels and training requirement:-

If the staff which is hired in the engineering company is not well trained and do not hold the required knowledge to work in the company, it will become increasingly difficult for the company to move ahead in their business as their time and energy will be spend in teaching employees information which is needed to work in an engineering company.

Impact of outsourcing:-

Outsourcing only becomes an issue when companies take their production and plants over to less economically developed countries where they are able to get workers who will not charge a large amount. This however can cause problems because it ethically raises concerns for the amount of work these people do for a very less amount of pay. The advantage to the companies is that they save large amounts of money because they have to pay less for more work. This would be a different scenario of the engineering plant was based in an eastern country where the workers have a right to get a minimum wage.

Describe the appropriate legislation and standards, which apply to the design of fridges.

The Refrigerator Safety Act was enacted in 1956. The Act's regulations which became effective October 30, 1958 require a mechanism (usually a magnetic latch) which enables the door to be opened from the inside in the event of accidental entrapment. This type of latch, therefore, makes the hazardous refrigerators manufactured before that date easy to identify. The serious entrapment hazard occurs when children, during play, climb inside the old abandoned or carelessly stored refrigerators to hide. Many of these

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refrigerators are still in use, and when they are carelessly discarded or stored where they are accessible to children, they become a danger.

Fridges and Freezers contain dangerous CFC gases that damage the ozone layer. In most areas, old fridges/freezers can be taken to Household Waste and Recycling Centers. From here they should be away for degassing, where the coolant gases (CFCs) are removed and stored by a specialist for recycling. Some fridges/freezers can be re-used or some materials recycled.

There are two things that need to be known for refrigeration.

A gas cools on expansion.

When you have two things that are different temperatures that touch or are near each other, the hotter surface cools and the colder surface warms up. This is a law of physics called the Second Law of Thermodynamics.

graphic of refrigerator system

Old Refrigerators

If you look at the back or bottom of an older refrigerator, you'll see a long thin tube that loops back and forth. This tube is connected to a pump, which is powered by an electric motor.

Inside the tube is Freon, a type of gas. Freon is the brand name of the gas. This gas chemically is called Chloro-Flouro-Carbon or CFC. This gas was found to hurt the environment if it leaks from refrigerators. So now, other chemicals are used in a slightly different process (see next section below).

CFC starts out as a liquid. The pump pushes the CFC through a lot of coils in the freezer area. There the chemical turns to a vapor. When it does, it soaks up some of the heat that may be in the freezer compartment. As it does this, the coils get colder and the freezer begins to get colder.

In the regular part of your refrigerator, there are fewer coils and a larger space. So, less heat is soaked up by the coils and the CFC vapor.

The pump then sucks the CFC as a vapor and forces it through thinner pipes which are on the outside of the refrigerator. By compressing it, the CFC turns back into a liquid and heat is given off and is absorbed by the air around it. That's why it might be a little warmer behind or under your refrigerator.

Once the CFC passes through the outside coils, the liquid is ready to go back through the freezer and refrigerator over and over.

Today's Refrigerators

Modern refrigerators don't use CFC because CFCs are harmful to the atmosphere if released. Instead they use another type of gas called HFC-134a, also called tetrafluoroethane. HFC turns into a liquid when it is cooled to -15.9 degrees Fahrenheit (-26.6 degrees Celsius).

A motor and compressor squeezes the HFC. When it is compressed, a gas heats up as it is pressurized. When you pass the compressed gas through the coils on the back or bottom of a modern refrigerator, the warmer gas can lose its heat to the air in the room.

Remember the law of thermodynamics.

As it cools, the HFC can change into a liquid because it is under a high pressure.

The liquid flows through what's called an expansion valve, a tiny small hole that the liquid has to squeeze through. Between the valve and the compressor, there is a low-pressure area because the compressor is pulling the ammonia gas out of that side.

When the liquid HFC hits a low pressure area it boils and changes into a gas. This is called vaporizing.

The coils then go through the freezer and regular part of the refrigerator where the colder liquid in the coil pulls the heat out of the compartments. This makes the inside of the freezer and entire refrigerator cold.

The compressor sucks up the cold gas, and the gas goes back through the same process over and over.

Task 9 (P7)

(A) Define the following terms:-

(a) Fixed cost: - cost that remains constant regardless of sales volume. Fixed costs include salaries of executives, interest expense, rent, depreciation, and insurance expenses.

(b) Overhead cost:- total of all costs of manufacturing except direct materials and direct labour, also called manufacturing overhead, indirect manufacturing expenses, factory expenses, and factory burden. In addition to indirect material and indirect labour, it includes such items as

depreciation, setup costs, quality costs, cleanup costs, fringe benefits, payroll taxes, and insurance.

(c) Variable cost: - Variable costs are expenses that change in proportion to the activity of a business. In other words, variable cost is the sum of marginal costs. It can also be considered normal costs. Along with fixed costs, variable costs make up the two components of total cost.

Task 10 (M2)

Explain the impact of legislation on a specific operation within a typical engineering company in terms of benefits and limitations.

Health and safety can be applied to this question as the engineering company must apply to this legislation as it is the law to ensure the health and safety of the workers within an engineering company. The benefits are that the workers are all looked after under the correct health and safety rules. The limitations may occur in terms of costs, the amount of money a company has to spend on ensuring the health and safety is precise. An engineering company would require more health and safety rules as it involves machinery which usually is operated by workers.

The long term growth of the company is vital and health and safety will always play an important part in making sure the company always does well in the business environment. Health and safety not only protects the workers of the companies and factories but will have an overall positive impact on the organisation if it is used well and sustained all the time as well as updated in order to stay ahead of any new health and safety acts which the government may introduce.

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Health and safety can positively influence a business with the following:-

Improved health and safety performance by your business will reduce the costs associated with accidents and incidents.

Improved awareness of regulatory requirements reduces the chance that you will commit any offences. The Health & Safety Executive will generally regulate your business with a lighter touch if it is well managed.

If employees see that you are actively looking after their health and safety, relations and morale will improve.

The public see that you are taking a responsible attitude towards your employees. This improves your image and helps generate positive PR for your business.

Improving the efficiency of your business reduces your costs.

You can demonstrate to your insurers that you are controlling risk effectively. This may help lower your insurance premiums.

Banks and investors will be more willing to finance your business if you can show that it is well managed.

Business partners have more confidence in your business. Larger companies and government agencies may only buy from businesses that can show effective management systems.

When exporting into different countries, companies under heavy scrutiny in the form of trade limitations which have an effect on these firms, in many

cases companies have to pay in order to export which has an overall impact on costs.

Trade barriers are generally defined as government laws, regulations, policy, or practices that either protect domestic products from foreign competition or artificially stimulate exports of particular domestic products.

While restrictive business practices sometimes have a similar effect, they are not usually regarded as trade barriers. The most common foreign trade barriers are government-imposed measures and policies that restrict, prevent, or impede the international exchange of goods and services.

Other forms of trade barriers are also put up such as tariffs and subsidies which are areas which need to be dealt with when exporting.

Task 11 (M3)

(A) Explain the concept of 'marginal cost'.

The marginal cost of an additional unit of output is the cost of the additional inputs needed to produce that output. More formally, the marginal cost is the derivative of total production costs with respect to the level of output.

For example:-

Marginal Costs are the additional costs imposed when one more unit is produced. If the cost of making 9 pieces of pizza is £90 and the cost of making 10 pieces is £110, the marginal cost of producing the tenth piece of pizza is £20.

(B) Explain how the cost effectiveness of an engineering activity could be improved:-

If an engineering company is facing the following concerns it maybe that they need to change their ways into something more cost effective and take advantage buy saving on unnecessary costs and a high profit in the end:-

Products delivered late? - The company will have to face huge issues if the products they are sending out to customers are not delivered on time. In many cases companies may need to credit full orders and compensate customers if they have lost money due to them. A high rate in late deliveries will have an influence on the overall productivity of the company; hence they will be potentially dealing with a scenario which results in a loss for the company.

Inadequate product quality? - Company will lose customers if the quality standards are not maintained. Customers will go and search for different suppliers who are willingly to supply better quality products at the right price rather than bad quality for the same price. They would also have to face the disadvantages of using a bad quality product which could potentially impact their business and increase costs in many areas of their business.

Development costs too high? - If development costs are too high, the company needs to be ensuring that what they are working one such as a new product is actually worth the extra costs, it is vital that the product innovative and can guarantee a sale in the future which successfully covers the costs that is being put on it during the design and development stage.

Getting less than you need from your engineering organization? - The engineering company must always ensure that each department has been given the right resources and workers who maintain a steady work ethic and are able to make their departments meet targets at the end of every month.

In order to make an engineering company work better, they could introduce a better system which can save costs within the production process. The following can also be considered when taking in cost effectiveness in engineering:-

Concept Design - Innovative concepts can lead to high expensive resources being used on it, therefore this areas needs to be monitored carefully and it must be ensured that the concept designs are worthy for the company and can turn into a profitability project.

Detailed Design - Engineering is a subject which requires detailed design and it is essential that throughout each stage of the designing, that it is important to make sure that everything has been completed in detail so when engineers need to go back and double check, they can solutions to problems more quickly rather than wasting precious time. This will help with the overall cost effectiveness of the company, good research and impressive engineering work.

Failure Analysis - Ensuring that failures are not repeated as that could potentially harm the business and will most likely have an impact on the cost effectiveness.

Product Pricing Design for Manufacture and Assembly - Important aspects as they are areas in which more funds will need to be pumped into the business hence accuracy in pricing is required by the sales department.

Packaging - Cost effective, cheap suppliers who sell good quality packaging for the products is what the company should be looking for in order to be cost effective.

Supporting new product builds on assembly line - Making new products on the assembly line along with normal products, must be a worthwhile product as it will be using up valuable time and will have an overall impact on the cost effectiveness if the product is worth it or not.

Managing Production Emergencies - The routine should be practiced and rehearsed when an emergency takes place on the factory floor, any mistakes could cost more lives and impact on machinery could lead to be very expensive. Health and safety routines and fire drills should be rehearsed precisely in order to prevent any serious costs.

MS Office (Word, Excel, Power Point) - All staff who uses Office documents should be well trained and should be able to know how to use it to its full potential as it will be cost waste if a product which has been brought is not being used properly due to staff not very trained and are not understanding the basic concepts of using the software package.

Task 12 (D2)

Evaluate the importance and possible effect of the external factors that directly impact on an engineering company.

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External factors which could have a possible impact on an engineering company; customers have affects on the company with volumes, complexity of the products, the quality requirements, and delivery timing requirements. Vendors have affects with a lot of the same issues, quality of supplies, delivery and reaction times, cost changes, and availability.

Internal factors - availability and quality of workforce, capacity of equipment, financial capacity, and engineering ability to develop products and standards, costs of production.

These factors are very important and need to be addressed by the engineering companies properly.

Customers: - And engineering company must ensure that they understand correctly what their customer is looking for in the products that they are making. It is no use if the products which are being delivered to them are not of the correct quality and do not meet the necessary rules and requirements the customer had set out when doing a contract with the engineering company. Customers will search for new producers of their products if their needs and wants are not met by the company. The company's main concern is to ensure that customer satisfaction levels are always high and that the service level agreement is always maintained.

Vendors: - The engineering company will need to ensure that their suppliers are sending them the right raw materials and most importantly at the required times. Any delays in raw material arriving will mean that the production will start late, this will have a overall impact on all the

departments who are waiting for the product to be prepared as well as the <https://assignbuster.com/a-business-system-for-technicians-commerce-essay/>

customer being impacted as their order has been sent late. This can cause huge concerns as many customers ship their products across to various destinations around the world. Any delays in shipping will mean they will be fined with extra costs and will be not satisfied with the overall services they have received. Timing is precise in a situation like this as one mistake could cost a company millions of pounds.

Workforce: - This is an internal factor which plays an important part in a company. Skilled workers are essential in engineering companies as the work that is being carried out has been made by high skilled and intelligent employees who need to ensure that when the product becomes a physical object and not something which they have designed on paper, they should be able to work with workers who understand the design techniques very well in order for the product to be of a high quality. Other issues which need to be considered during the factory floor is the capacity of equipment, financial capacity, and engineering ability to develop products and standards, costs of production.