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TRANSPORT

Role of Transport in the Sustained Economic Growth

A well-knit and coordinated system of transport plays an important role in the sustained economic growth of a country. Transport routes are the basic economic arteries of the country. Transport system is regarded as the controller of the national economy and provides a very important link between production and consumption. The amount of traffic moving in a country is a measure of its progress. In a country like India, the importance of transport is more because of its vastness as well as varied nature of geographical conditions. In India, it is also a source of national integration. The present Indian transport system comprises several modes including rail, road, coastal shipping, air transport, etc. Transport has recorded a substantial growth over the years both in terms of length and output of the system.

Railways:

The railways in India provide the principal mode of transportation for freight and passengers. It brings together people from the farthest corners of the country and makes possible the conduct of business, sightseeing, pilgrimage and education. Indian railways have been a great integrating force during the last 150 years. It has bound the economic life of the country and helped in accelerating the development of industry and agriculture. From a very modest beginning in 1853, when the first train steamed off from Mumbai to Thane, a distance of 34 km, Indian Railways have grown into a vast network of 6,906 stations spread over a route length of 63,122 km with a fleet of 7,681 locomotives, 39,852 passenger service vehicles, 4,904 other coaching vehicles and 2, 14,760 wagons as on 31 March 2003.The growth of Indian Railways in the 150 years of its existence is thus phenomenal. It has played a vital role in the economic, industrial and social development of the country. The network runs multi-gauge operations extending over 63,122 route-kilometres.

The main objectives of railways planning have been to develop the transport infrastructure to carry the projected quantum of traffic and meet the developmental needs of the economy. Since the inception of the planned era in 1950-51, Indian Railways have implemented nine five-year plans, apart from annual plans in some years. During the plans, emphasis was laid on a comprehensive programme of system modernisation. With capacity being stretched to the full, investment of cost-effective technological changes become inescapable in order to meet the ever-increasing demand for rail transport. Along with the major thrust directed towards rehabilitation of assets, technological changes and up-gradation of standards were initiated in important areas of track, locomotives, passenger coaches, wagon bogie designs, signalling and telecommunication. During 2000-01, Indian Railways introduced 99 new trains, extended the run of 88 trains and increased the frequency of 14 trains in non-suburban sector. Similarly, in the suburban sector, Railways introduced 89 new trains. Besides, 15 DMU/diesel Hauled Push Pull Trains and 22 main line EMU services were also introduced during the year.

Freight Traffic:
Rapid progress in industrial and agricultural sectors has generated a higher level of demand for rail transport particularly in core sectors like coal, iron and steel ores, petroleum products and essential commodities such as food grains, fertilisers, cement, sugar, salt, edible oils, etc. Revenue freight traffic increased from 73.2 million tonnes in 1950-51 to 518.7 million tonnes in 2002-03. Transport effort measured in terms of net tonne kilometres (NT km) increased from 38 billion in 1950-51 to 353.19 billion in 2002-03.Some of the measures taken for improvement are**:**(i) Line capacity augmentation on certain critical sectors and modernisation of signalling system;(ii) Measures such as unit train operation for bulk commodities like coal;(iii) Increase in roller-bearing equipped wagons;(iv) Increase in railing loads to 4,500 tonnes;(v) Operation of 'UNI-GAUGE' on Indian Railways;(vi) Strengthening the track structure by providing heavier and stronger rails and concrete sleepers; and(vii) Production of prototype electric locomotive of 5,000 HP for freight operation by Chittaranjan Locomotive Works.

Roads:
India has one of the longest road networks in the world aggregating to about 3.3 million km at present. The Ninth Plan laid emphasis on a coordinated and balanced development of road network in the country under: (i) Primary road system covering National Highways;(ii) Secondary and feeder road system covering State Highways and major district roads; and(iii) Rural roads including village roads and other district roads. Substantial outlays were proposed for road development in the rural and tribal areas. Under the Ninth Plan, the allocation envisaged was Rs. 8,862.02 crore (at 1996 price level) for central sector roads programme including Rs. 3,576.79 crore (at 1996 price level) for externally aided projects as approved by the Planning Commission. This was, however, raised to Rs. 17,748.82 crore for central sector roads programme including Rs. 4,815.70 crore for externally aided projects during the course of the Plan. The Tenth Plan outlay proposed for central sector roads is Rs. 59,000 crore including Rs. 24,000 crore from internal and extra budgetary resources.

National Highways:
The main roads, which are constructed and maintained by Central Public Works Department (CPWD), are known as the National Highways. These roads are meant for inter-state and strategic defence movements and connect the state capitals, big cities, important ports, big railway junctions and linkup with border roads. The length of National Highways increased from 19,811 km in 1951 to 58,112 km in 2001. Nearly 40 per cent of the road traffic in India is carried on these highways. The whole of India is covered by National Highways This is perhaps one of the largest programmes of road development ever taken up in any country. The project is being implemented by National Highways Authority of India (NHAI).

NHDP has following two components:
(i) Golden Quadrilateral comprising the National Highways connecting the four metro cities, viz., Delhi, Mumbai, Chennai and Kolkata. The component has a total length of 5,846 km.
(ii) North-South corridor comprising the National Highways connecting Srinagar to Kanyakumari including Kochi-Salem Spur and East-West Corridor comprising the National Highways connecting Silchar to Porbandar. The project has a total length of about 7,300 km and is scheduled for completion by December 2007. Four lining of about 400 km of roads for providing connectivity to the ports of Paradip, Haldia, Vishakhapatnam, Chennai and Ennore, Tuticorin, Cochin, New Mangalore, Mormugao, Jawaharlal Nehru Port and Kandla has been taken up by NHAI under Port Connectivity Programme.

State Sector Roads:
State Highways and district rural roads are the responsibility of State Governments and are maintained by various agencies in states and union territories. Roads are being developed in rural areas under Minimum Needs Programme (MNP) and Pradhan Mantri Gramin Sadak Yojana (PMGSY). The objective is to link all villages with a population of more than 500 with all weather roads by 2007. The government also assists in development of certain selected roads in states through financial assistance from Central Road Fund.

Air Transport:
Air transportation in India made a humble beginning in 1911 when airmail operation commenced over a little distance of 10 km between Allahabad and Naini. The British, French and Dutch introduced air transport in 1929-30. Indian National Airways was formed in 1933. By the end of World War II, major cities like Bombay, Delhi, Calcutta, Karachi and Lahore (now in Pakistan) and some other places were provided with air service. The actual network of air transport has begun only after independence. In 1953, the air transport was nationalised and two corporations were formed: the Air India and Indian Airlines. Indian Airlines is the major domestic air carrier of the country. It operates to 63 domestic stations (including 2 seasonal stations, i.e., Jaisalmer and Puttaparthy) with its wholly owned subsidiary Alliance Air. Indian Airlines also operates to 16 international stations, viz., Bangkok, Singapore, Kuala Lampur, Yangon, Kathmandu, Colombo, Dhaka, Male, Kuwait, Sharjah, Dubai, Fujairah, Ras-al-khaimah, Muscat, Doha and Bahrain. Indian Airlines has a fleet of 57 aircrafts: 7 A-300s, 36 A-320s, 11 B-737s and 3 Dornier-228s including aircraft taken on lease. All B-737s aircraft are being operated by Alliance Air.

Cargo:
In order to help the Indian exporters and make their exports more competitive, the government had introduced in April 1999 an 'open policy' for cargo. Under this policy, foreign airlines or association of exporters can bring any freighters to the country for up-liftment of cargo. The government has also permitted market forces to determine cargo tariff, with IATA rates as the floor rates.

Tourist Charter Flights:
The tourist charter flights can land at all 12 designated international airports (namely Ahmedabad, Amritsar, Bangalore, Kolkata, Chennai, Cochin, Delhi, Goa, Guwahati, Hyderabad, Mumbai and Thiuvananthapuram) and four additional airports, namely, Agra, Jaipur, Varanasi and Port Blair. In addition, tourist charter flights may also be permitted to land at airports having customs and immigration facilities. The minimum payment to the Indian tour operator by the foreign charter operator is US$ 400 per person, effective from 1st April 1998. However, for tourists from SAARC countries and Myanmar, the amount to be paid is 50 per cent of the aforesaid amount. During 2003-04 723 flights were operated bringing 1, 23,134 tourists to India.

Shipping:
Shipping plays an important role in the transport sector of India's economy. Approximately, 90 per cent of the country's trade volume (77 per cent in terms of value) is moved by sea. Presently, India lays the largest merchant shipping fleet among the developing countries and ranks 17th in the world in terms of shipping tonnage. Indian shipping sector facilitates not only the transportation of national and international cargoes but also provides a variety of other services such as cargo handling services, ship building/repairing, freight forwarding, lighthouse facilities and training of maritime personnel. As on 1 April 2002, the net operative

tonnage consisted of 560 ships totalling 6.82 million gross registered tonnages (GRT). National shipping also acts as a second line of defence in times of emergency. Indian shipping makes significant contributions to the foreign exchange earnings of the country.

Coastal Shipping:
Coastal shipping is energy efficient, environment friendly and economical mode of transport in the Indian transport network and a crucial component for development of domestic industry and trade. India has 7,516.6 km long coastline (including 1,962 km of Andaman and Nicobar Islands and 132 km of Lakshadweep Islands), studded with 12 major and 189 minor and intermediary ports providing congenial and favourable conditions for the development of domestic transport infrastructure.

Inland Water Transport:
India has got about 14,500 km of navigable waterways which comprise rivers, canals, backwaters, creeks, etc. At present, however, a length of 3,700 km of major rivers is navigable by mechanised crafts but the length actually utilised is only about 2,000 km. As regards canals, out of 43,000 km of navigable canals, only 900 km is suitable for navigation by mechanised crafts. About 18 million tonnes of cargo is being moved annually by inland water transport (IWT), a fuel efficient and environment friendly mode. The IWT is also known for higher employment generation potential. Its operations are currently restricted to a few stretches in the Ganga-Bhagirathi-Hooghly rivers, the Brahmaputra, the Barak River, the rivers in Goa, the backwaters in Kerala and the deltaic regions of the Godavari-Krishna Rivers. Besides the organised operations by mechanised vessels, country boats of various capacities also operate in various rivers and canals.

Inland Waterways Authority of India:
The Inland Waterways Authority of India (IWAI) constituted under the Inland Waterways Authority of India Act, 1985 (82 of 1985), came into existence on 27 October 1986 as a statutory body for development, maintenance, management and regulation of National Waterways in the country and to act as advisor to the Central and State Governments on matters relating to inland water transport. The head office of the IWAI is located at Noida in its own building. It also has its regional offices at Patna, Kolkata, Guwahati and Cochin and sub offices at Allahabad, Ballia, Bhagalpur, Farakka and Kollam.

National Waterways:
Considering the need to develop inland waterways and inland water transport to play its rightful role in the transport network of the country, the government had identified 10 important waterways for consideration to declare them as National Waterways. The Ganga between Allahabad and Haldia (1,620 km) on 27 October 1986, the Sadiya-Dhubri stretch of river Brahmaputra (891 km) on 26 October 1988 and the Kollam-Kottapuram stretch of West Coast Canal (168 km) along with Champakara Canal (14 km) and Udyogmandal Canal (22 km) in Kerala with effect from 1 February 1993 have so far been declared as National Waterways and the same are being developed for navigation by IWAI.

Ports:
India has about 5,600 km of main coastline serviced by 12 major ports and about 181 other ports. The major ports are under the purview of the Central Government, while other ports (popularly termed as minor/intermediate ports) come under the jurisdiction of the respective State Governments. Mumbai, Jawaharlal Nehru at Nhava Shewa, Kandla, Mormugao, New Mangalore and Cochin are the major ports on the west coast and Kolkata/Haldia, Paradip,

Visakhapatnam, Chennai, Ennore and Tuticorin the major ports on the east coast.Various areas of port functioning, such as leasing out existing assets of the port, construction/creation of additional assets, leasing of equipment for port handling and leasing of floating crafts from the private sector, and captive facilities for port based industries have been identified for participation/investment by the private sector.

AIR TRANSPORT

Aviation began in the 18th century with the development of the hot air balloon, an apparatus capable of atmospheric displacement through buoyancy. Some of the most significant advancements in aviation technology came with the controlled gliding flying of Otto Lilienthal in 1896; then a large step in significance came with the construction of the first powered airplane by the Wright brothers in the early 1900s. Since that time, aviation has been technologically revolutionized by the introduction of the jet which permitted a major form of transport throughout the world. There are five major manufacturers of civil transport aircraft:

- Airbus, based in Europe
- Boeing, based in the United States
- Bombardier, based in Canada
- Embracer, based in Brazil
- United Aircraft Corporation, based in Russia

Advantages of air transport

Following are the advantages of air transport

High Speed

It is the fastest mode of transport and therefore suitable for carriage of goods over a long distance. It require less time.

Quick Service

Air transport provides comfortable, efficient and quick transport services. It is regarded as best mode of transport for transporting perishable goods.

No Infrastructure Investment

Air transport does not give emphasis on construction of tracks like railways. As no capital investment in surface track is needed, it is a less costly mode of transport.

Easy Access

Air transport is regarded as the only means of transport in those areas which are not easily accessible to other modes of transport. It is therefore accessible to all areas regardless the obstruction of land.

No Physical Barrier

Air transport is free from physical barriers because it follows the shortest and direct routes where seas, mountains and forests do not obstruct.

Natural Route

Aircrafts travels to any place without any natural obstacles or barriers because the custom formalities are compiled very quickly. It avoids delay in obtaining clearance.

National defence

It plays a significant role in the national defense of the country because modern wars are conducted with the help of aero planes. Airways has a upper hand a destroying the enemy in a short period.

Disadvantage of air transport

Inspite of many advantages, air transport has some disadvantage also.

Risky

Air transport is the most risky form of transport because a minor accident may put a substantial loss to the goods, passengers and the crew. The chances of accidents are greater in comparison to other modes of transport.

Very Costly

Air transport is considered costlier as compare to other mode of transport. The operating cost of aero-planes is higher and it involves a great deal of expenditure on the construction of aerodromes and aircraft. Because of this reason the fare of air transport are high that common people can't afford it.

Small Carrying Capacity

The aircrafts have small carrying capacity and therefore these are not suitable for carrying bulky and cheaper goods. The load capacity cannot be increased as it is found in case of rails.

Unreliable

Air transport is unreliable as it depends of the weather forecast. Normally if the weather is not certain the flight may got delayed.

Huge Investment

Air transport requires huge investment for construction and maintenance of aerodromes. It also requires trained, experienced and skilled personnel which involves a substantial investment.

ROAD TRANSPORT

Road transport or road transportation is a type of transport by using roads. Transport on roads can be roughly grouped into the transportation of goods and transportation of people. In many countries licensing requirements and safety regulations ensure a separation of the two industries. Movement along roads may be by bike or automobile, truck, or by animal such as horse or oxen. Standard networks of roads were adopted by Romans, Persians, Aztec, and other early empires, and may be regarded as a feature of empires. Cargo may be transported by trucking companies, while passengers may be transported via mass transit. Commonly defined features of modern roads include defined lanes and signage. Various classes of road exist, from two-lane local roads with at-grade intersections to controlled-access highways with all cross traffic grade-separated.

Problems

Inadequate Roads:

Roads are bad and inadequate in India. There are 34 km long roads per 100 sq. km area in India while in Japan 270 km and in West Germany 167 km long roads per 100 sq. km area are there. Government should spend more on the development of roads.

Heavy Taxes:

There is heavy tax burden on motor transport in India. Tax burden per motor vehicle in India is Rs. 3500 while in America it is Rs. 860 and in Britain Rs. 470. This tax burden should be lowered.

No proper Maintenance:

Roads are not maintained properly in India. Less than 0.1 percent of the national income is spent on the maintenance of roads in India, while in Japan it is 3 percent of the national income.

Lack of Co-ordination:

There is little co-operation and co- ordination among different states with regard to motor transport. As such, motor transport faces lot of difficulties. The states should pursue a co-ordinate policy in this matter.

Less Roads in Rural Areas:
Sixty percent of villages are without roads in India. It adversely affects our agriculture and rural economy. Government should develop roads speedily in rural areas.

Lack of Guest Houses:
There is lack of guest houses and hotels along the roadside in India. More guest houses should be built along the road sides, so that people may undertake long road journeys easily.

Inefficient Management and Services:
According to 'Road Transport Reorganization Committee', 90 per cent of the operators are small operators owning five vehicles or less. Owing to this small number, satisfactory and efficient service is not being provided to the people.

Rising Prices of Petrol/Diesel:
Due to high prices of petroleum products and diesel operational costs of road transport are rising and making the mode of transport more costly.

Undisciplined Driving and Accidents:
Most of the drivers on the roads are unskilled and untrained. They also drink alcohol while driving. As such, road accidents are more frequent in India.

Bad Conditions of Road:
In India, roads are not well-maintained as there are no timely repairs. It causes discomfort and quick depreciation of vehicles.

Solution
Some of the other measures useful for road transport planning are:
1. Restrictions on road capacity and traffic speeds,
2. Regulating traffic access to a link or area,
3. Charging for the use of roads on a link, or area basis,
4. Vehicle restraint schemes,
5. Rail rapid transit,
6. Transport coordination, and
7. Public transport improvement,

RAILWAYS

Railways provide the cheapest and most convenient mode of passenger transport both for long distance and suburban traffic. Railways have played a significant role in development and growth of industries. Growth of textile industry in Mumbai, jute industry in areas surrounding Kolkata, coal industry in Jharkhand, etc is largely due to the development of railway network in these areas. Railways help in supplying raw materials and other facilities to the factory sites and finished goods to the market. Agriculture also owes its growth to railways to a great extent. Now farmers can sell their agricultural produce to distant places and even sell them in the world market at remunerative prices. Railways are also helpful in removing isolation between cities and countryside and have played a significant role in disseminating innovations and new ideas. Railways are particularly suited to long distance journey and provide a strong medium of national integration. Railways play a vital role in mitigating the sufferings of the people in the event of natural calamities like droughts, floods, famines, earthquakes, etc. This is done by carrying relief and rescue teams and essential items to the affected areas and save people from sufferings and starvation. Railways also help in facing man-made calamities like social, political, religious disturbances, insurgency, etc. It facilitates easy movement of police, troops, defence equipment, etc. The importance of

railways to save the country's freedom and integrity from external aggression has been proved at several occasions.

Problems of Indian Railways:

Although Indian Railways have progressed a lot, both quantitatively and qualitatively, during the last few years, this system is still plagued by a number of problems which require immediate attention. A lot has been done, but a lot more is yet to be done. Some of the major problems faced by the Indian Railways are briefly discussed as under:

Safety:

Indian Railways have been in the news albeit for wrong reasons. With the rapid increase in passenger and goods traffic, the frequency of train accidents is increasing very fast. This has raised serious doubts in the public mind about safety of Rail travel and the general health of the railway network. There are several factors which are responsible for increasing number of railway accidents; some outstanding being overage tracks, wagons, coaches, bridges and signalling system. According to the Khanna Railways Safety Review Committee Report, nearly 25 per cent of the total railway track in India is overage and is due for replacement. The tracks suffer from fatigue and wear and tear in due course of time, and their replacement should be carried on side by side. In several derailments poor condition of tracks had been found responsible. Modem signalling like panel inter-locking, route relay inter-locking, and centralised traffic control, automatic signalling and multi-aspect colour light signalling, are being progressively introduced.

Cost and Revenue Problems:

As is the case with most of the government organisations, Indian Railways face chronic financial crisis. The annual rate of increase in cost has overtaken that of revenues during the last few years. A study of Railways finances from 1998 to 2004 reveals that the revenues increased at an average annual rate of 8.7 per cent against the 9.65 per cent average annual growth in costs. In certain years in between, the revenue growth rate did exceed that of cost. But this position was achieved by providing inadequately for replacements and severely controlling the costs. Such a situation has long term implications as it affects the internal generation of resources. Following are the main causes of costs and revenue problems.

(i) Low level of employee productivity:

Indian Railways face a serious problem of low level of employee productivity. Transport output in terms of passengers and freight tonne kilometres per employee on Indian Railways is only 400 as compared to 500 for Chinese and 570 for French Railways.

(ii) Staff Wages:

With the implementation of the recommendations of the Fifth Pay Commission, staff wages have increased tremendously and have put heavy strain on the financial resources of the Railways.

(iii) Increase in lease charges:

Paucity of funds forces the, Indian Railways to resort to market borrowings which results in increased lease charges. Market borrowings started in 1986 and the trend is increasing. At present payout of lease charges constitute about 8.5 per cent of the revenue.

Slowdown in Revenue Growth:

With saturation of trunk routes and low quality of services and reliability, the revenue growth has registered a slowdown. The railways are increasingly becoming a transporter of bulk commodities for public sector (coal, iron ore, food-grains, etc.) and are consistently losing to roadways. Most of the national highways run parallel to railways and are consistently snatching revenues from the railways.

Social Burden:

Indian Railways have to play a dual role of revenue earning as well as meeting the social obligations. The Expert Group, constituted in December 1998 to study the railway sector, termed it as the 'split personality'. On one hand, the Railways are seen as a commercial organisation and on the other hand, it is treated as a social organisation which must perform its social obligations. The two functions are diametrically opposite and difficult to reconcile. There are several social obligations on the railways which are always running below cost. Suburban passenger services, concessionary travel to certain section of travellers, concessional freight movement of certain commodities, particularly to remote and inaccessible areas like the North-east region, providing rail services to backward regions are some of the outstanding social obligations on the Indian Railways.

Other Problems:

A large number of miscellaneous problems include late running of trains, lack of passenger facilities including cleanliness at the railway stations, lack of security arrangement on the railways resulting in theft and dacoities, etc. Political pressure and interference is a very big problem which the Indian Railways are facing with increasing impact. Several projects which are not economically viable have been initiated for political considerations

WATERWAYS

Water transportation is the intentional movement of water over large distances. Methods of transportation fall into three categories:

- aqueducts, which include pipelines, canals, tunnels and bridges
- container shipment, which includes transport by tank truck, tank car, and tank ship.
- towing, where a tugboat is used to pull an iceberg or a large water bag along behind it.

Due to its weight, transportation of water is very energy intensive. Unless it has the assistance of gravity, a canal or long-distance pipeline will need pumping stations at regular intervals. In this regard, the lower friction levels of the canal make it a more economical solution than the pipeline. Water transportation is also very common along rivers and oceans.

Types of Water Transport

1. Inland water transport
2. Ocean water transport

Inland Water Transport

Inland water transports the system of transport through all navigable rivers, lakes and man-made canals. Many large rivers in different parts of the world are used by ships and barges for transportation; the main rivers where inland water transport are important are the Rhine and Dambe in Europe, the Zaire in Africa, the Nile in Africa, the Lower Niger in Nigeria. Other are also included such as the St Lawrence in Canada and the Mississippi in USA etc. Canals are mostly built to link up two navigable Seas or Oceans. For instance, the Suez Canal which links the Red Sea and the Mediterranean Sea and the Panama Canal which links the Atlantic Ocean with the Pacific Ocean.

Ocean Water Transport

Ocean waterways carry a lot of the world's trade, majority of the bulky goods, materials and passengers pass through ocean waterways from one country to another at the cheapest cost. Various forms of vessels sail in the high seas. Some of these vessels include:

1. **The passenger Liners**: these vessels carry mainly passengers, mails and highly valued goods. However, these types of vessel operate on schedules routes.
2. **The Cargo Liner:** these vessels combined freight with passengers; they also keep to scheduled routes like the passenger liners. Cargo liners are well suited for the

transportation of perishable goods because of the provision of in built refrigerators in most of them.

3. **Tramps:** these are other kinds of vessels used in high areas, they are dependent cargo boats that have no scheduled time and place. These vessels only sail when they have enough cargo to carry. Tramps are only designed for carrying goods.
4. **Oil Tankers and refrigerated Ships:** these vessels are only designed for carrying oil and perishable goods such as fish, meat, dairy products and wines.

Advantages of Water transport

1. It involves low running cost which makes it the cheapest form of transport system over long distances.
2. Large vessels especially run economically since fuel costs can be spread over greater quantities. Distance does not add greatly to total transport cost.
3. It has the capacity of conveying heavy and bulky cargoes.
4. Water transport has a natural route network which is free to use. This allows flexibility of service, frequency of movement and little congestion (except where water channels are narrow (as in the case of the Straits of Dover).
5. Canals provide good access along their line sides and also encourage the development of industry and commerce. Some towns have grown largely through their connection with canals. For instance, Stour port.
6. It causes relatively little environmental pollution, but sometimes oil discharge from tankers seems to be the major problems to this mode of transportation.

Disadvantages of Water Transport

1. This mode of transportation is very slow compared to road transport hence; it is unsuitable for perishable goods and urgent cargoes.
2. There may be delays at locks and docks, while navigation may be impeded majorly due to poor weather conditions.
3. It is unsuitable for short distance journeys since transhipment is both costly and time consuming.
4. Canals are very expensive to build, maintain and dredge, and also it follows inflexible and circuitous routes. An adequate supply of water may be difficult to obtain and the limited dimensions of barges may be too small for modern requirement.
5. As ships increase, the number of ports capable of receiving oceans carrying vessels is declining; this results in less flexible routes and services for the movement of such commodities as oil. Super-tankers for instance cannot use Suez Canal and large ships can no longer enter most small port except the modern ones which are very few.

Present scenario of transport

The logistics sector is playing an important role in developing the stable economic growth of the country due. The volume of freight traffic movement has been dramatically increased in the country. This outsized level of traffic makes a huge grown in all aspects of logistics with transportation, warehousing, freight forwarding, express cargo delivery, container services, shipping services etc. The logistics value chain in India is categorized in three primary sections that range from Transportation, Warehousing and Value Addition Services like packaging, Labelling and assembling, cross bundling, express services, tracking and tracing, express, cold chain etc. Transportation is considered as one of the major sectors in Indian Logistics field which contributes to Indian GDP significantly. The transport segment is segregated in various sub-segments like road and rail which are mainly

responsible for domestic transport of goods otherwise by water (ship) or air (express or courier), which are utilized for inter-country trade of material.

In India road is taken as the biggest method of transportation of freight shipment. As per estimation of the modal movement of cargo in India it is observed that almost 61% of the consignment is delivered by road, 30% by rail and remaining by airway, pipelines and inland waterways. This is in comparison with 37% share of road in the USA and 22% in China. India includes the world's second-major network of roads (3.83 million km after US's 6.43 million km. The road transport network consists of 65% of the freight and 85% of the passenger traffic in the country. The road network in the country is vastly fragmented with the truck operators having less than five trucks anticipated to comprise more than 75% of the truck fleet. It is predictable that 10% of the market be owned by those with 6-10 trucks; 4% to those with 11-15 trucks; 3% be owned by those with 16-20 trucks; and only 4% of fleet be owned by those with more than 20 trucks.

The small operators are primarily liable for the physical transition of goods and mostly rely on intermediaries and other fleet operators who consecutively take the help of the booking agents for getting business. The small operators don't have the ability to carry out the tasks like aggregating, handling, delivering of cargo and marketing. Moreover, they are unaware about the ecological reach and always lack of proper network & communication to avail business on long term basis. Thus they have to depend on brokers. These transport companies normally make official contracts with the customers, which become very difficult for the small operators. Large operators have the ability to bid for the contracts with customers. They undertake the services of the smaller operators whey they need any additional vehicles.

To overcome these cumbersome and completed process some companies like Suain Logistics has introduced load board concept first time in India for transporters, truck operators, brokers, industrialist and anyone who engaged in transport industry of India. They have launched loadjunction.com, an online portal through which a fleet owner can find available freight described in detail and can submit online quotes for negotiation. The fleet owners and truckers can also post their trucking equipment details to get a call from loader. The online portal creates a huge network of loads & trucks and at the same time matches loads & trucks. One can also get real-time time rates on different routes on PAN India basis. This online portals will provide a wide array of benefits like Find trucks for load, abolition of deadhead miles, getting good paying backhauls, Find Return Load for trucks, find accessibility of all sizes and types (container, trailer, flatbed etc.) of trucks, Providing truck freight rates across India, radius search for trucks and loads, instant truck and load matching, Instant SMS and email alerts for available loads and trucks and so many.

Future prospects

The design of a transport system in an urban context requires work that takes intermodality and flow design, among other things, into consideration. A systemic view takes into consideration all the pieces of the complex design mosaic, including those that aren't strictly technical, and allows control of the evolution of the design to be maintained, starting from the stage when ideas begin to take shape through to the search for the solutions maximising the benefits for the community, at the same time using tools of assistance for communicating planning to all the contact people in the system. The analysis of an overall system requires the participation of different players who, with the designer, know and act on that system in different roles and functions. The tools making the engineering project easy to understand

and accessible not only to experts and technicians have to be found so that bodies with such different skills and natures can discuss complex topics effectively and find solutions essential for the success of the project. Recent technological innovations have enabled significant steps forward to be taken in this direction. The survey of the context and the reconstruction of the general knowledge framework through the Mobile Mapping System method is one of the most innovative tools used by system engineering. It makes the impact of the infrastructure easy to see, through 3D reproduction of the digital model of the environment where it will be positioned, and enables any problems that may arise during the work, whether technical or in relation to the users travel experience, to be shown in advance. The travel experience is certainly another topic of great interest in the design of a transport system. This is an evolution in the design approach to the service and infrastructure, which is oriented towards a sustainable station and the user's needs. There are two elements that allow this transformation to be implemented – first and foremost**,** modern infrastructure, designed to be intermodal from the very start**,** able to converse autonomously with the user and efficiently welcome the flows enlivening it. Secondly, and once again, the participation of players with different roles, able to implement policies that prepare townspeople to change their mindset on mobility habits**,** encouraging, as an alternative to private ones, the use of transport systems which, today, no longer include just public transport but also the opportunities offered, for example, by sharing mobility.

TRADE

Trade as an index of Economic development

Trade involves the transfer of goods or services from one person or entity to another, often in exchange for money. Economists refer to a system or network that allows trade as a market. An early form of trade, barter, saw the direct exchange of goods and services for other goods and services tend to involve precious metals, these gained symbolic as well as practical importance. Modern traders generally negotiate through a medium of exchange, such as money. As a result, buying can be separated from selling, or earning. The invention of money greatly simplified and promoted trade. Trade between two traders is called bilateral trade, while trade involving more than two traders is called multilateral trade. In one modern view, trade exists due to specialization and the division of labour, a predominant form of economic activity in which individuals and groups concentrate on a small aspect of production, but use their output in trades for other products and needs. Trade exists between regions because different regions may have a comparative advantage (perceived or real) in the production of some trade-able commodity—including production of natural resources scarce or limited elsewhere. For example: different regions' sizes may encourage mass production. In such circumstances, trade at market prices between locations can benefit both locations.

Historical background

Trade originated with human communication in prehistoric times. Trading was the main facility of prehistoric people who bartered goods and services from each other before the innovation of modern-day currency. Peter Watson dates the history of long-distance commerce from circa 150,000 years ago. In the Mediterranean region the earliest contact between cultures involved members of the species Homo sapiens, principally using the Danube river, at a time beginning 35,000–30,000 BP.

Ancient history

Trade is believed to have taken place throughout much of recorded human history. There is evidence of the exchange of obsidian and flint during the Stone Age. Trade in obsidian is

believed to have taken place in New Guinea from 17,000 BCE. The earliest use of obsidian in the Near East dates to the Lower and Middle paleolithic.

Later trade

Mediterranean and Near East

Ebla was a prominent trading centre during the third millennia, with a network reaching into Anatolia and north Mesopotamia. Materials used for creating jewellery were traded with Egypt since 3000 BCE. Long-range trade routes first appeared in the 3rd millennium BCE, when Sumerians in Mesopotamia traded with the Harappan civilization of the Indus Valley. The Phoenicians were noted sea traders, travelling across the Mediterranean Sea, and as far north as Britain for sources of tin to manufacture bronze. For this purpose they established trade colonies the Greeks called emporia. From the beginning of Greek civilization until the fall of the Roman Empire in the 5th century, a financially lucrative trade brought valuable spice to Europe from the Far East, including India and China. Roman commerce allowed its empire to flourish and endure. The fall of the Roman empire, and the succeeding Dark Ages brought instability to Western Europe and a near collapse of the trade network in the western world. Trade however continued to flourish among the kingdoms of Africa, Middle East, India, China and Southeast Asia. Some trade did occur in the west. For instance, Radhanites were a medieval guild or group (the precise meaning of the word is lost to history) of Jewish merchants who traded between the Christians in Europe and the Muslims of the Near East.

Indo-Pacific

The first true maritime trade network in the Indian Ocean was by the Austronesian peoples of Island Southeast Asia, who built the first ocean-going ships. They established trade routes with Southern India and Sri Lanka as early as 1500 BC, ushering an exchange of material culture and cultigens as well as connecting the material cultures of India and China.

Mesoamerica

The emergence of exchange networks in the Pre-Columbian societies of and near to Mexico are known to have occurred within recent years before and after 1500 BCE. Trade networks reached north to Oasisamerica. There is evidence of established maritime trade with the cultures of north-western South America and the Caribbean.

Middle Ages

During the Middle Ages, commerce developed in Europe by trading luxury goods at trade fairs. Wealth became converted into movable wealth or capital. Banking systems developed where money on account was transferred across national boundaries. Hand to hand markets became a feature of town life, and were regulated by town authorities. Western Europe established a complex and expansive trade network with cargo ships being the main workhorse for the movement of goods, Cogs and Hulks are two examples of such cargo ships. Many ports would develop their own extensive trade networks. The English port city of Bristol traded with peoples from what is modern day Iceland, all along the western coast of France, and down to what is now Spain. During the Middle Ages, Central Asia was the economic centre of the world. The Sogdians dominated the East-West trade route known as the Silk Road.

The Age of Sail and the Industrial Revolution

Vasco da Gama pioneered the European Spice trade in 1498 when he reached Calicut after sailing around the Cape of Good Hope at the southern tip of the African continent. Prior to

this, the flow of spice into Europe from India was controlled by Islamic powers, especially Egypt. The spice trade was of major economic importance and helped spur the Age of Discovery in Europe. Spices brought to Europe from the Eastern world were some of the most valuable commodities for their weight, sometimes rivalling gold. From 1070 onward, kingdoms in West Africa became significant members of global trade. This came initially through the movement of gold and other resources sent out by Muslim traders on the Trans-Saharan trading network. Later, West Africa exported gold, spices, cloth, and slaves to European traders such as the Portuguese, Dutch, and English. This was often in exchange for cloth, iron, or cowries shells which were used locally as currency. Founded in 1352, the Bengal Sultanate was a major trading nation in the world and often referred to by the Europeans as the richest country to trade with. In the 16th and 17th centuries, the Portuguese gained economic advantage in the Kingdom of Kongo due to different philosophies of trade. Whereas Portuguese traders concentrated on the accumulation of capital, in Kongo spiritual meaning was attached to many objects of trade. According to economic historian Toby Green, in Kongo "giving more than receiving was a symbol of spiritual and political power, and privilege." In the 16th century, the Seventeen Provinces were the centre of free trade, imposing no exchange controls, and advocating the free movement of goods. Trade in the East Indies was dominated by Portugal in the 16th century, the Dutch Republic in the 17th century, and the British in the 18th century. The Spanish Empire developed regular trade links across both the Atlantic and the Pacific Oceans.

19th century

In 1817, David Ricardo, James Mill and Robert Torrens showed that free trade would benefit the industrially weak as well as the strong, in the famous theory of comparative advantage. In Principles of Political Economy and Taxation Ricardo advanced the doctrine still considered the most counterintuitive in economics:

20th century

The Great Depression was a major economic recession that ran from 1929 to the late 1930s. During this period, there was a great drop in trade and other economic indicators. The lack of free trade was considered by many as a principal cause of the depression causing stagnation and inflation. Only during the World War II the recession ended in the United States. Also during the war, in 1944, 44 countries signed the Bretton Woods Agreement, intended to prevent national trade barriers, to avoid depressions. In 1947, 23 countries agreed to the General Agreement on Tariffs and Trade to promote free trade.

21st century

Today, trade is merely a subset within a complex system of companies which try to maximize their profits by offering products and services to the market (which consists both of individuals and other companies) at the lowest production cost. A system of international trade has helped to develop the world economy but, in combination with bilateral or multilateral agreements to lower tariffs or to achieve free trade, has sometimes harmed third-world markets for local products.

Advantages and disadvantages of trade

Advantages of Trade:

(i) Optimal use of natural resources:

International trade helps each country to make optimum use of its natural resources. Each country can concentrate on production of those goods for which its resources are best suited. Wastage of resources is avoided.

(ii) Availability of all types of goods:
It enables a country to obtain goods which it cannot produce or which it is not producing due to higher costs, by importing from other countries at lower costs.
(iii) Specialisation:
Foreign trade leads to specialisation and encourages production of different goods in different countries. Goods can be produced at a comparatively low cost due to advantages of division of labour.
(iv) Advantages of large-scale production:
Due to international trade, goods are produced not only for home consumption but for export to other countries also. Nations of the world can dispose of goods which they have in surplus in the international markets. This leads to production at large scale and the advantages of large scale production can be obtained by all the countries of the world.
(v) Stability in prices:
International trade irons out wild fluctuations in prices. It equalizes the prices of goods throughout the world (ignoring cost of transportation, etc.)
(vi) Exchange of technical know-how and establishment of new industries:
Underdeveloped countries can establish and develop new industries with the machinery, equipment and technical know-how imported from developed countries. This helps in the development of these countries and the economy of the world at large.
(vii) Increase in efficiency:
Due to international competition, the producers in a country attempt to produce better quality goods and at the minimum possible cost. This increases the efficiency and benefits to the consumers all over the world.
(viii) Development of the means of transport and communication:
International trade requires the best means of transport and communication. For the advantages of international trade, development in the means of transport and communication is also made possible.
(ix) International co-operation and understanding:
The people of different countries come in contact with each other. Commercial intercourse amongst nations of the world encourages exchange of ideas and culture. It creates co-operation, understanding, cordial relations amongst various nations.
(x) Ability to face natural calamities:
Natural calamities such as drought, floods, famine, earthquake etc., affect the production of a country adversely. Deficiency in the supply of goods at the time of such natural calamities can be met by imports from other countries.
(xi) Other advantages:
International trade helps in many other ways such as benefits to consumers, international peace and better standard of living.

Disadvantages of Trade:
Though foreign trade has many advantages, its dangers or disadvantages should not be ignored.
(i) Impediment in the Development of Home Industries:
International trade has an adverse effect on the development of home industries. It poses a threat to the survival of infant industries at home. Due to foreign competition and unrestricted imports, the upcoming industries in the country may collapse.
(ii) Economic Dependence:
The underdeveloped countries have to depend upon the developed ones for their economic development. Such reliance often leads to economic exploitation. For instance, most of the underdeveloped countries in Africa and Asia have been exploited by European countries.

(iii) Political Dependence:
International trade often encourages subjugation and slavery. It impairs economic independence which endangers political dependence. For example, the Britishers came to India as traders and ultimately ruled over India for a very long time.

(iv) Mis-utilisation of Natural Resources:
Excessive exports may exhaust the natural resources of a country in a shorter span of time than it would have been otherwise. This will cause economic downfall of the country in the long run.

(v) Import of Harmful Goods:
Import of spurious drugs, luxury articles, etc. adversely affects the economy and well-being of the people.

(vi) Storage of Goods:
Sometimes the essential commodities required in a country and in short supply are also exported to earn foreign exchange. This results in shortage of these goods at home and causes inflation. For example, India has been exporting sugar to earn foreign trade exchange; hence the exalting prices of sugar in the country.

(vii) Danger to International Peace:
International trade gives an opportunity to foreign agents to settle down in the country which ultimately endangers its internal peace.

(viii) World Wars:
International trade breeds rivalries amongst nations due to competition in the foreign markets. This may eventually lead to wars and disturb world peace.

(ix) Hardships in times of War:
International trade promotes lopsided development of a country as only those goods which have comparative cost advantage are produced in a country. During wars or when good relations do not prevail between nations, many hardships may follow.

WTO
The World Trade Organization (WTO) is an intergovernmental organization that is concerned with the regulation of international trade between nations. The WTO officially commenced on 1 January 1995 under the Marrakesh Agreement, signed by 123 nations on 15 April 1994, replacing the General Agreement on Tariffs and Trade (GATT), which commenced in 1948. It is the largest international economic organization in the world. The WTO deals with regulation of trade in goods, services and intellectual property between participating countries by providing a framework for negotiating trade agreements and a dispute resolution process aimed at enforcing participants' adherence to WTO agreements, which are signed by representatives of member governments and ratified by their parliaments. The WTO prohibits discrimination between trading partners, but provides exceptions for environmental protection, national security, and other important goals.

Background:
The WTO's predecessor, the General Agreement on Tariffs and Trade (GATT), was established by a multilateral treaty of 23 countries in 1947 after World War II in the wake of other new multilateral institutions dedicated to international economic cooperation—such as the World Bank (founded 1944) and the International Monetary Fund (founded 1944 or 1945). A comparable international institution for trade, named the International Trade Organization never started as the U.S. and other signatories did not ratify the establishment treaty, and so GATT slowly became a de facto international organization.

Framework

The WTO establishes a framework for trade policies; it does not define or specify outcomes. That is, it is concerned with setting the rules of the trade policy games. Five principles are of particular importance in understanding both the pre-1994 GATT and the WTO:

1. **Non-discrimination**. It has two major components: the most favoured nation (MFN) rule, and the national treatment policy. Both are embedded in the main WTO rules on goods, services, and intellectual property, but their precise scope and nature differ across these areas. The MFN rule requires that a WTO member must apply the same conditions on all trade with other WTO members, i.e. a WTO member has to grant the most favourable conditions under which it allows trade in a certain product type to all other WTO members. "Grant someone a special favour and you have to do the same for all other WTO members." National treatment means that imported goods should be treated no less favourably than domestically produced goods (at least after the foreign goods have entered the market) and was introduced to tackle non-tariff barriers to trade (e.g. technical standards, security standards et al. discriminating against imported goods).
2. **Reciprocity**. It reflects both a desire to limit the scope of free-riding that may arise because of the MFN rule, and a desire to obtain better access to foreign markets. A related point is that for a nation to negotiate, it is necessary that the gain from doing so be greater than the gain available from unilateral liberalization; reciprocal concessions intend to ensure that such gains will materialise.
3. **Binding and enforceable commitments**. The tariff commitments made by WTO members in a multilateral trade negotiation and on accession are enumerated in a schedule of concessions. These schedules establish "ceiling bindings": a country can change its bindings, but only after negotiating with its trading partners, which could mean compensating them for loss of trade. If satisfaction is not obtained, the complaining country may invoke the WTO dispute settlement procedures.
4. **Transparency**. The WTO members are required to publish their trade regulations, to maintain institutions allowing for the review of administrative decisions affecting trade, to respond to requests for information by other members, and to notify changes in trade policies to the WTO. These internal transparency requirements are supplemented and facilitated by periodic country-specific reports (trade policy reviews) through the Trade Policy Review Mechanism (TPRM), i.e WTO system tries also to improve predictability and stability, discouraging the use of quotas and other measures used to set limits on quantities of imports.
5. **Safety values**. In specific circumstances, governments are able to restrict trade. The WTO's agreements permit members to take measures to protect not only the environment but also public health, animal health and plant health.

Organisational structure

The General Council has the following subsidiary bodies which oversee committees in different areas:

Council for Trade in Goods: There are 11 committees under the jurisdiction of the Goods Council each with a specific task. All members of the WTO participate in the committees. The Textiles Monitoring Body is separate from the other committees but still under the jurisdiction of Goods Council. The body has its own chairman and only 10 members. The body also has several groups relating to textiles.

Council for Trade-Related Aspects of Intellectual Property Rights: Information on intellectual property in the WTO, news and official records of the activities of the TRIPS Council, and details of the WTO's work with other international organizations in the field.

Council for Trade in Services: The Council for Trade in Services operates under the guidance of the General Council and is responsible for overseeing the functioning of the General Agreement on Trade in Services (GATS). It is open to all WTO members, and can create subsidiary bodies as required.
Trade Negotiations Committee: The Trade Negotiations Committee (TNC) is the committee that deals with the current trade talks round. The chair is WTO's director-general. As of June 2012 the committee was tasked with the Doha Development Round.

Members, observers and agreements
The WTO has 164 members and 24 observer governments. Liberia became the 163rd member on 14 July 2016, and Afghanistan became the 164th member on 29 July 2016. In addition to states, the European Union, and each EU country in its own right, is a member. As of 2007, WTO member states represented 96.4% of global trade and 96.7% of global GDP. Iran, followed by Algeria, are the economies with the largest GDP and trade outside the WTO, using 2005 data.

The WTO oversees about 60 different agreements which have the status of international legal texts. Member countries must sign and ratify all WTO agreements on accession. A discussion of some of the most important agreements follows. **The Agreement on Agriculture** came into effect with the establishment of the WTO at the beginning of 1995. The AoA has three central concepts, or "pillars": domestic support, market access and export subsidies. **The General Agreement on Trade in Services** was created to extend the multilateral trading system to service sector, in the same way as the General Agreement on Tariffs and Trade (GATT) provided such a system for merchandise trade. The agreement entered into force in January 1995.**The Agreement on Trade-Related Aspects of Intellectual Property Rights** sets down minimum standards for many forms of intellectual property (IP) regulation. It was negotiated at the end of the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) in 1994. **The Agreement on the Application of Sanitary and Phytosanitary Measures**—also known as the SPS Agreement—was negotiated during the Uruguay Round of GATT, and entered into force with the establishment of the WTO at the beginning of 1995. Under the SPS agreement, the WTO sets constraints on members' policies relating to food safety (bacterial contaminants, pesticides, inspection and labelling) as well as animal and plant health (imported pests and diseases).**The Agreement on Technical Barriers to Trade** is an international treaty of the World Trade Organization. It was negotiated during the Uruguay Round of the General Agreement on Tariffs and Trade, and entered into force with the establishment of the WTO at the end of 1994. The object ensures that technical negotiations and standards, as well as testing and certification procedures, do not create unnecessary obstacles to trade". The Agreement on Customs Valuation, formally known as the Agreement on Implementation of Article VII of GATT, prescribes methods of customs valuation that Members are to follow. Chiefly, it adopts the "transaction value" approach. In December 2013, the biggest agreement within the WTO was signed and known as the Bali Package.

Impact
Studies show that the WTO boosted trade. Research shows that in the absence of the WTO, the average country would face an increase in tariffs on their exports by 32 percentage points. The dispute settlement mechanism in the WTO is one way in which trade is increased. The stated aim of the World Trade Organization (WTO) is to "ensure that trade flows as smoothly, predictably and freely as possible". However, the WTO does not claim to be a "free market" organization. According to the WTO, it is "sometimes described as a 'free trade'

institution, but that is not entirely accurate. The system does allow tariffs and, in limited circumstances, other forms of protection. More accurately, it is a system of rules dedicated to open, fair and undistorted economic competition." This compatibility to a certain degree of protection is proved, for example, by the fact that cartels like the OPEC have never been involved in trade disputes with the WTO, despite the evident contrast between their objectives. The actions and methods of the World Trade Organization evoke strong antipathies. Among other things, the WTO is accused of widening the social gap between rich and poor it claims to be fixing. Many non-governmental organizations, such as the World Federalist Movement, are calling for the creation of a WTO parliamentary assembly to allow for more democratic participation in WTO decision making. However, Dr Raoul Marc Jennar argues that a consultative parliamentary assembly would be ineffective for the following reasons:

1. It does not resolve the problem of "informal meetings" whereby industrialized countries negotiate the most important decisions;
2. It does not reduce the de facto inequality which exists between countries with regards to an effective and efficient participation to all activities within all WTO bodies;
3. It does not rectify the multiple violations of the general principles of law which affect the dispute settlement mechanism. The lack of transparency is often seen as a problem for democracy. Politicians can negotiate for regulations that would not be possible or accepted in a democratic process in their own nations. "Some countries push for certain regulatory standards in international bodies and then bring those regulations home under the requirement of harmonization and the guise of multilateralism." This is often referred to as Policy Laundering.

SERVICES

The service sector is the third of the three economic sectors of the three-sector theory. The others are the secondary sector (approximately the same as manufacturing), and the primary sector (raw materials).The service sector consists of the production of services instead of end products. Services (also known as "intangible goods") include attention, advice, access, experience, and affective labour. The tertiary sector of industry involves the provision of services to other businesses as well as final consumers. Services may involve the transport, distribution and sale of goods from producer to a consumer, as may happen in wholesaling and retailing, pest control or entertainment. The goods may be transformed in the process of providing the service, as happens in the restaurant industry. However, the focus is on people interacting with people and serving the customer rather than transforming physical goods. Following are various spheres of services

Telecommunication: Telecommunication is the exchange of signs, signals, messages, words, writings, images and sounds or information of any nature by wire, radio, optical or other electromagnetic systems. Telecommunication occurs when the exchange of information between communication participants includes the use of technology. It is transmitted through a transmission medium, such as over physical media, for example, over electrical cable, or via electromagnetic radiation through space such as radio or light. Such transmission paths are often divided into communication channels which afford the advantages of multiplexing. Early means of communicating over a distance included visual signals, such as beacons, smoke signals, semaphore telegraphs, signal flags and optical heliographs. 20th- and 21st-century technologies for long-distance communication usually involve electrical and electromagnetic technologies, such as telegraph, telephone, networks, radio, microwave transmission, optical fibre, and communications satellites.

Tourism: Tourism is travel for pleasure or business; also the theory and practice of touring, the business of attracting, accommodating, and entertaining tourists, and the business of operating tours. The World Tourism Organization defines tourism more generally, in terms which go "beyond the common perception of tourism as being limited to holiday activity only", as people "travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure and not less than 24 hours, business and other purposes". Tourism can be domestic or international, and international tourism has both incoming and outgoing implications on a country's balance of payments.

Mass media: Mass media refers to a diverse array of media technologies that reach a large audience via mass communication. The technologies through which this communication takes place include a variety of outlets. Broadcast media transmit information electronically via media such as films, radio, recorded music, or television. Digital media comprises both Internet and mobile mass communication. Internet media comprise such services as email, social media sites, websites, and Internet-based radio and television. Many other mass media outlets have an additional presence on the web, by such means as linking to or running TV ads online, or distributing QR Codes in outdoor or print media to direct mobile users to a website. In this way, they can use the easy accessibility and outreach capabilities the Internet affords, as thereby easily broadcast information throughout many different regions of the world simultaneously and cost-efficiently. Outdoor media transmit information via such media as AR advertising; billboards; blimps; flying billboards (signs in tow of airplanes); placards or kiosks placed inside and outside buses, commercial buildings, shops, sports stadiums, subway cars, or trains; signs; or skywriting. Print media transmit information via physical objects, such as books, comics, magazines, newspapers, or pamphlets. Event organizing and public speaking can also be considered forms of mass media. The organizations that control these technologies, such as movie studios, publishing companies, and radio and television stations, are also known as the mass media.

Healthcare: Health care is the maintenance or improvement of health via the prevention, diagnosis, treatment, recovery, or cure of disease, illness, injury, and other physical and mental impairments in people. Health care is delivered by health professionals in allied health fields. Physicians and physician associates are a part of these healthprofessionals. Dentistry, pharmacy, midwifery, nursing, medicine, optometry, audiolog y, psychology, occupational therapy, physical therapy, athletic training and other health professions are all part of health care. It includes work done in providing primary care, secondary care, and tertiary care, as well as in public health. Health care systems are organizations established to meet the health needs of targeted populations. According to the World Health Organization (WHO), a well-functioning health care system requires a financing mechanism, a well-trained and adequately paid workforce, reliable information on which to base decisions and policies, and well maintained health facilities to deliver quality medicines and technologies. An efficient health care system can contribute to a significant part of a country's economy, development and industrialization. Health care is conventionally regarded as an important determinant in promoting the general physical and mental health and well-being of people around the world. An example of this was the worldwide eradication of smallpox in 1980, declared by the WHO as the first disease in human history to be completely eliminated by deliberate health care interventions.

Information technology: Information technology (IT) is the use of computers to store, retrieve, transmit, and manipulate data or information. IT is typically used within the context of business operations as opposed to personal or entertainment technologies. IT is considered

to be a subset of information and communications technology (ICT). An information technology system (IT system) is generally an information system, a communications system or, more specifically speaking, a computer system – including all hardware, software and peripheral equipment – operated by a limited group of users. The term is commonly used as a synonym for computers and computer networks, but it also encompasses other information distribution technologies such as television and telephones. Several products or services within an economy are associated with information technology, including computer hardware, software, electronics, semiconductors, internet, telecom equipment, and e-commerce.

Franchising: It is based on a marketing concept which can be adopted by an organization as a strategy for business expansion. Where implemented, a franchisor licenses its know-how, procedures, intellectual property, use of its business model, brand, and rights to sell its branded products and services to a franchisee. In return the franchisee pays certain fees and agrees to comply with certain obligations, typically set out in a Franchise Agreement. The word "franchise" is of Anglo-French derivation—from *franc*, meaning free—and is used both as a noun and as a (transitive) verb Adopting a franchise system business growth strategy for the sale and distribution of goods and services minimizes the franchisor's capital investment and liability risk. Franchising is not an equal partnership, especially due to the legal advantages the franchisor has over the franchisee. But under specific circumstances like transparency, favourable legal conditions, financial means and proper market research, franchising can be a vehicle of success for both franchisor and franchisee. Thirty-six countries have laws that explicitly regulate franchising, with the majority of all other countries having laws which have a direct or indirect effect on franchising. Franchising is also used as a foreign market entry mode.

Banking: A bank is a financial institution that accepts deposits from the public and creates Demand Deposit. Lending activities can be performed either directly or indirectly through capital markets. Due to their importance in the financial stability of a country, banks are highly regulated in most countries. Most nations have institutionalized a system known as fractional reserve banking under which banks hold liquid assets equal to only a portion of their current liabilities. In addition to other regulations intended to ensure liquidity, banks are generally subject to minimum capital requirements based on an international set of capital standards, known as the Basel Accords. Banking in its modern sense evolved in the fourteenth century in the prosperous cities of Renaissance Italy but in many ways was a continuation of ideas and concepts of credit and lending that had their roots in the ancient world.

Insurance: Insurance is a means of protection from financial loss. It is a form of risk management, primarily used to hedge against the risk of a contingent or uncertain loss. An entity which provides insurance is known as an insurer, insurance company, insurance carrier or underwriter. A person or entity who buys insurance is known as an insured or as a policyholder. The insurance transaction involves the insured assuming a guaranteed and known relatively small loss in the form of payment to the insurer in exchange for the insurer's promise to compensate the insured in the event of a covered loss. The loss may or may not be financial, but it must be reducible to financial terms, and usually involves something in which the insured has an insurable interest established by ownership, possession, or pre-existing relationship. The insured receives a contract, called the insurance policy, which details the conditions and circumstances under which the insurer will compensate the insured. The amount of money charged by the insurer to the policyholder for the coverage set forth in the

insurance policy is called the premium. If the insured experiences a loss which is potentially covered by the insurance policy, the insured submits a claim to the insurer for processing by a claims adjuster. The insurer may hedge its own risk by taking out reinsurance, whereby another insurance company agrees to carry some of the risks, especially if the primary insurer deems the risk too large for it to carry.

Professional services: Professional services are occupations in the tertiary sector of the economy requiring special training in the arts or sciences. Some professional services require holding professional licenses such as architects, accountants, engineers, doctors and lawyers. Other professional services involve providing specialist business support to businesses of all sizes and in all sectors; this can include tax advice, supporting a company with accounting, IT services or providing management advice.

Transportation: Transportation is the movement of humans, animals and goods from one location to another. In other words, the action of transport is defined as a particular movement of an organism or thing from a point A (a place in space) to a point B. Modes of transport include air, land (rail and road), water, cable, pipeline and space. The field can be divided into infrastructure, vehicles and operations. Transport enables trade between people, which is essential for the development of civilizations. Transport infrastructure consists of the fixed installations, including roads, railways, airways, waterways, canals and pipelines and terminals such as airports, railway stations, bus stations, warehouses, trucking terminals, refuelling depots and seaports. Terminals may be used both for interchange of passengers and cargo and for maintenance. Vehicles travelling on these networks may include automobiles, bicycles, buses, trains, trucks, helicopters, watercraft, spacecraft and air craft. Passenger transport may be public, where operators provide scheduled services, or private. Freight transport has become focused on containerization, although bulk transport is used for large volumes of durable items. Transport plays an important part in economic growth and globalization, but most types cause air pollution and use large amounts of land. While it is heavily subsidized by governments, good planning of transport is essential to make traffic flow and restrain urban sprawl.