Commerce

for Secondary Schools

Student's Book

Form **Two**

Tanzania Institute of Education

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for Secondary Schools

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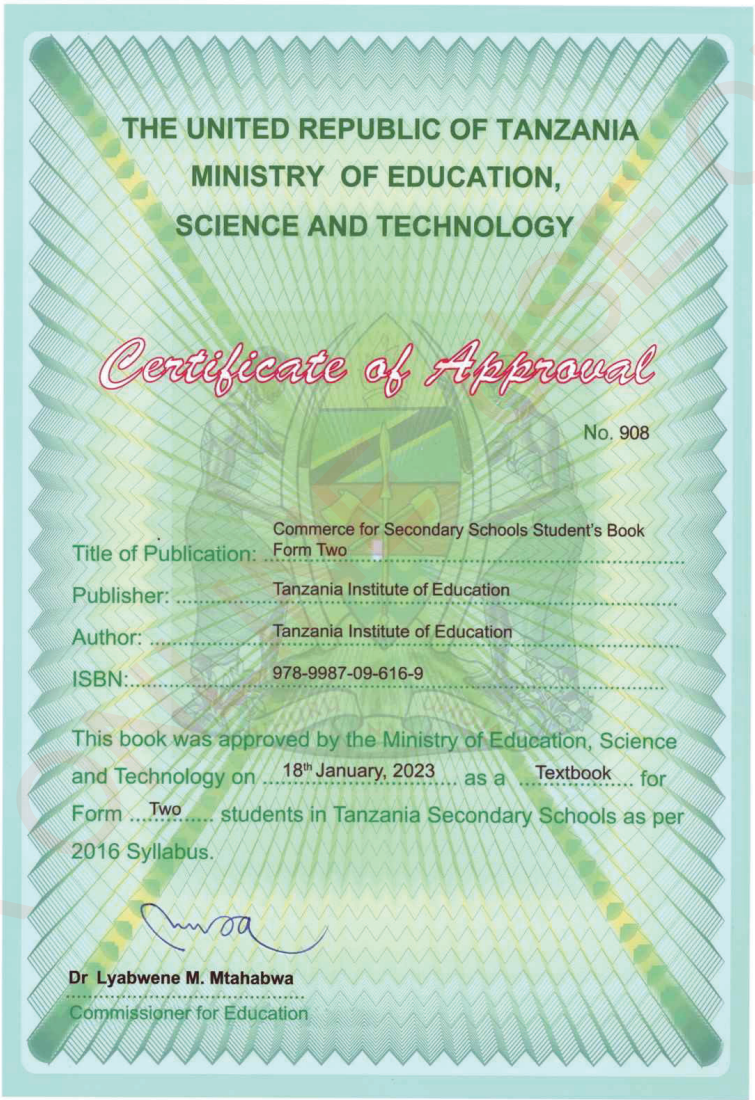

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Dr Lyabwene M. Mtahabwa
Commissioner for Education

Tanzania Institute of Education

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Tanzania Institute of Education
P. O. Box 35094
Dar es Salaam-Tanzania

Mobile numbers: +255 735 041 168/+255 735 041 170
Email: director.general@tie.go.tz
Website: www.tie.go.tz

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Acronyms and Abbreviations

AI	Artificial Intelligence
COSTECH	Tanzania Commission for Science and Technology
GDP	Gross Domestic Product
KIA	Kilimanjaro International Airport
MDNGP	Mtwara-Dar es Salaam Natural Gas Pipeline
MFIs	Microfinance Institutions
SACCOS	Saving and Credit Cooperative Societies
SGR	Standard Gauge Railway
SIDO	Small Industries Development Organisation
SIDP	Sustainable Industrial Development Policy
SMEs	Small and Medium Enterprises
TANZAM	Tanzania-Zambia highway
TAZAMA	Tanzania-Zambia Mafuta
TAZARA	Tanzania-Zambia Railway Authority
TShs	Tanzania Shillings

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Writers: Ms Doreen C. Samuel (TIE), Dr David P. Rwehikiza, Dr Patric C. Singogo and Dr Fred P. Okangi (UDSM), Mr Mathew N. Reuben and Mr Yusuph M. Mwaselela (Shinyanga TC) & Dr Alex R. Kira (UDOM)

Editors: Prof. Omari K. Mbura and Dr Gerald Z. Tinali (UDSM), Dr Dorika J. Mwamtambulo (UDOM), Dr Lihoya A. Chamwali (MU) & Dr Amani A. Mwakalapuka (Language-SUA)

Designer: Mr Kuyonza K. Kuyonza

Illustrators: Mr Fikiri A. Msimbe & Mr Godlove S. Kyando (TIE)

Coordinator: Ms Doreen C. Samuel

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Dr Aneth A. Komba
Director General
Tanzania Institute of Education

Preface

This textbook, *Commerce for Secondary Schools*, is written specifically for Form Two students in the United Republic of Tanzania. It is prepared according to the *2016 Commerce Syllabus for Secondary Education Form II*, issued by the Ministry of Education, Science and Technology. The book is divided into four chapters; namely, Entrepreneurship, Warehouse management, Theories of demand and supply, and Transportation. Each chapter contains texts, illustrations, activities and exercises. You are encouraged to do all activities and attempt all the given exercises as well as other assignments provided by your teacher. Doing so will enable you to develop the intended competencies.

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Chapter One

Entrepreneurship

Introduction

Many countries across the globe face the problem of unemployment. That is why the notion of creating greater entrepreneurial activities has become an important goal for many countries. Entrepreneurship contributes to the national economy by facilitating start-ups and running micro, small, medium and large size enterprises that create job opportunities. It hence, contributes to the country's economic growth. Entrepreneurship acts as a driver for economic growth and innovation in many countries including Tanzania. In this chapter, you will learn about entrepreneurial skills and attributes, entrepreneurial motivations, factors hindering development of entrepreneurship in Tanzania, identification and evaluation of business ideas for an entrepreneurial endeavour, and entrepreneurial activities in Tanzania. The competencies developed will enable you to develop entrepreneurial capacities and mindsets and create values that will enhance your creativity.

Skills and attributes of a successful entrepreneur

With the increasing social value of entrepreneurship and rising number of entrepreneurial activities it deems important to ask what it takes to be a successful entrepreneur. The following sections examine these skills and attributes in more detail, and look at some of the questions individuals will need to ask themselves if they want to become successful entrepreneurs.

Entrepreneurial skills

Entrepreneurial skills are abilities that an individual needs to possess so as to identify and pursue different opportunities in the market. Developing entrepreneurial skills is crucial for various job roles. To become a successful entrepreneur, one needs to develop several types of skill sets. For instance, to become successful in managing a business, one might need to develop and strengthen business management skills. Similarly, one might need to develop and strengthen leadership skills for building and maintaining productive project teams. Furthermore, one might need to develop and strengthen interpersonal and intrapersonal skills for strengthening business relationships.

These skills assist entrepreneurs in gaining people's trust and respect as well as growing their businesses.

Business management skills

This encompasses necessary technical know-how to manage various aspects of the business. They include financial management, sales and marketing, decision making, and negotiation.

Financial management skills: It is crucial to have the ability to manage business finances well. It is important for an entrepreneur to be able to predict a business's cash flow, sales, as well as profit and loss. Entrepreneurs may operate their firm effectively and safeguard financial investments by developing strong financial management skills.

Sales and marketing skills: It's crucial to be able to properly market the products. An entrepreneur is likely to increase sales by offering excellent customer service and putting a marketing strategy in place.

Decision making skills: These are abilities that support capacity to select solutions to problems. These abilities enable an entrepreneur to make well-informed judgments after gathering important facts and data and taking into account various points of view for business excellence.

Negotiation skills: This is the entrepreneur's ability to resolve an issue in a jointly acceptable and clear manner. Entrepreneurs face issues, discuss them and bargain to gain advantages for their own businesses. They, thus, require negotiation skills in order to acquire business deals such as getting new customers or winning new contracts.

Leadership skills

This is the ability of an entrepreneur to influence people towards accomplishment of common goals. Leadership involves the use of friendly influences to direct the behaviour of the group members towards accomplishing certain goals. For an entrepreneur to meet their business goals, it requires commitment of the employees and other stakeholders in business. An entrepreneur, therefore, is expected to influence, convince, inspire, and motivate the business stakeholders in order to achieve the business objectives. To attain this it is crucial for an entrepreneur to develop and possess business leadership skills.

Assertiveness skills: This is the entrepreneur's ability to stand up for their own or other people's rights in a calm and positive way, without being aggressive. This skill enables an entrepreneur to be rational in the decision making.

Intrapersonal and interpersonal skills

Interpersonal refers to communication that happens between two or more individuals while intrapersonal is the communication that happen within an individual. Thus, an entrepreneur uses interpersonal skills to communicate and interact with others and uses intrapersonal skills for self-management. For a business success, an entrepreneur needs

to possess self-discipline, networking and communication skills.

Self-discipline: This is the capacity to stick with what one believes to be correct despite pressure to change one's mind. The importance of self-discipline to the success of a business may be explained on the fact that it increases inner strength, provides power to stick to own decisions, enhances the approach and transforms a dreamer into a doer. A successful entrepreneur must possess some form of self-discipline. It enables them to better manage their time, direct all of their efforts toward the objective, and much more.

Networking skills: Networking is basically about building and developing relationships with people around the entrepreneur. So, every interpersonal interaction is potentially an opportunity for networking. The ideal way to connect with like-minded business stakeholders, meet them in person, share ideas, and learn about new prospects is through networking. Thus, for the success of an entrepreneurial endeavour, one needs to possess the capacity to network with potential stakeholders.

Communication skills: This is the entrepreneur's ability to communicate and interact with others for the purpose of establishing and maintaining positive relationships in a business environment. Entrepreneurs constantly interact with people including customers, employees, financial institutions, investors and lawyers among others. The ability to establish and maintain positive relationships is important to the success of the entrepreneur's business as it facilitates gaining and retention of customers, employees and other business stakeholders. It also promotes smooth and proper flow of information that enables stakeholders to work in a coordinated manner.

Attributes of a successful entrepreneur

In a country there may be a lot of entrepreneurs who perform various entrepreneurial activities, however, not all of them are successful. Individuals involved in an entrepreneurial career need to possess certain characteristics (attributes) to be successful in the entrepreneurial endeavour. Starting and running a successful business requires an entrepreneur to possess the following attributes:

Commitment: This is an intense dedication to the job. Starting and sustaining a business require dedication and sacrifice. This helps an entrepreneur face and endure business challenges. Commitment may be manifested through sacrifice which may be in terms of time, energy and other resources dedicated to the business. Investment of less of either of these could potentially cost the business and result into unnecessary wastage and losses.

Internal locus of control: This is a belief that you have control over what happens. Successful entrepreneurs believe in themselves. They do not believe that success or failure of their venture will be governed by luck or similar forces. They believe that their accomplishments and setbacks are within their own control and influence. Internal locus of control may be developed by defining values and personal beliefs, becoming aware of your choices and accept them, evaluating your choices, asking for help and accepting failure.

Perseverance: This is the determination that pushes an entrepreneur to continue struggling for sustaining good performance of the business. Running a business requires not giving up even when facing challenges, especially during the first years of operations. An entrepreneur who perseveres and overcomes business challenges significantly improves business performance. The four essential components of perseverance are interest, practice, hope and purpose. To build perseverance mind-set, one needs to resist the desire to quit, create action plan and prioritize improvements.

Calculated risk taking: The word risk could bring to mind of chaos and unpredictability, but this is not always the case with entrepreneurs. When it comes to entrepreneurship, taking risks is a deliberate and measured outcome of starting a business. The benefits of an entrepreneur to take such risks include enjoying the first-mover advantage, learning from success and failures, expanding experimental mind-sets, building skills in risk identification and management as well as becoming adaptable to change. To reap such benefits an entrepreneur may need to develop a system for assessing risks, move past the fear of failure as well as be a change agent.

Innovativeness: Innovation involves the act of being able to come-up with new ideas (by developing new businesses, new products to the existing or new markets, new ways of production, distribution and promotion) and commercialise them. It is also about being an agent of change and creating new resource combination. Innovation may be embraced through making it a core value, team up with people with different perspectives, allow time and space to innovate as well as embracing collaboration.

Need for achievement: This is the desire to do well for the sake of an inner feeling of personal accomplishment. People with high need for achievement are likely to start and sustain their businesses than those with low need for achievement. They are also likely to take personal responsibilities and spend more time to achieve business goals. To enhance need for achievement, an entrepreneur needs to develop a vision, make the vision clear, share the vision, break the vision

into short term plans and start with the end in mind.

Activity 1.1

Think about various entrepreneurs available in your community. Then;

(a) identify two successful entrepreneurs available in your community.

(b) describe the entrepreneurial characteristics observed on each of the identified entrepreneur.

(c) explain with examples, other characteristics that you were not aware of, which are possessed by entrepreneurs.

(d) share your work with your classmates by making a presentation.

Exercise 1.1

1. There are many people running various entrepreneurial activities in your community. But not all of them are successful. If you are given an opportunity to assess a successful entrepreneur which criteria will you use?
2. Accountants need a wide variety of skills to carry out their assigned duties and responsibilities. The same applies to engineers, doctors, and people working in other professions. In case of an entrepreneur, how accurate is this statement?

Entrepreneurial motivation

Entrepreneurial motivation is the force within a person that determines the direction of the person's enterprising behaviour such as effort and persistence, in facing the challenges when starting and sustaining a business. Entrepreneurial motivation plays an important role not only in the creation of new businesses but also in sustaining them. It is concerned with factors that push or pull an individual to behave entrepreneurially. There has been a broad question on: "What factors motivate entrepreneurs to start or sustain the business?" In responding to this question two broader classifications are discussed, which are internal and external factors.

Internal entrepreneurial motivating factors

Internal motivation also known as intrinsic motivation is the person's internal desire to engage into entrepreneurial activities due to interest, challenge, and personal satisfaction. The internally motivating factors include:

Need for self-actualisation: This is an inner drive in an individual to achieve a set of life goals. Individuals differ in their self-actualisation, some have very high goals in life, such as freedom, independence and others have low or no goals at all. Those with very high goals are likely to be internally motivated to work hard to achieve them.

Desire to satisfy individual and society needs: This is the feeling of an individual to have something for the society. Individuals differ in their desires to satisfy society needs. Those with high desires are more likely to develop innovative solutions to the society problems unlike those with low desires.

Internal locus of control: Individuals with internal locus of control believe that they have control over what happens. Moreover, they possess a belief on the fact that through their efforts they can achieve positive results. Those with internal locus of control are likely to engage into entrepreneurship activities. Therefore, when such individuals realise business opportunities in the market, they are more likely to venture into starting and sustaining the business as they believe that they are the ones responsible to seize these existing opportunities and not others.

One's occupational experience in the relevant field: Experience provides exposure, improves skills and knowledge of an individual over a period of time. Experience shapes individual's behaviour, and at times it improves one's perceptions on how to conduct business, hence improving their performance. It also gives a greater competitive edge even under stiff competition. Through the experience, an individual is able to visualise opportunities in the market, and develop products and services to capture the given opportunities.

Personality: Individuals have different personalities in a given society. Those individuals who would prefer to be seen as job creators, and solution providers are likely to engage into entrepreneurship activities rather than those with no such attitude.

External entrepreneurial motivating factors

External motivation also known as extrinsic motivation comes from factors outside the person. The following are the factors that contribute to the external entrepreneurial motivation:

Training institutions: Individuals' development of entrepreneurial attributes has often been facilitated by various training institutions whether formally or informally. Such institutions promote entrepreneurial culture in the society through shaping the behaviour and skills of the trainees. These institutions include schools or colleges, families, and religious institutions. For instance, entrepreneurial training offered at schools or colleges may foster creativity, curiosity, open-mindedness and good interpersonal skills. At family level, children may be enabled to be independent which is more likely to lead into the development of entrepreneurial tendencies. Religious institutions and ethnic groups on the other hand provide members with determination, trustworthiness and hardworking traits which are likely to play a role in starting and sustaining businesses.

Government policies and programmes: The government creates a conducive environment for investment through the establishment and implementation of different policies and programmes. For instance, in boosting start-up businesses, the government through the Sustainable and Industrial Development Policy (SIDP) and Small and Medium Enterprises (SMEs) policy has established incubation hubs provided by the Small Industries Development Organisation (SIDO) and Tanzania Commission for Science and Technology (COSTECH) across the country. These incubation hubs help in reducing the entry barriers to micro and small entrepreneurs to start their businesses. Through these incubation hubs entrepreneurs are developed and nurtured. Similarly, the government, usually sets a certain percent of budget to support the entrepreneurial activities for women, youths and people with disability in the respective Local Government Authority.

Opportunities in the market: Usually, entrepreneurs enter into business in order to solve problems facing the society. It is through seeing or experiencing these problems facing the society that entrepreneurs may see them as business opportunities or potential markets to fulfil their enterprising aspirations. As a result, availability of business or market opportunities motivates individuals to develop innovative solutions to solve such problems.

Availability of supportive resources: Availability of different assets increase the chances that one would start a business. Some individuals are motivated to start a business after being allocated or bestowed with a piece of land, premises and other facilities by developmental projects. Grants or loans provided may also motivate individuals to engage in entrepreneurial activities. On the other hand, families support children in terms of giving them exposure to the business as well as moral, and financial support if needed. These forms of assistance help to equip children with vital skills one needs to become an entrepreneur.

Importance of entrepreneurial motivation

Entrepreneurial motivation plays an important role in the conception, development and sustainability of a business. The importance of entrepreneurial motivation is manifested in the following aspects:

Introduction of new goods and services: In the markets, motivated entrepreneurs tend to strive to innovate and introduce new goods or services whenever an opportunity is visible.

Change agents for growth and economic transformation: Problems facing the society need to be turned into opportunities for developing products and services. Motivated entrepreneurs act as change agents in provision of

solutions to the society's problems. This leads to improved welfare and increased employment opportunities hence a transformed economy of a given country.

Opening up new markets: Motivated entrepreneurs see opportunities where others see problems. As a result, they exploit the identified opportunities by using required resources to produce a product and offer it in a new market. Whenever entrepreneurs do so, new markets are identified and opened.

New methods of production: Due to the fact that motivated entrepreneurs are constantly innovating, they usually find the best ways of serving their customers better through introducing some new ways of production. As innovators, entrepreneurs identify new technologies in the market. This helps them to produce quality products at low costs that enhances the offering of affordable prices for customers.

Create jobs: Motivated entrepreneurs are employers of the factors of production including labour. They create jobs for themselves and others as their businesses grow. Through created jobs they enhance stabilisation of the labour market.

Meeting organisational goals: Setting and reaching organisational goals is one of the priorities of motivated entrepreneurs. Motivated entrepreneurs always strive to meet organisational goals.

Activity 1.2

Using reference materials from your school or various websites;

(a) read about entrepreneurial motivations and its importance.

(b) reflect and identify your internal motivations towards undertaking any entrepreneurial activity in Tanzania.

(c) share your work with your classmates by making a presentation.

Exercise 1.2

1. An entrepreneurship week will be held at Majimaji primary school to motivate students to learn about entrepreneurship. As a guest speaker, you are required to talk about intrinsic motivation for entrepreneurs. Give a brief overview of the motivating factors for entrepreneurship that you will talk about.
2. Yusta is internally motivated to start and run her own business. She believes that an external incentive is necessary to accomplish the goal. Assist Yusta to identify the external motivators necessary to accomplish the goal.

Entrepreneurial activities in Tanzania

Entrepreneurial activities in Tanzania are categorised into different sectors. These sectors include agriculture, manufacturing, mining, energy and

services. The possible entrepreneurial activities that can be conducted in each of the sectors are explained as follows:

Agriculture

This is one of the important sectors in Tanzania that on average accounts for a quarter of the Gross Domestic Product (GDP), and two-thirds of total employment. The main entrepreneurial activities in this sector include crop farming, livestock keeping, horticulture, fishing, forestry, and beekeeping sub-sectors.

Crop farming: Creates opportunities for entrepreneurs to engage in cultivation and selling of crops. Generally, many of the entrepreneurial activities in Tanzania are found in the production of maize, rice, cotton, cashew nut, tea, coffee, tobacco, sisal, palm, soybean, cloves, cocoa, cassava, sugarcane, and sunflower. These crops are directly or indirectly traded in different domestic and international markets. Other entrepreneurial activities in crop farming include designing, developing and trading of agricultural inputs such as seeds, equipments and manure, providing storing space for harvest, farm rentals and transportation of agricultural crops.

Livestock-keeping: Major entrepreneurial activities in this sub-sector include keeping farm animals (cattle, goats, sheep, rabbits, pigs, and donkeys) and poultry (chicken, ducks, francolins guinea fowls for business. Figure 1.1 shows a poultry business. Other entrepreneurial activities in livestock include selling of animal products (like milk, meat, eggs, leather, feathers, hooves and hives), operating a veterinary pharmacy, production and selling of livestock feeds.

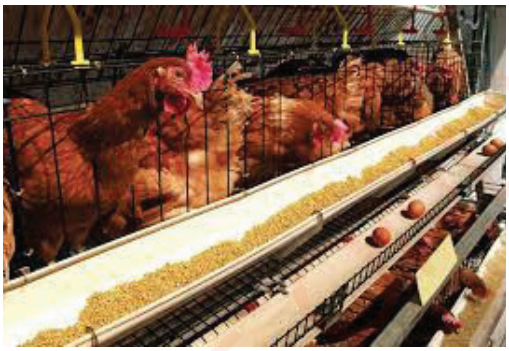


Figure 1.1: *Poultry business*

Source: *https://www.britannica.com/topic/poultry-farming*

Horticulture: Horticulture is a sub-sector which comprises different entrepreneurial activities. The major entrepreneurial activity involves production and selling of horticultural crops like fruit, vegetables, flowers, spices, herbs and horticultural seeds. Others include seedlings nursery as well as, transporting, storing, and processing of horticultural products. In Zanzibar, the major producers of horticultural crops are in Kizimbani Spice Farm, Mtambwe and Gando. Moreover, the major producers of horticultural crops in Tanzania mainland are Southern Highlands (Mbeya, Njombe, Iringa and Ruvuma), Northern Zone (Kilimanjaro, Manyara, Arusha and Tanga), Coastal and Central areas (Morogoro, Dar es Salaam

and Coast Region) as well as the Lake Zone (Mwanza and Mara). In Zanzibar, the major producers of horticultural crops are Pemba and Unguja. Figure 1.2 shows horticulture farming in a greenhouse.

Figure 1.2: *Horticulture farming in a greenhouse*

Source: *https://www.hamasamagazine.com/2018/05/27/the-greenhouse-farming-technology-an-opportunity-for-youths-to-end-poverty/*

Fishing: Entrepreneurial activities in the fishing sub-sector include freshwater fishing, sea and deep-sea fishing as well as aquaculture (fish farming like fish caging and fish ponds). Fish are often caught in the wild but may also be caught from stocked bodies of water. This can be done by hand gathering, spearing, netting, angling and trapping. Other entrepreneurial activities in fishing sub-sector include raising fingerlings, raising and selling ornamental fish (aquarium), selling fish, fish oil and sea products like sea shells and precious stones.

Forestry: Entrepreneurial activities found in this sub-sector include nursery for raising seedlings, planting and selling of trees, and production of timber, firewood, charcoal, furniture, herbs and beekeeping.

Beekeeping is one of the strategic sub-sectors that the government of Tanzania is putting more emphasis under its Beekeeping Development Programme. There are several entrepreneurship activities in this sub-sector. These include beekeeping, processing and selling bee products such as honey and beeswax. Other entrepreneurial activities include producing and selling of beehives. Figure 1.3 indicates a beekeeping activity in the Northern Lake Nyasa Mountain Complex in Tanzania.

Figure 1.3: *Beekeeping activities*

Source: *https://www.cepf.net/grants/grantee-projects/establishing-honey-viable-alternative-livelihood-across-northern-lake-nyasa*

Manufacturing

Entrepreneurial activities in the manufacturing sector include agro-processing industries, petrol and chemical industries, iron and steel industries and automotive industries. Some of the agro-processing industries include textile and

garments, leather, food items such as bread, biscuits, wheat and maize flour, soft drinks, alcoholic beverages and sugar industries. Figure 1.4 shows textile processing industry.

Figure 1.4: *Textile processing industry*

Mining

The entrepreneurial activities in this sector include mining, processing, designing and selling of minerals. The key mines include industrial minerals and precious metals which are iron ore, soda ash, coal, clay soil, uranium, gold, diamond and Tanzanite. Figure 1.5 shows some of mining artisans at work in one of the underground mines. Another entrepreneurial activity in this sector include quarrying, which involves the extraction and cutting of minerals for sale.

Figure 1.5: *Artisanal mining activities*

Source: *https://www.lotusgemology.com/index.php/library/articles/144-working-the-blue-seam-the-tanzanite-mines-of-merelani*

Energy

In this sector the entrepreneurial activities are traced in provision of different services by companies operating in the oil, gas, and renewable energy businesses. The sector has created other entrepreneurial opportunities through distribution of solar power products, gas and operating fuel filling stations. Figure 1.6 indicates an example of fuel filling station.

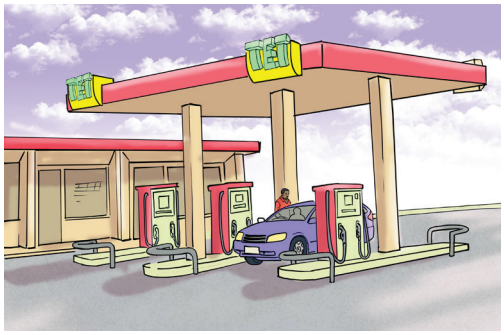


Figure 1.6: *Filling station*

Services

In this sector there are several entrepreneurial activities that can be created from services such as construction, financial services, trading, travel and tourism, real estate, insurance, education and training. Others include trading, hospitality industry, health and fitness services, security services, communication, transportation and clearing and forwarding services.

Construction: Construction is one of the growing sectors in Tanzania. The entrepreneurial activities in this sub-sector are traced in different aspects including construction companies, masonry, contractors, architects, quantity surveyors, distribution and selling of construction materials such as cement and iron bars.

Financial services: In this sub-sector the entrepreneurial activities comprises of operating banks, microfinance institutions (MFIs), bureau de change, trading of treasury bonds, and capital markets trading. Other entrepreneurial activities include financial agents such as mobile money and bank agents.

Travel and tourism: Travel and tourism are entrepreneurial activities that involve operating a travel and tour company, tour guiding, training institutions, marketing and selling cultural ornaments, operating a cultural troupe, and hunting business. Figure 1.7 shows tour guiding activities in one of the national parks in Tanzania.

Figure 1.7: *Tour guiding activity in one of the national parks in Tanzania*

Real estate: Real estate consists of land and buildings, along with its natural resources such as minerals and immovable properties of this nature. Types of real estate investments include: single family homes, vacation homes, duplexes, apartments, land, and commercial property. Real estate is one of the growing sub-sectors in Tanzania whose entrepreneurial activities include valuation services, property management services, leasing and land management. Other entrepreneurial activities include being a real estate agent, auctioneer and broker.

Insurance: In the insurance sub-sector, the entrepreneurial activities involved are establishing and running an insurance company, brokerage and agents businesses. An entrepreneur participating in the insurance sub-sector can benefit through receiving commission fees.

Education and training: Education and training is an entrepreneurial activity which involves provision of short-term and long-term training programmes to different groups. The training

programmes may be conducted by educational institutions such as schools, colleges or individuals. This may be formal schooling or informal.

Trading: Trading involves buying and selling of products for the purpose of making profit. Literally all entrepreneurial activities end at exchange. However, the most commonly referred trading activities in this context is the buying and selling of commodities at either retail or wholesale level. Wholesaling activities include distribution companies and agents of different companies or products. Some of the retailing activities for physical goods include supermarkets, mini-markets, retail shops and grocery stores. For services, retailing activities include mobile money agents, utilities vendors, restaurants, and online markets (buying and selling platforms).

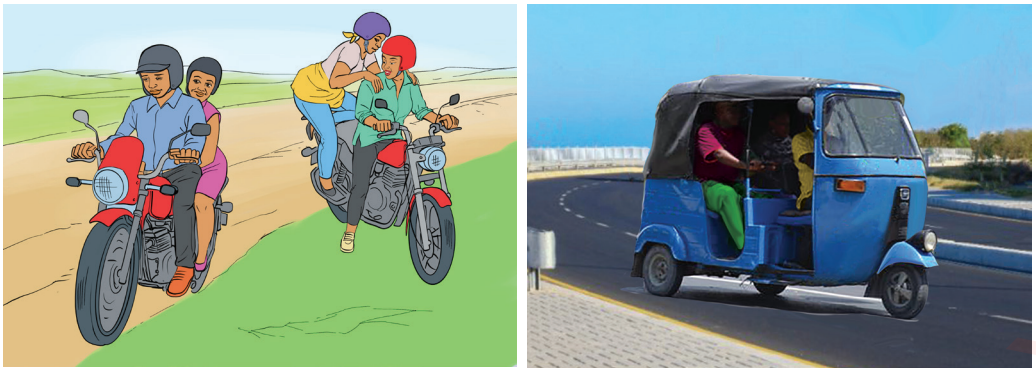
Hospitality industry: This is a service industry which involves entrepreneurial activities such as accommodation, food and drinks services, event planning, and amusement parks. Other entrepreneurial activities include operating conference facilities, camp sites and resorts.

Health and fitness services: The entrepreneurial activities in health and fitness include establishment of fitness centres (gym), private clinics for counselling, selling exercising equipment and cloth, and medical services.

Security: The security sector has several entrepreneurial activities including running a security company that may offer man guard services, selling security products such as security cameras, electrical fences, security dogs and security alarms. Other entrepreneurial activities include facilitating trainings for man guards and security dogs.

Communication: With regard to communication, entrepreneurial activities involve operating courier services, radio and television stations, social media platforms, telecommunication companies and newspaper vending.

Transportation: Transportation services have several entrepreneurial activities including operating the city or town public road-transport services such as motorcycles 'bodaboda,' bi-cycle, tri-cycles 'bajaji,' buses (intra-city and interregional), taxis, e-transport and trucks for domestic and international transport. In waterways, the entrepreneurs get involved in operating fast ferries or boats. On the part of air transport, entrepreneurs get involved in operating airlines, maintenance of aircrafts and cleaning services. Figure 1.8 shows motorcycles and tricycle transportation services.



(a) Motorcycle (b) Tricycle

Figure 1.8: *Transportation services*

Clearing and forwarding: Clearing and forwarding activities include activities of processing documents and clearing goods from customs on behalf of the importer or exporter. Entrepreneurial activities under this sector include establishing a clearing and forwarding company to serve as a clearing agent. Figure 1.9 shows the movement of containers in one of the ports in Tanzania after fulfilling the necessary documentations by the clearing agent. Other entrepreneurial activities include transport services.

Figure 1.9: *Clearing and forwarding activities*

Activity 1.3

Identify at least three entrepreneurial activities that you are aware of in your community;

(a) describe the products or services provided by each entrepreneurial activity identified.
(b) elaborate the social, economic or political problem that each entrepreneurial activity will solve in the community.
(c) share your work with other groups by making a class presentation.

Identification and evaluation of business ideas for an entrepreneurial endeavour

An entrepreneurial activity requires identification of viable entrepreneurial ideas. The ideas may come from different sources including the unmet needs, wants or preferences of the community, individual's past

experience, friends, family, publications, websites, government programmes, and technological advancement. These ideas may be relatively new or may be modifying existing businesses by coming up with different concepts. At times, others may be copied from the existing activities (copycats) which is not always a very sustainable option. All business ideas need to be identified and evaluated based on a number of criteria. These criteria include:

Uniqueness: Uniqueness does not necessarily mean that no one else provides the same product or service. It may be that no one in the area provides or packs it the way the entrepreneur does. The entrepreneur is expected to look for some ways to distinguish his or her product or service from others who are already in the business.

Market availability: It is important that there is a ready market for the product to be offered. There should be indications for market availability. This can be assessed through establishing qualitative and quantitative gaps in the provision of goods or services. For instance, if there are very few products in the market compared to what the market requires then this implies a quantitative gap. This means there is a need for more quantities of the product in the respective market. Likewise, the market would have enough quantity of a given product but its quality does not match the preferences of the customers, which implies a qualitative gap. Here the opportunity is on supplying high quality products in the market compared to the existing ones. Market availability, therefore, may be assessed through the opportunities observed in the market.

Growth potential: A business is established to sustain several generations. Potential entrepreneurial business ideas should thus, always have chances for future growth. A business idea which is profitable and sustainable has growth potential.

Compatibility with society and entrepreneur's values: A business idea should relate with the society and entrepreneur's life style. For instance, if selling alcoholic beverage is unethical then the entrepreneur should not get involved in such a business. It is important that an entrepreneur engages in activities that he or she has passion with and which are ethically acceptable to the entrepreneur and the society.

Possibility of growth from initial capital: The entrepreneur has to look for business ideas with the potential to attract funding by investors, stakeholders and financiers likely to provide or top up on the initial capital. Financial institutions and other stakeholders' involvement in a business is likely to promote business growth.

Activity 1.4

Think about a business opportunity and;

(a) identify the business opportunity and develop its respective entrepreneurial idea.

(b) evaluate the identified entrepreneurial idea based on the criteria of evaluating a business idea for entrepreneurial endeavour.

(c) elaborate the social, economic or political problem that your entrepreneurial idea will solve in the community.

(d) share your work by making a presentation and note down the provided comments.

(e) improve your entrepreneurial idea based on the comments you have received.

Exercise 1.3

1. You will need to start a small business in order to assist your parents in paying for your school fees. Can you describe the criteria you will use to assess your business idea?
2. When assessing why most of the business ventures in Kilima village fail to expand, some villagers complained about their inability to obtain enough funds to sustain them. However, this was not a problem to some other villagers. What do you think was their problem?

Factors hindering the development of entrepreneurship in Tanzania

There are various factors hindering development of entrepreneurship in Tanzania. Some of these factors include:

Difficulties in accessing finance: This is one of the major constraints facing majority of the entrepreneurs. Majority of start-up businesses have no assets to be used as collateral or credit history that the financial institutions could use to advance credit facilities to them. Such a challenge leads to entrepreneurs to have their visions or goals not realised. Recently, there have been some efforts that are being undertaken by different stakeholders to minimise the magnitude of this problem. For instance, the Central Government usually directs the local government authorities to set aside a certain percent of their income to be advanced as credit to youths, women and people with disability commonly referred to as special groups. Similarly, most financial institutions have set up different financial products that may facilitate start-ups or entrepreneurs who are still struggling to access funds. International organisations are also developing various programmes aimed at creating linkages between entrepreneurs and financial institutions. Other services include credit guarantee schemes offered by both the government and international institutions.

Challenges in accessing markets: This arises due to increased competition among entrepreneurs or lack of adequate domestic market to meet the production capability. This may also result from failure of entrepreneurs to bring into the market different products due to poor infrastructures, making it hard for them to access some potential markets. In an attempt to resolve this challenge, there has been some efforts to strengthen marketing agencies and encourage entrepreneurs' participation in trade fairs, both local and international.

Difficulties in accessing technology: Some of the entrepreneurs fail to produce products of the desired quality due to lack of access to the right or advanced technology. This makes them fail to compete in the market with companies that use advanced technology. In addition, lack of access to the right technology may also deny them an opportunity to produce at low cost. The government has been continuously making intervention to improve SME's access to technology such as promoting linkages between entrepreneurs and technological services.

Inputs challenges: In some instances, suppliers are expected to supply raw materials to entrepreneurs to carry out their businesses. Majority of the entrepreneurs face the challenges of not receiving adequate amount of the required raw materials, they also receive raw materials of low quality. Increase in prices of raw materials is another challenge which has negative impact on the entrepreneurial activities in Tanzania. High prices of raw materials increase the cost of production. Several efforts have been taken by the government to increase raw materials accessibility by subsidising. For example, in agriculture the government usually subsidizes seeds and agricultural equipments to enable more entrepreneurs to engage in agricultural activities.

Regulatory challenges: Regulations may facilitate or deny entrepreneurs opportunities to engage into business. There have been claims that there are a number of unnecessary regulations that an entrepreneur has to comply with when registering a business or product or accessing some markets. Such regulations hinder some people to engage into entrepreneurial activities. To solve this problem the government of Tanzania conducts regular reforms of its policies to improve the business environment in Tanzania.

Challenges in accessing qualified and trusted workforce: Entrepreneurship businesses are sometimes constrained by lack of qualified and trusted workforce. Some of the employees do not have the required skills or qualities to perform a given task, whereas, others are not faithful at workplace. Such employees negatively affect productivity. To solve this challenge the government has

introduced free education to primary and secondary schools, and loans to facilitate education of university students.

Limited business knowledge and skills: Some of the entrepreneurs lack adequate knowledge and skills to undertake business efficiently. Having motivation to venture into the business is not quite enough. There is a need for an entrepreneur to possess adequate knowledge and skills to efficiently run the business. Such knowledge include record keeping, information and computer technology, marketing and human resources management. However, lack 21st century skills such as creativity, communication, collaboration and critical thinking may lead to slow business growth. Among the initiatives to solve this problem is the introduction of entrepreneurship as a topic in commerce subject in ordinary level of education.

Limited business development services: Business development services in the market are important for the growth of enterprises, whereas, their absence lowers enterprises growth. Business development services include guidance or business advice, market research and market access or linkages. Very few entities offer such kinds of services in Tanzania which is likely to affect enterprise performance negatively.

Physical infrastructure challenges: Physical infrastructure, such as working premises, equipment and means of transport that link production areas and markets, are important for facilitating business operations. Lacking such infrastructures may hinder business growth. The government has constantly been working on improving physical infrastructure by creating conducive environment for businesses to operate. For a case in point, construction of business centres like Machinga Complex in Dar es Salaam, Job Ndugai Market in Dodoma and Kisutu Market in Dar es Salaam. Furthermore, infrastructures like roads and railway lines that link producers to different markets are increasingly improved by the government.

Poor succession plan: Some entrepreneurs fail to put systems in place that may take over running of the business once the entrepreneur can no longer do so. This has been one of the reasons why some businesses collapse once the owner is no longer part of it.

Activity 1.5

Visit any nearby enterprise and;

(a) identify clearly the challenges faced by the entrepreneur in operating the business.

(b) describe the strategies the entrepreneur adopted to deal with the identified challenges.

(c) share your work by presenting it in the class.

Chapter summary

1. Entrepreneurial skills are abilities that an individual needs to possess so as to identify and pursue different opportunities in the market and become successful. These skills include; negotiation skills, social or interpersonal skills, leadership skills, and assertive skills.
2. Individuals involved in an entrepreneurial career require to possess certain attributes to be successful. These attributes include; commitment, perseverance, innovativeness, need for achievement and vision.
3. Entrepreneurial motivation is a force within a person that determine the direction of a person's enterprising behaviour, a person's level of effort and persistence in the face of obstacles in starting and sustaining a business.
4. Entrepreneurial motivation is influenced by both internal and external factors.
5. Motivated entrepreneurs are important as they introduce new goods and services, act as change agents for growth and economic transformation, open up new markets, introduce new methods of production, are job creators, achieve business goals and contribute to technological advancement.
6. The criteria for evaluating a business idea include its uniqueness, market availability, growth potentials, compatibility with society and owner's values and ability to raise the required capital.
7. There are several entrepreneurship activities in Tanzania in the major three sectors of agriculture, manufacturing and services.

Revision exercise

Choose the correct answer by writing its corresponding letter

1. A person's internal desire to engage into entrepreneurial activities due to interest, challenge, and personal satisfaction is referred to as
   (a) extrinsic entrepreneurial motivation
   (b) intrusive entrepreneurial motivation
   (c) intrinsic entrepreneurial motivation
   (d) exotic entrepreneurial motivation
2. Mrs Dodo coordinates all productive resources and bears the business risks. Who is Mrs Dodo?
   (a) An employee
   (b) An entrepreneur
   (c) An employer
   (d) A consumer
3. There are many entrepreneurs conducting different entrepreneurial activities, but not all of them are successful. Which of the following is not an attribute of a successful entrepreneur?

(a) Commitment
(b) Innovative
(c) Negligent
(d) Perseverant

4. Doctor Salum lives in Mbezi village, he wants to establish a business, but he is unaware of factors that may hinder the development of his activity. Identify one factor that cannot challenge him.
(a) Access to potential market
(b) Access to qualified and trusted workforce
(c) Decrease in price of raw materials
(d) Adequate skills and knowledge to undertake the business

5. Which of the following would provide an individual with a motivation to start a business?
(a) Increase in tax
(b) Desire for self-actualisation
(c) Inadequate resources
(d) Lack of training institutions

6. **Match the items from Group A with those in Group B by writing the letter of a statement in Group B that corresponds to an item in Group A**

Group A	Group B
(i) Commitment	A. The ability of an entrepreneur to influence people towards accomplishment of goals.
(ii) Innovativeness	B. An entrepreneur's ability to communicate and interact with others in the business ecosystem.
(iii) Perseverance	C. The intense dedication to the job.
(iv) Leadership skills	D. An entrepreneur's ability to search jointly for a mutually acceptable solution to a common problem, understand and consider the interests of the other side.
(v) Negotiation skills	E. The determination that pushes an entrepreneur to continue striving for business excellence all the time.
(vi) Growth potential	F. The act of coming up with new ideas and commercialise them.
(vii) Need for self-actualisation	G. Refers to actively seeking opportunities rather than waiting for them to occur by chance.
(viii) Intrinsic entrepreneurial motivation	H. Evaluation criteria for the entrepreneurial idea.
	I. An inner drive in an individual to achieve the set life goals.

Group A	Group B
(ix) Opening up markets (x) Interpersonal skills	J. Importance of entrepreneurial motivation. K. The psychological force within a person that determine the direction of a person's enterprising behaviour, a person's level of effort, and a person's level of persistence in the face of obstacles in starting and sustaining the business. L. Driver of entrepreneurial motivation.

7. If you are to alert individuals aspiring to start a business, what issues are you going to address as key challenges facing entrepreneurs in Tanzania?
8. Suppose your goal is to establish a profitable business. Briefly describe the attributes you would need to have.
9. Imagine you heard from your friends that they intend to open micro enterprises after completing their ordinary level education. Advise them on the necessary skills they will need to have in order to successfully operate their enterprises.
10. Assume you had the privilege to meet the Minister for Industry and Trade, explain to the minister how entrepreneurial motivation will enhance economic growth in Tanzania.
11. Agriculture, manufacturing and services are among of the major entrepreneurial sectors in Tanzania. Identify at least three entrepreneurial activities conducted in each sector.

Chapter Two

Theories of demand and supply

Introduction

Often, people go to the market to buy goods or services which are sold by various sellers. When consumers (buyers) purchase goods or services it means there is a demand for the product. When producers (sellers) bring the product to the market it means there is a supply for the product. Normally in the market, there is a mismatch between what is demanded and what is supplied. Sellers can supply more than what is demanded by consumers in the market resulting into a decrease in price. Conversely, consumers may want to purchase more than what is supplied in the market resulting into an increase in price. Thus, the study of demand and supply focuses on behaviours of consumers and producers in the market. In this chapter you will learn about theories of demand and supply. The competencies developed will enable you to determine optimal (equilibrium) prices and quantities that are essential for producers profit-making decisions while satisfying the needs and wants of the consumers.

Theory of demand

The theory of demand encompasses information about demand. It covers the meaning of demand and quantity demanded, the law of demand and its underlying assumptions, as well as demand schedules and curves that show consumer demand on an individual and market level. Additionally, it explains about interrelated demand, the distinction between change in demand and change in quantity demanded, as well as price elasticity of demand.

Demand and quantity demanded

Demand is the willingness and ability of a consumer to purchase certain quantities of goods or services in the market at a given price in a specific period of time. In the market, the demand side comprises of consumers of goods and services. Therefore, demand deals with consumption side by focusing on behaviour of the consumers in the market when there are changes in market situations. Demand should not be confused with desire or want which is a strong feeling of wanting to have something or wishing for something to happen.

Quantity demanded is the amount of goods or services that consumers are willing and able to buy at a given price in

a specific period of time. It is measured in units of goods or services purchased within a given period, such as daily, monthly, quarterly, semi-annually or annually.

The law of demand

The law of demand assumes existence of an inverse (negative) relationship between the price of goods or services and quantities that consumers are willing and able to purchase, holding all other factors constant (ceteris paribus).

The law of demand states that, "if all other factors remain constant, when price of a good or service increases, its quantity demanded will decrease, whereas, when a price of good or service decreases, its quantity demanded will increase". That is, if a person normally buys two loaves of bread each at a price of TShs 1,000, then if the price per loaf of bread increases to TShs 1,200, assuming all other factors remain constant, the person will prefer either to buy a less amount of bread or buy another product that is almost similar to bread such as pancakes.

Assumptions of the law of demand

The law of demand assumes that all other factors affecting demand for a good or service such as consumers' income, taste and preference, prices of related goods and consumers expectations about future change in price, do not change. These assumptions on the law of demand are explained as follows:

There is no change in consumers' income: The law of demand operates only when consumers' income does not change. That is, the consumer's purchasing power must remain constant. The law will not operate if the consumer's income changes. For example, if an employee's salary increases and prices of goods and services increases, the employee will not hesitate to buy goods and services at higher prices because the salary has increased.

There is no change in consumer's taste and preferences: If the taste and preference of the consumers change, demand for goods and services will change regardless of an increase or decrease in price. For example, if a teenager stops wearing boots and starts preferring sandals, even if the price of boots decreases the teenager will not purchase them because the preference has changed. This violates the law of demand.

Prices of all other related goods should not vary: Related goods can either be substitute goods (goods that serve the same purpose) or complementary goods (goods that consumers use together). If the price of substitute goods change, the law of demand will not hold. For example, Coca Cola and Pepsi are substitute products, when the price of Coca Cola increases to TShs 600 per bottle and the price of Pepsi remains at TShs 500 per bottle, consumers will

demand more Pepsi than Coca Cola. The quantity demanded for Coca Cola will fall due to changes in its price compared to the price of its substitute good whose price remained constant. Likewise, the law of demand will not operate if the price of complementary goods such as tea and sugar changes. If price of bread increase, consumers will demand less bread and hence they will also demand less butter, although the price of butter remained the same.

Consumers should not expect future changes in price: This is because, if on one hand consumers expect an increase in the price of products in the future, they might increase demand for particular products, regardless of the current increase in price of those products. On the other hand, if consumers expect a decrease in price of the products in the future, they might decrease demand for the products even if the current price has decreased.

Demand schedules and demand curves

An individual's demand for a good or service can be expressed using a demand schedule and a demand curve. Demand schedules and demand curves are explained as follows:

Demand schedule

Demand schedule is a table that shows the relationship between the price of a good or service and the quantity demanded at given period of time, holding all other factors affecting demand constant. Table 2.1 is a demand schedule, that shows the relationship between price per packet of mango juice and the quantity demanded by student A.

Table 2.1: *Hypothetical individual demand schedule for packets of mango juice per month*

Price of mango juice (TShs per packet)	Quantity demanded by student A (packets)
500	10
600	7
700	5
800	3
900	1
1,000	0

Table 2.1 shows that, when the price per packet of mango juice was TShs 500, student A bought 10 packets of mango juice, and at TShs 600 the student bought 7 packets. The trend continues and at last when the price per packet of mango juice became TShs 1,000, student A could not afford to purchase it.

Demand curve

Demand curve is a graph showing the relationship between the price of a good or service and the quantity demanded. Figure 2.1 is a demand curve showing an individual's (student A) demand for a good (packets of mango juice) using data extracted from the individual demand schedule in Table 2.1.

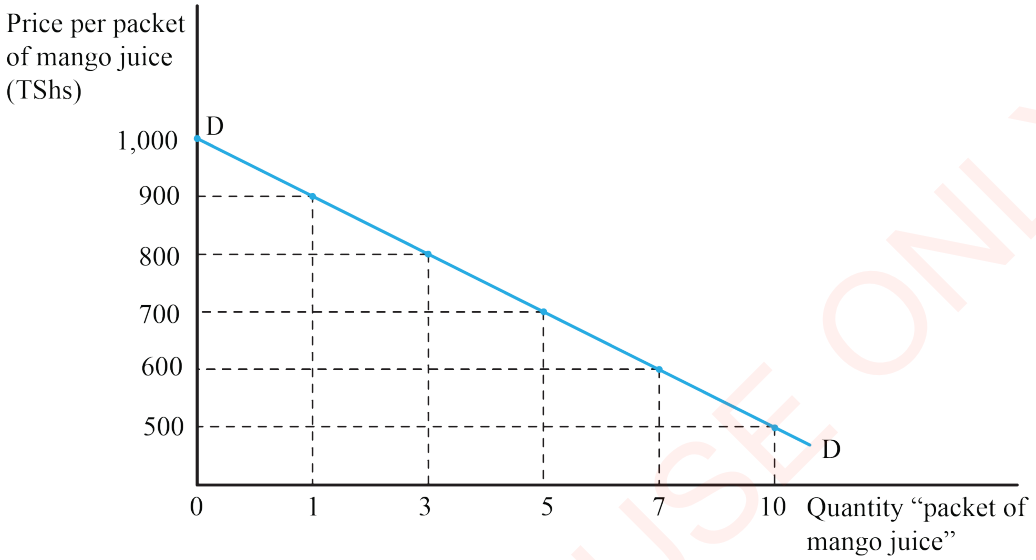


Figure 2.1: *Demand curves*

Figure 2.1 shows the relationship between the price of a good (vertical axis) and quantity demanded by student A (horizontal axis), when all other factors affecting demand remain constant. The demand curve slopes downwards from left to right (has a negative slope) because, at a lower price more quantity of a good is demanded, other factors remaining constant.

Activity 2.1

Think of a product that is mostly demanded by your fellow students at your school;

(a) conduct an interview to two students on the quantity they may demand at price levels of TShs100, TShs 200, TShs 300, TShs 400 and TShs 500.

(b) construct an individual demand schedule using the information you have gathered from the interview.

(c) sketch an individual demand curve for each student you have interviewed using data from the demand schedule created in (b).

(d) make a presentation in the class about the relationship between price of a product and its quantity demand by demonstrating the demand schedule and curves you have developed.

Market demand schedule

Market demand schedule is a table showing the summation of quantities of goods demanded by all individuals at each price in a given period of time. Table 2.2 shows market demand schedule for packets of mango juice of two students in the market, student A and B. At each given price, student A's demand schedule shows the number of packets of mango juice bought by the student. Also, at each given price, student B's demand schedule shows a number of packets of mango juice bought by the student. Therefore, the market demand schedule in Table 2.2 shows the sum of the quantities demanded by both students at each price.

Table 2.2: *Hypothetical market demand schedule for packets of mango juice*

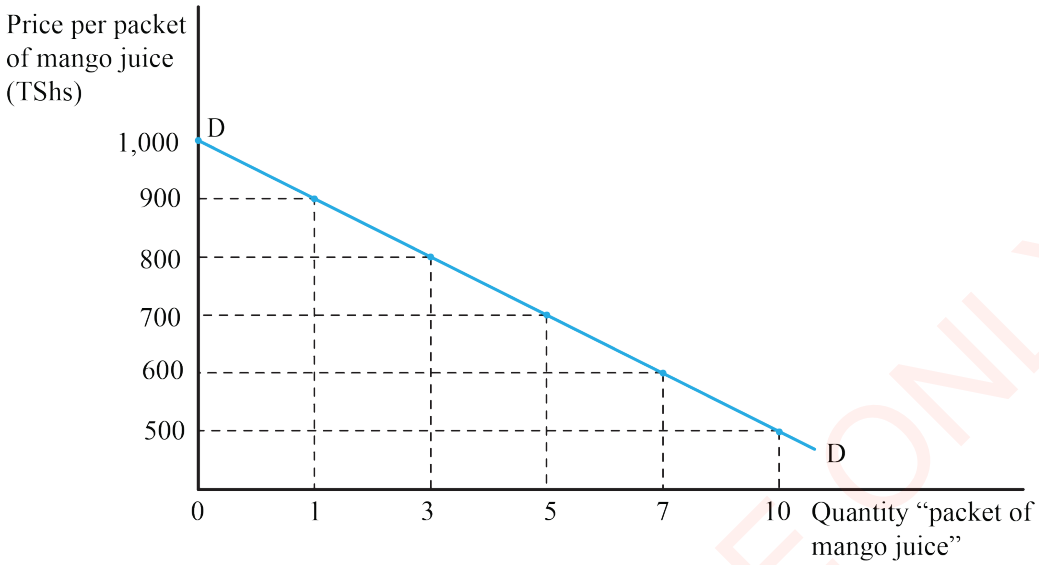
Price of mango juice (TShs per packet)	Quantity demanded by student A (packets)	Quantity demanded by student B (packets)	Market demand (packets)
500	10	9	19
600	7	8	15
700	5	6	11
800	3	5	8
900	1	3	4
1,000	0	2	2

Table 2.2 shows when the price per packet of mango juice was at TShs 500, the market demand was 19 packets of mango juice and when price increased to TShs 1,000 market demand reduced to 2 packets of mango juice.

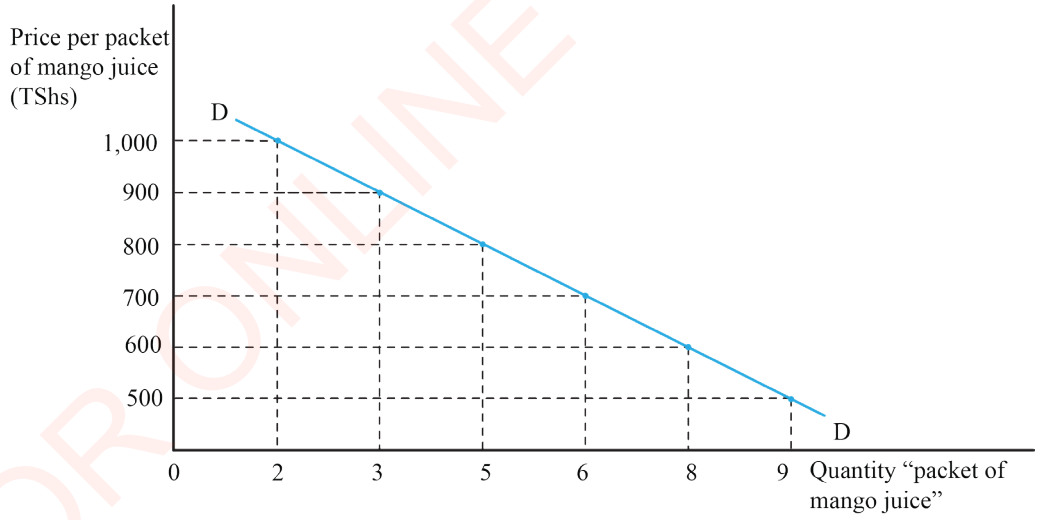
Market demand curve

Market demand curve is a graph showing the summation of quantities of goods demanded by all individuals at each price in a given period of time. Figure 2.2 shows a market demand curve for student A's and student B's demand for packets of mango juice. At each given price, the market demand curve shows a number of packets of mango juice bought by student A and B. Therefore, the market demand curve in Figure 2.2 shows summation of the quantities demanded by both students at each price.

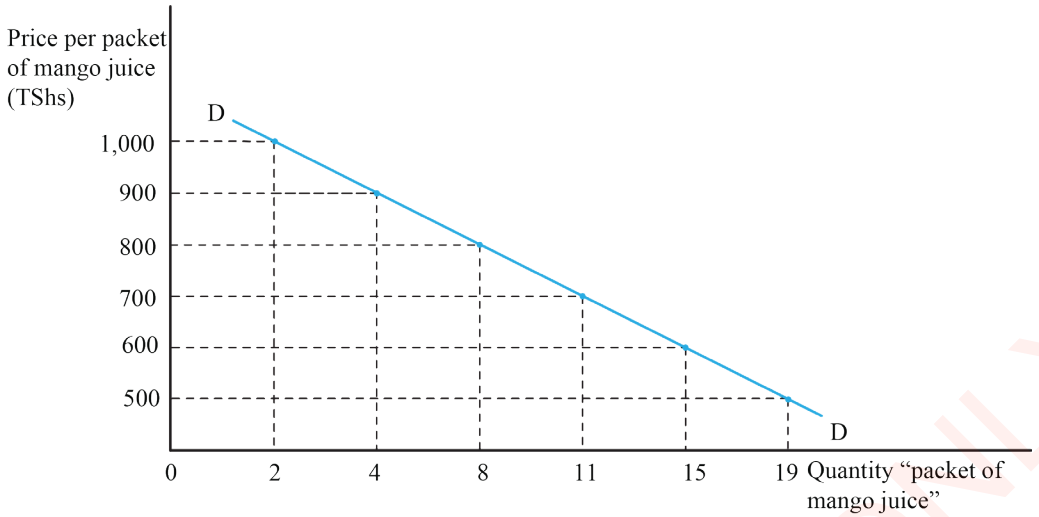
Student A's demand + Student B's demand = Market demand



Student A's demand curve



Student B's demand curve



Market demand curve

Figure 2.2: *Market demand curve (aggregate demand curve for Student A + B)*

Activity 2.2

Using the data extracted in Activity 2.1;

(a) construct a market demand schedule and a market demand curve for the two students.

(b) make a presentation in the class elaborating the concept of market demand using the market demand schedule and curve you have developed.

Exercise 2.1

1. Mwinyiheri noticed that, when price of goods in his shop increase, less people visit the shop, and when the prices decrease more people visit the shop. Mwinyiheri is curious to learn the cause of the two events. Can you help mwinyiheri understand the reason and conditions necessary for the events to occur?
2. Differentiate between the following concepts;
   (a) individual demand curve and market demand curve.
   (b) market demand schedule and an individual demand schedule.

Interrelated demand

This is the demand for two or more goods which are related. There are several types of interrelated demand, namely, competitive, complementary, composite and derived demand. These types of interrelated demand are explained as follows:

Competitive demand: This is the demand for two goods that provide the same utility. For example, Coca Cola and Pepsi

or margarine and butter. Two goods are competitive if an increase in the price of one of them results in an increase in the quantity demanded of the other good, and vice versa.

Complementary or joint demand: This is the demand for two goods that are used together (jointly) to satisfy the same want, for example, a car and tyres. Two goods are complementary if an increase in the price of one of them results in a decrease in the quantity demanded of the other good, and vice versa.

Composite demand: This is the demand for goods that have multiple uses. For example, demand for land used to for farming and building houses. If more land will be used for farming, then the price of housing will rise. More demand for land for farming limits the availability of land for building houses.

Derived demand: This is the demand for goods that are not demanded for their final use but as inputs in the production of other goods. For example, an increase in the demand for sunflower oil will increase the demand for sunflower seeds. Thus, demand for sunflower seeds is a demand derived from the increased demand for sunflower oil.

Change in quantity demanded and change in demand

There is a difference between change in quantity demanded and change in demand. Change in quantity demanded results from a change in price of the goods or services when all other factors are held constant. Whereas, change in demand depends on changes in factors other than price that determine demand. These two aspects are explained as follows:

Change in quantity demanded

Change in quantity demanded is an increase or decrease in quantity of goods or services that a consumer is willing and able to buy resulting from a change in the price of goods or services, while all other factors remain constant. Table 2.3 shows an individual demand schedule for rice. The table shows that, as price per kilogram of rice increases the quantity demanded of rice decreases.

Table 2.3: *Hypothetical individual demand schedule for rice*

Price of rice (TShs per kilogram)	Quantity demanded (kilogram)
1,000	20
1,600	10
2,000	5

Change in quantity demanded of a good or service refers to the movement along the same demand curve. Figure 2.3 shows change in quantity demanded resulting from changes in price (extracted data from Table 2.3). The figure shows an increase in the quantity demanded from 10 kilograms to 20 kilograms which results from

a fall in price of rice per kilogram from TShs 1,600 to TShs 1,000 (movement from point A to B) in Figure 2.3. It also shows a decrease in quantity demanded from 10 kilograms to 5 kilograms which results from an increase in price of rice per kilogram from TShs 1,600 to TShs 2,000 (movement from point A to B) in Figure 2.3.

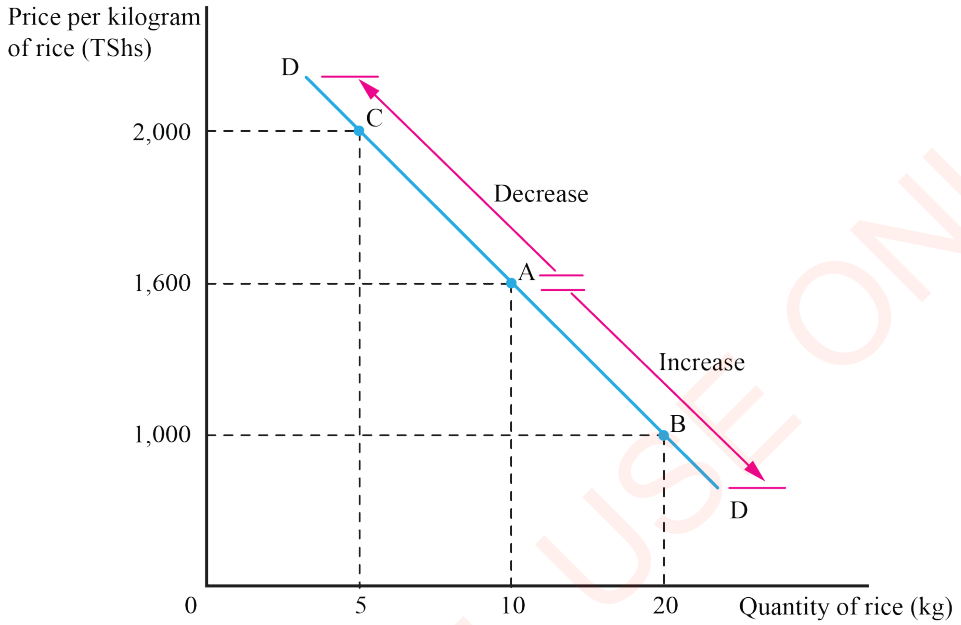


Figure 2.3: *Change in quantity demanded*

Change in demand (shift in demand curve)

Change in demand is an increase or decrease in the quantity of goods or services a consumer is willing to buy due to changes in other factors that affect demand (such as income of the consumer, price of other related commodities, taste and preferences) while price of goods or services remain constant. For example, When Ms Msekwa's salary was TShs 500,000 per month, she could manage to purchase 4 kilograms of rice for her family at a price of TShs 1,600 per kilogram. But when the employer raised her salary to TShs 600,000 per month, Ms Msekwa could manage to purchase 6 kilograms of rice, and when the employer lowered her salary to TShs 400,000 per month Ms Msekwa could manage to purchase 2 kilograms of rice at the same price of TShs 1,600 per kilogram. Thus, change in demand for rice by Ms Msekwa's family resulted from a change in her income as shown in Figure 2.4.

This indicates that, any change that increases the quantity demanded when price is held constant, such as the increase in Ms Msekwa's salary, shifts the demand curve to the right and is referred to as an increase in demand. On the other hand, any change that reduces the quantity demanded like the decrease in income, shifts the demand curve to the left and is referred to as a decrease in demand.

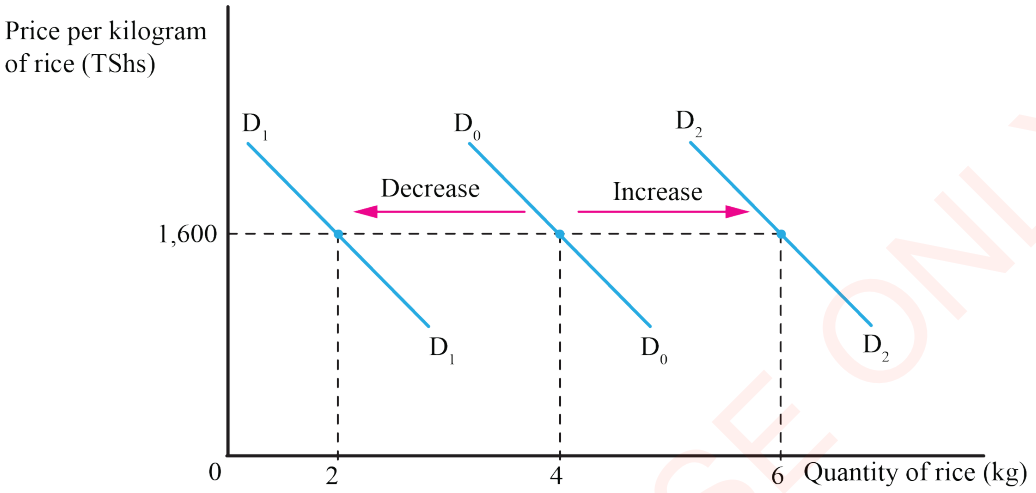


Figure 2.4: *Change in demand*

Factors that cause shift in demand curve

There are various factors that can lead to a shift in the demand curve. The following are some of the most important factors:

Change in consumers' income: When income of a consumer increases, it means that purchasing power of that consumer will also increase implying that a consumer can afford to buy more goods or services. The effects of income on demand for goods or services depend on the nature of those goods or services. For normal or luxury goods, the higher the income the higher its demand, and the lower the income, the lower its demand. Contrary, an increase in consumer's income will lead to a decrease in the demand for an inferior good (goods which are undervalued by consumers), while the decrease in consumer's income will lead to an increase in demand for the inferior goods.

Change in price of related goods: If there is a change in price of other related goods, the change may lead to an increase or decrease in demand of the goods or services. Goods can either be complements (used together) or substitutes (serve the same purpose). Examples of complementary goods are cars and tyres, tea and sugar. If the price of cars goes up, people will demand fewer cars and hence demand for tyres will decrease. The other category of related goods are substitute goods. Examples

of substitute goods are coffee and tea. If the price of tea goes down, the quantity demanded of tea will increase, which implies that the quantity demanded of coffee will decrease. Alternatively, if the price of tea increases, its quantity demanded will go down and the quantity demanded of coffee will increase.

Change in consumers' tastes and preferences: When tastes and preferences of consumers change, demand for goods or services will change as well. For example, with time an individual may prefer to consume more fruits than carbohydrate foods. The change in taste is likely to cause an increase in demand for fruits and reduce demand for carbohydrates. Likewise, demand can change because of change in preferences of a consumer. For example, an individual may change his or her dressing style after being exposed to various fashion styles, which lead to change in demand for certain type of clothes.

Consumer expectations about future changes in prices: If a consumer believes that price of a good will increase in the future, the consumer is more likely to demand more of the good at the present time. The demand of the good will thus increase. For instance, if the price of cooking oil is expected to increase, then consumers will buy more of the cooking oil to avoid paying higher prices in the future. Again, if a consumer expects the price of cooking oil to decrease in the future, the consumer will postpone buying cooking oil at the present time, which would cause a decrease in its demand.

Activity 2.3

Visit the library or various websites to read about the concept of change in quantity demanded and change in demand and its causes.

(a) Summarise down the information you have gathered.

(b) With the help of your teacher, share the information you have summarised in part (a) with your fellow students.

Price elasticity of demand

Price elasticity of demand is a measure of degree of responsiveness of the quantity demanded of a good with respect to a change in its price, when all other factors affecting demand remain constant. Price elasticity of demand expresses how much the quantity demanded would change as a result of a unit decrease or increase in the price of the good. The price elasticity of demand is calculated as follows:

Price elasticity of demand $\left(e_p^d\right) = \dfrac{\text{Percentage change in quantity demanded}}{\text{Percentage change in price}}$

$$e_p^d = \frac{\%\Delta QD}{\%\Delta P} \quad \text{..(2.1)}$$

Where e_p^d is price elasticity of demand, $\%\Delta QD$ is percentage change in quantity demanded and $\%\Delta P$ is percentage change in price of a good.

Simplifying Equation 2.1, the price elasticity of demand of a good is expressed as:

$$e_p^d = \left(\frac{Q_1^d - Q_0^d}{P_1 - P_0}\right) \times \left(\frac{P_0}{Q_0^d}\right) \quad \text{..(2.2)}$$

Where; $\Delta QD = Q_1^d - Q_0^d$, and $\Delta P = P_1 - P_0$ therefore Equation 2.2 can be expressed as:

$$e_p^d = \left(\frac{\Delta QD}{\Delta P} \times \frac{P_0}{Q_0^d}\right) \quad \text{..(2.3)}$$

Where;

ΔQD is change in quantity demanded (new quantity demanded – original quantity demanded)

ΔP is change in the good's own price (new price – original price)

P_0 is original price

P_1 is the new price

Q_0^d is original quantity demanded

Q_1^d is the new quantity demanded

The price elasticity of demand normally is not a negative value, but an absolute value, which ranges from zero to infinity $(0 < ed < \infty)$. Because of this, a negative sign or an absolute value symbol is plugged in the formula so as to obtain a positive value. However, the negative sign of the price elasticity of demand is considered when interpreting the inverse relationship between price and the quantity demanded of a good.

Thus

$$e_p^d = -\left(\frac{\Delta QD}{\Delta P} \times \frac{P_0}{Q_0^d}\right) \quad \text{...(2.4)}$$

If price elasticity of demand is infinity $\left(e_p^d = \infty\right)$, it implies that a one percent change in the price of a good leads to an infinite change in the quantity demanded. This means such good is perfectly elastic.

If price elasticity of demand is greater than one $\left(e_p^d > 1\right)$, it means that a one percent change in price leads to greater than one percent change in the quantity demanded. Therefore, the good is elastic.

If price elasticity of demand is equal to one $\left(e_p^d = 1\right)$, it means that a one percent change in the price of good leads to a one percent change in quantity demanded. Thus, the good is unitary elastic.

If price elasticity of demand is less than one $\left(e_p^d < 1\right)$, it means that a one percent change in the price of a good leads to less than one percent change in the quantity demanded. This means, such good is inelastic.

If price elasticity of demand is zero $\left(e_p^d = 0\right)$, it means that a one percent change in price leads to no change in the quantity demanded. Therefore, such good is perfectly inelastic.

Example 2.1

When the price of 1 litre of sunflower oil was TShs 2,000 in Mbeya Region, the quantity demanded per day was 50,000 litres. Suddenly, the price of sunflower oil per litre increased to TShs 3,000 due to an increase in cost of production. The increase in the price of sunflower oil caused the quantity demanded in Mbeya Region to decrease from 50,000 to 30,000 litres per day. Use the information provided to calculate price elasticity of demand for sunflower oil and give its interpretation.

Solution

Given:

Original price = TShs 2,000

Original quantity = 50,000 litres

New price = TShs 3,000

New quantity = 30,000 litres

Recall the formula for calculating the price elasticity of demand; thus:

$$e_p^d = -\left(\frac{\Delta QD}{\Delta P} \times \frac{P_0}{Q_0^d}\right)$$

Whereby

ΔQD = New quantity – Original quantity

ΔP = New price – Original price

$$e_p^d = -\left(\frac{Q_1^d - Q_0^d}{P_1 - P_0}\right) \times \left(\frac{P_0}{Q_0^d}\right)$$

$$e_p^d = -\left(\frac{30,000 - 50,000}{3,000 - 2,000} \times \frac{2,000}{50,000}\right)$$

$$e_p^d = -\left(\frac{-20,000}{1,000} \times \frac{2,000}{50,000}\right)$$

$$e_p^d = -\left(\frac{-40,000,000}{50,000,000}\right)$$

$$e_p^d = 0.8$$

The price elasticity of demand for sunflower oil is 0.8.

The price elasticity of demand for sunflower oil is less than one, which means that, a one percent change in the price of sunflower oil leads to 0.8 percent change in quantity demanded of sunflower oil. This implies that, a percentage change in the price of sunflower oil has led to a less percentage change in its quantity demanded. That is change in quantity demanded is less than the change in price. Therefore, the price elasticity of sunflower oil is inelastic since the coefficient elasticity is less than one.

Example 2.2

Calculate price elasticity of demand given that change in the price of soap by 40% led to a decrease in the quantity demanded of soap by 90%. Interpret the answer.

Solution

Price elasticity of demand $\left(e_p^d\right) = \dfrac{\text{Percentage change in quantity demanded}}{\text{Percentage change in price}}$

$$e_p^d = \frac{\%\Delta QD}{\%\Delta P}$$

$$e_p^d = \frac{90\%}{40\%}$$

$$= \frac{90}{100} \div \frac{40}{100}$$

$$= \frac{90}{100} \times \frac{100}{40} = \frac{90}{40}$$

$$e_p^d = 2.25$$

The price elasticity of demand for soap is 2.25.

The price elasticity of demand for soap is greater than one, which means that, a one percent change in the price of soap has led to 2.25 percent change in its quantity demanded. This implies that, a percentage change in the price of soap has led to a larger percentage change in its quantity demanded. Therefore, the price elasticity of soap is elastic since the coefficient elasticity is greater than one.

Exercise 2.2

1. Mwakamwelo is a form two student at Micheweni secondary school. Mwakamwelo has been failing to understand why some products' demand decrease when their price increase while others do not. Help Mwakamwelo to understand this fact by using the knowledge on price elasticity of demand.
2. In Hai District when the price per kilogram of rice was TShs 1,000 the quantity demanded per day was 100,000 kilograms. Unexpectedly, the price of rice per kilogram increased to TShs 1,500. The increase in the price of rice caused the quantity of rice demanded in Hai District to decrease to 50,000 kilograms per day. Use the information provided to calculate price elasticity of demand for rice and interpret the answer.

Theory of supply

The theory of supply encompasses information about supply. It covers the meaning of supply and quantity supplied, the law of supply and its underlying assumptions, as well as supply schedules and curves that show producer's supply on an individual and market level. Additionally, it explains about interrelated supply, the distinction between change in supply and change in quantity supplied, and price elasticity of supply.

Supply and quantity supplied

Supply is the willingness and ability of suppliers or sellers to offer for sell different quantities of goods or services in the market at a given price, in a specific period of time. In a market, the supply side comprises of manufacturers, distributors and sellers of products. Essentially, it deals with production side and focuses on the behaviour of the suppliers in the market.

Quantity supplied is the amount of goods or services that sellers are willing and able to sell at a given price in a specific period of time. It is measured in units of goods or services sold within a given period, such as daily, monthly, quarterly, semi-annually and annually.

The law of supply

The law of supply assumes existence of a direct (positive) relationship between the price of a good or service and quantities that sellers are willing and able to sell, holding all other factors constant.

The law of supply states that, "if all other factors remain constant, when price of a good or service increases, its quantity supplied will increase, whereas, when price of a good or service decreases, its quantity supplied will decrease".

This means that, quantity supplied varies directly with the price of a good, thus, at a higher price, more of the good or service will be supplied and at a lower price, less of a good or service will be supplied.

Assumptions of the law of supply

The law of supply assumes that other factors affecting supply for a good or service do not change. That is:

There is no change in the state of technology: The law of supply operates only when supplier's technology does not change. That is, the supplier's technology must remain constant. For example, once there is advancement in technology that leads to lower production cost, the supplier will opt to produce and supply more even when prices of goods or services fall. Similarly, with outdated technology that leads to a higher production cost, the supplier would reduce production and supply lesser even at a situation when prices of goods or service increases.

There is no change in prices of factors of production: The law of supply assumes that the price of goods or services varies, but it ignores changes that may occur in the cost of production. If input prices

rise such as wage of labour, interest rate on capital or rent on land, cost of production will increase, the supplier will not consider it worthy to make and supply more goods or services in the market. Thus, the law of supply will hold only when the cost of production is kept constant.

There is no change in the government policies: Government policies are among the essential factors to be considered for the law of supply to operate. The law of supply assumes that policies imposed by the government, such as taxation and trade policies do not change. For example, imposition of new taxes may call for an increase in the cost of production, making suppliers supply less products even when prices are increasing. In addition, imposition of high import tariffs will increase the cost of importing raw materials consequently increasing cost of production. Thus, higher production costs will reduce supply even at times of increasing prices.

There is no change in the price of related goods or services: The law of supply considers that prices of related goods or services will remain unchanged. Once prices of related goods or services increase, suppliers may opt to reallocate resources to produce such related goods or services to exploit more profit. This will increase supply of the goods whose price has increased and lower the supply of the goods whose price has remained the same.

There is no change in scale of production: Over a certain duration, the law of supply assumes that the level of production will remain unchanged. However, existence of changes in the production level calls for changes in supply even if the price of the product has remained the same.

There should be no expectations about future changes in price: The law of supply considers that the supplier does not expect any changes in the price of goods or services. Once the suppliers expect an increase of price in forthcoming days, they may decrease current supply and wait for the time when prices are high.

Exercise 2.3

1. Namia is an entrepreneur whose understanding was that, every time prices of goods are high, then suppliers are tempted to supply more products to the market. A week ago, Namia was puzzled with a situation in the market that price of fuel rose, yet the supply decreased. As a knowledgeable person on theory of supply, use the law of supply to help Namia understand the situation.
2. Assume a new student in your class asks you to elaborate the difference between supply and quantity supplied. What will your response be?

Supply schedule

Supply schedule is a table that shows the relationship between the price of a good or service and the quantity supplied at a given period of time, holding constant all other factors affecting supply. Table 2.4 is a supply schedule, that shows the relationship between price per packet of mango juice and quantity supplied by supplier A.

Table 2.4: *Hypothetical individual supplier's supply schedule for packets of mango juice*

Price of mango juice (TShs per packet)	Quantity supplied by supplier A (packets)
500	0
600	4
700	5
800	7
900	9
1,000	11

Table 2.4 illustrates an individual *supplier's* supply schedule for supplier A showing quantity of packets of mango juice supplied by supplier A at each price. When the price per packet of mango juice was TShs 1,000, supplier A supplied 11 packets and when the price was TShs 900 the supplier supplied 9 packets. The table further shows that, when the price per packet of mango juice decreases to TShs 500, supplier A was not willing to supply any amount.

Supply curve

Supply curve is a graph of the relationship between the price of a good or service and the quantity supplied. Figure 2.5 is a supply curve showing an individual's supply for a good (packets of mango juice) for supplier A. The supply curve slopes upwards (has a positive slope) because, at a higher price more quantity of a good is supplied, all other factors remaining constant.

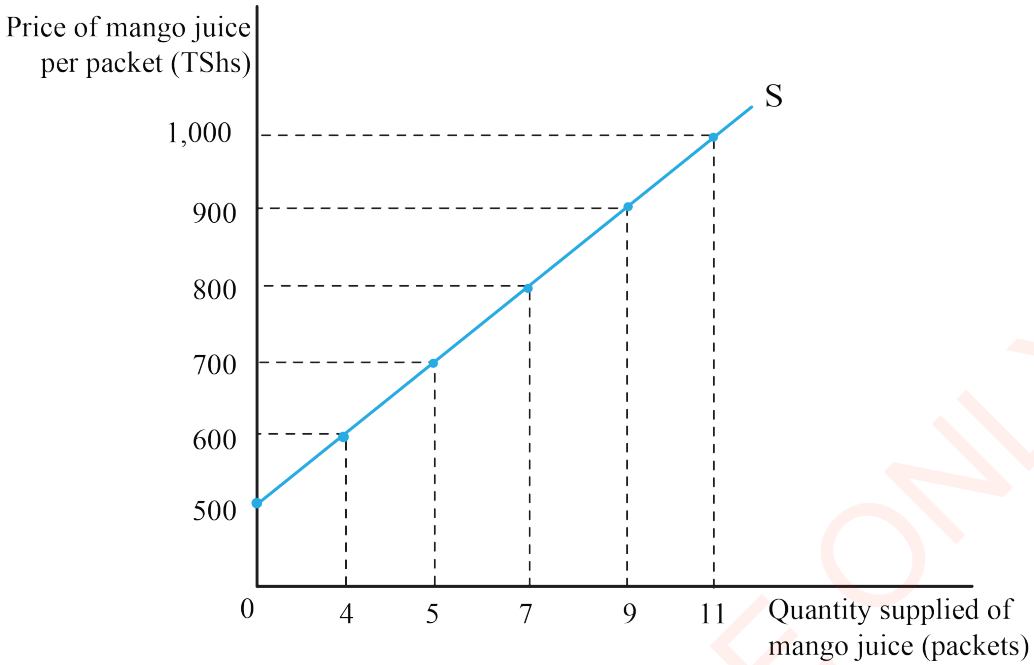


Figure 2.5: *Supply curve*

The figure describes the relationship between price per packet of mango juice (vertical axis) and the quantity supplied by supplier A (horizontal axis) when all other factors affecting supply remain unchanged. The figure is sketched using data extracted from an individual supplier supply schedule (Table 2.4).

Market supply schedule

Market supply schedule shows the total amount of goods sold by all individual suppliers at different prices. Table 2.5 shows supply schedules for mango juice of two suppliers in the market: supplier A and supplier B. At each given price, the market supply schedule shows summation of supplier A and B supply of packets of mango juice in the market.

The table shows that, when the price per packet of mango juice was at TShs 500, the market supply was 2 packets of mango juice and, when price increased to TShs 1,000, market supply increased to 20 packets of mango juice.

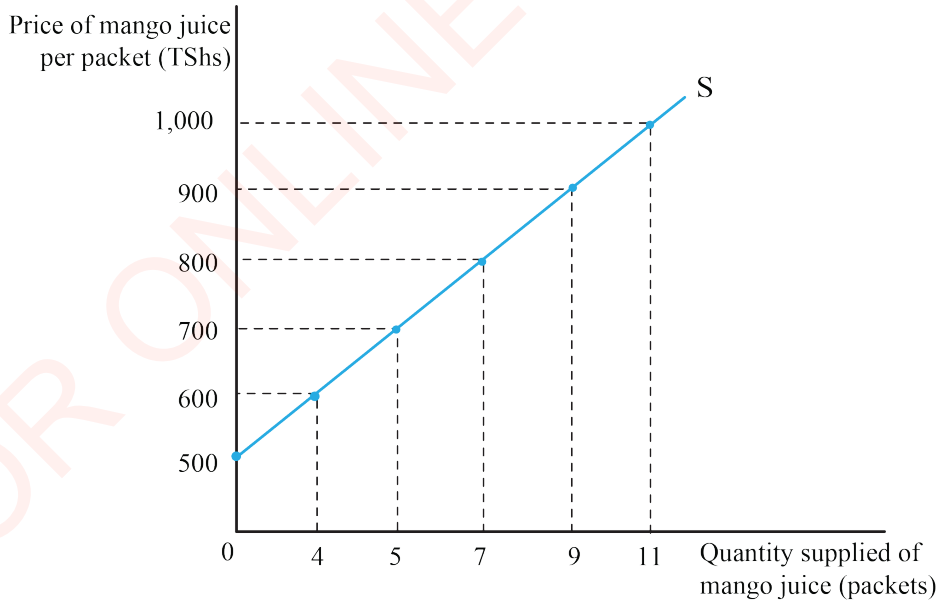
Table 2.5: *Hypothetical market supply schedule for packets of mango juice*

Price of mango juice (TShs per packet)	Quantity supplied by supplier A (packets)	Quantity supplied by supplier B (packets)	Market supply (packets)
500	0	2	2
600	4	3	7
700	5	4	9
800	7	6	13
900	9	8	17
1,000	11	9	20

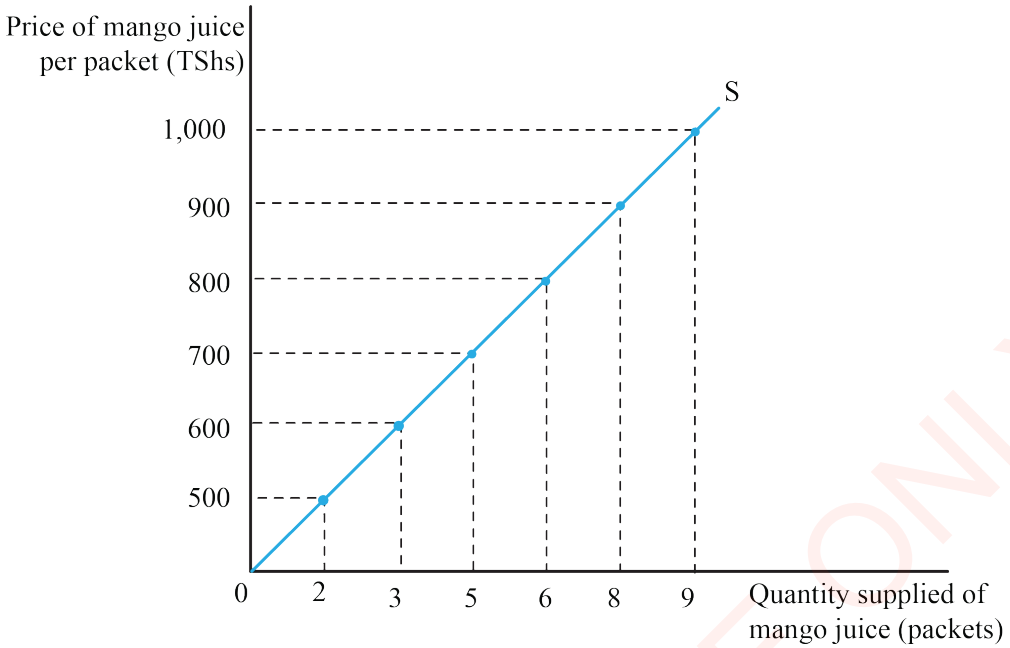
Market supply curve

Market supply curve is a graph showing the summation of quantities of goods supplied by all suppliers at each price in a given period of time. Figure 2.6 shows a market supply curve for supplier A and supplier B. At each given price, the market supply curve shows the number of packets of mango juice supplied by supplier A and B. Therefore, the market supply curve in Figure 2.6 shows summation of the quantities supplied by the two suppliers at each price.

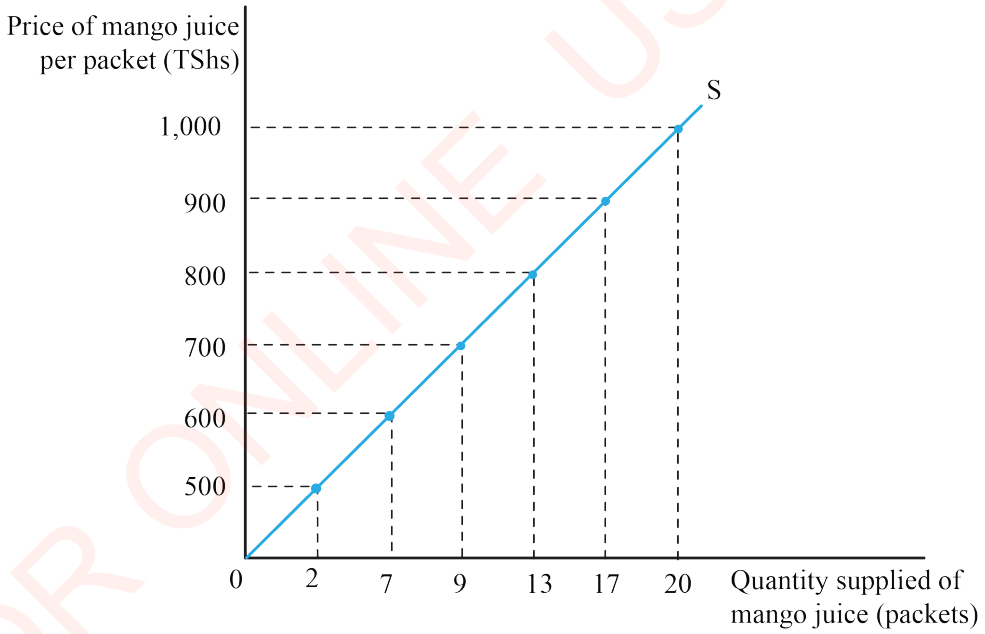
Supplier A's supply + Supplier B's supply = Market supply



Supplier A's curve



Supplier B's curve



Market supply curve

Figure 2.6: *Market supply curve (aggregate supply curve for Supplier A + B)*

Activity 2.4

Recall any product that is most common at your school. Conduct an investigation by interviewing two students on the quantity of the product they may supply based on price levels of TShs 500, 450, 400, 350, 300, 250, 200, 150 and 100. Then;

(a) create an individual and market supply schedules using the information you have gathered from the interview.
(b) sketch an individual and market supply curves using the data from the supply schedule created in (a).
(c) Make a presentation in the class with assistance from your teacher.

Interrelated supply

A supply of one good may affect or may be affected by the supply of another good in the market if the two goods are interrelated. This relationship can either be positive or negative. There are several types of interrelated supply namely, joint, composite and competitive supply.

Joint supply: This involves the supply of goods which are produced together. For example, supply of beef and leather. An increase in the price for beef will lead to an increase in the supply of beef. In turn, because the supply of beef and leather move together, the supply of leather will also increase.

Composite supply: This is the supply of two or more goods that cannot be separated. This means the goods are generally sold in a combination as a single product. For example, take away soft drinks which combines a bottle and the drink in it. Thus, an increase in the supply of soft drinks will eventually lead to an increase in the supply of bottles as well.

Competitive supply: This is the supply of two goods which compete for the same production resources. For example, when more land is used to produce beans, it will lead to the decrease in supply of maize, since less land will be apportioned to a maize production.

Change in quantity supplied and change in supply

There is a difference between change in quantity supplied and change in supply. Change in quantity supplied results from a change in price of a good or service, other factors remaining constant. Whereas, change in supply depends on changes in factors, other than price, that determine supply.

Change in quantity supplied

Change in quantity supplied is an increase or decrease in the quantity of goods or services suppliers are willing and able to sell at the market that results from a change in price of goods or services, while other factors remain constant. These factors include, cost of production, price of other related goods or service and state of technology.

Table 2.6 shows an individual supply schedule for pencils. The table shows that, as price per pencil increases the quantity of pencil supplied increases.

Table 2.6: *Hypothetical individual supplier's supply schedule for pencils*

Price of a pencil (TShs per pencil)	Quantity supplied by supplier (pencils)
200	29
300	35
400	37

Change in the quantity supplied of a good or service refers to the movement along the same supply curve. Figure 2.7 shows an increase in quantity supplied from 35 pencils to 37 pencils which results from a rise in price per pencil from TShs 300 to TShs 400 (movement from point A to B) in Figure 2.7. It also shows decrease in the quantity supplied from 35 to 29 pencils which results from a fall in price per pencil from TShs 300 to TShs 200 (movement from point A to C) in Figure 2.7. Figure 2.7 thus, shows changes in the quantity supplied resulting from the changes in price (extracted data from Table 2.6).

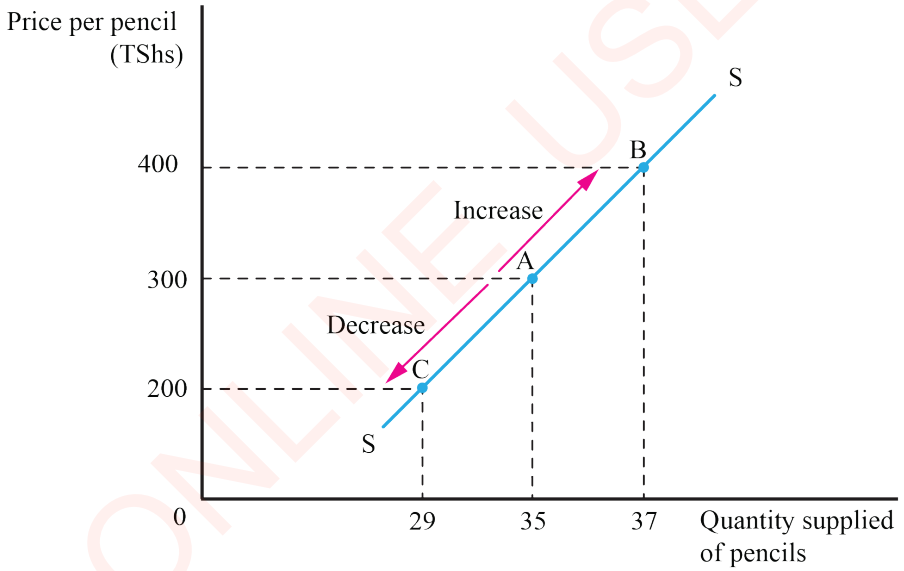


Figure 2.7: *Change in quantity supplied*

Change in supply (Shift in supply curve)

Change in supply is the increase or decrease in the quantity of goods or services a producer or supplier are willing and able to supply due to changes in other factors such as price of other related commodities and state of technology while price remains constant. Change in supply is a shift, either inwards or outwards, of a

supply curve. Normally, a shift in supply is a rise or fall in the amount offered for sale as a result of factors other than price.

For example, Figure 2.8 shows a change in supply for pencil in a market with no technological advancement. At a price of TShs 400 a supplier will prefer to supply 37 pencils at the curve S_0S_0. But with an advancement in technology which decreases the cost of production, the supplier will be able to produce and supply 47 pencils which shifts the curve from S_0S_0 to S_1S_1. However, if there is an increase in input prices which leads to higher production costs, consequently, this will lower production. As a result, the quantity supplied of pencils will decrease to 27 pencils. This will definitely shift the supply curve from S_0S_0 to S_2S_2.

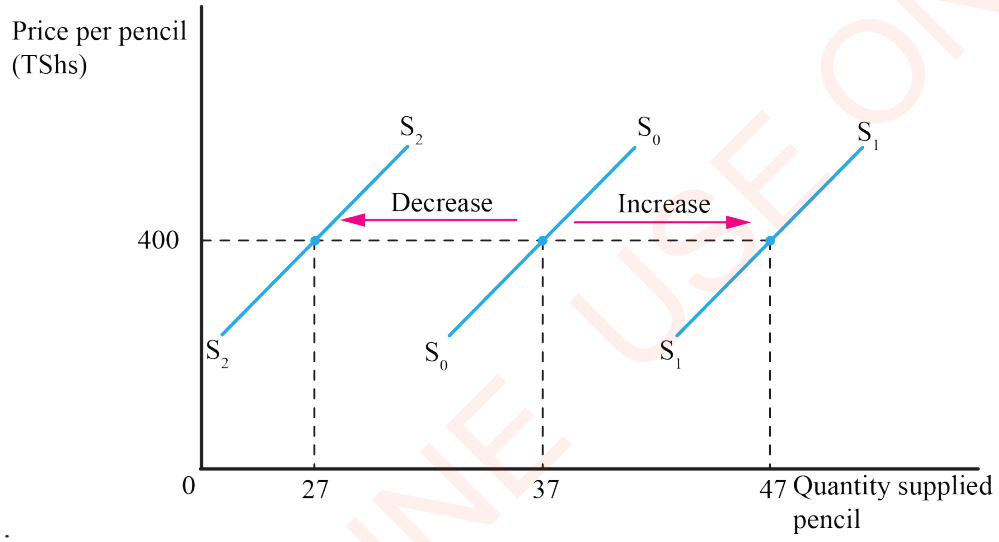


Figure 2.8: *Change in supply (shift in supply curve)*

Factors that cause shift in supply curve

Various factors affect the supply of a good (determinants of supply) thereby causing a shift in the supply curve. The following are some of these factors:

Change in technology: A change in technology results in a shift in the supply curve, which is referred to as change in supply. Changes in supply curves are normally the outcome of improved technology that minimise the cost of production. Improvement in technology that lowers the cost of production causes an increase in the supply and, this shifts the supply curve outwards. This implies that suppliers can now produce and supply more goods and services at lower costs than before.

Change in input prices: A change in the price of factors of production such

as wages, rent and interest rate tend to affect the costs of production leading to changes in supply. The supply curve will thus shift to the right if prices of the factors of production decrease or it will shift to the left if prices of the factors of production increase.

Change in regulations: A favourable change in regulations will positively impact production of goods and services which will lead to a change in supply. Supply will shift outward if regulations are favourable and will shift inward if regulations are unfavourable.

Change in the number of suppliers (sellers) in the industry: A change in the number of sellers supplying similar goods in the industry calls for a shift in the market supply curve. The supply curve of an industry such as construction, involves all the suppliers in the industry. Any change in the number of suppliers in construction industry will cause changes in the quantity supplied at a given price and therefore shifts the supply curve. An increase in the number of suppliers shifts the supply curve outward whereas, a decrease in the number of suppliers shifts the supply curve inward.

Future expectations about change in price: Projections about forthcoming changes in market conditions cause a shift in a supply curve. Any supply curve relies to some extent on supplier projection concerning forthcoming conditions of the market. Most choices on producing and supplying rely on projected market conditions. For instance, traders of cereal grains normally reduce supply during harvest season hoping to increase the supply when price raises. In that sense, reduction in the cereal grains supply at that moment may cause shifts in the supply curve. The curve will shift inwards to the left.

Change in tax rates: Change in tax rates results in changes in the quantity supplied. If the government increases tax on raw materials, the cost of production will increase and, that would lower production and supply. This will shift the supply curve inward to the left.

Exercise 2.4

1. Use the information from the activity 2.4 to distinguish the concepts of change in quantity supplied and change in supply.
2. Suppose you have employed yourself in selling jewellery, what do you think will make you supply more or less of the product at the same price level?

Price elasticity of supply

Price elasticity of supply is a measure of the degree of responsiveness of the quantity supplied of a good with respect to a change in its price, when all other factors affecting supply remain constant. Price elasticity of supply expresses how much the quantity supplied would change

as a result of a unit decrease or increase in the price of the good. The price elasticity of supply is calculated as follows:

$$\text{Price elasticity of supply } \left(e_{\mathrm{p}}^{\mathrm{s}}\right) = \frac{\text{Percentage change in quantity supplied}}{\text{Percentage change in price}}$$

$$e_{\mathrm{p}}^{\mathrm{s}} = \frac{\%\Delta \mathrm{QS}}{\%\Delta \mathrm{P}} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(2.5)$$

Where $e_{\mathrm{p}}^{\mathrm{s}}$ is the price elasticity of supply,

$\%\Delta \mathrm{QS}$ is percentage change in quantity supplied and

$\%\Delta \mathrm{P}$ is percentage change in the price of a good.

Simplifying Equation (2.5), the price elasticity of supply of a good is expressed as:

$$e_{\mathrm{p}}^{\mathrm{s}} = \left(\frac{\mathrm{Q}_1^{\mathrm{s}} - \mathrm{Q}_0^{\mathrm{s}}}{\mathrm{P}_1 - \mathrm{P}_0}\right) \times \left(\frac{\mathrm{P}_0}{\mathrm{Q}_0^{\mathrm{s}}}\right) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(2.6)$$

Where; $\Delta \mathrm{QS} = \mathrm{Q}_1^{\mathrm{s}} - \mathrm{Q}_0^{\mathrm{s}} =$ and $\Delta \mathrm{P} = \mathrm{P}_1 - \mathrm{P}_0$, and therefore Equation 2.6 can be expressed as:

$$e_{\mathrm{p}}^{\mathrm{s}} = \frac{\Delta \mathrm{QS}}{\Delta \mathrm{P}} \times \frac{\mathrm{P}_0}{\mathrm{Q}_0^{\mathrm{s}}} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(2.7)$$

Where;

$\Delta \mathrm{QS}$ is change in quantity supplied (new quantity – original quantity)

$\Delta \mathrm{P}$ is change in a good's own price (new price – original price)

P_0 is the original price

P_1 is the new price

$\mathrm{Q}_0^{\mathrm{s}}$ is the original quantity supplied

$\mathrm{Q}_1^{\mathrm{s}}$ is the new quantity supplied

If price elasticity of supply is infinite $\left(e_p^s = \infty\right)$, it implies that a one percent change in the price of a good leads to an infinite change in the quantity supplied. This means such good is perfectly elastic.

If price elasticity of supply is greater than one $\left(e_p^s > 1\right)$, it means that a one percent change in price leads to greater than one percent change in the quantity supplied. This means such good is elastic.

If price elasticity of supply is equal to one $\left(e_p^s = 1\right)$, it means that a one percent change in the price of a good leads to a one percent change in quantity supplied. Thus, this good is unitary elastic.

If price elasticity of supply is less than one $\left(e_p^s < 1\right)$, it means that a one percent change in the price of a good leads to less than one percent change in the quantity supplied. Thus, the good is inelastic.

If price elasticity of supply is zero $\left(e_p^s = 0\right)$, it means that a one percent change in price leads to no change in the quantity supplied. Therefore, the good is perfectly inelastic.

Example 2.3

Suppose that when the price of one kilogram of rice in Shinyanga was TShs 1,000, the quantity supplied per day was 70,000 kilogrammes. All of a sudden, the price per kilogram of rice increases to TShs 2,000 and causes the quantity supplied per day to increase from 70,000 to 100,000 kilogrammes. Using the information given, calculate the price elasticity of supply for rice and give its interpretation.

Solution

Given;

Original price = TShs 1,000

Original quantity = 70,000 kilograms

New price = TShs 2,000

New quantity = 100,000 kilograms

Recall the formula for calculating the price elasticity of supply; thus:

$$e_p^s = \frac{\Delta QS}{\Delta P} \times \frac{P_0}{Q_0^s}$$

Whereby

ΔQS = New quantity – Original quantity

ΔP = New price – Original price

$$e_p^s = \left(\frac{Q_1^s - Q_0^s}{P_1 - P_0}\right) \times \left(\frac{P_0}{Q_0^s}\right)$$

$$e_p^s = \frac{100,000 - 70,000}{2,000 - 1,000} \times \frac{1,000}{70,000}$$

$$e_p^s = \frac{30,000}{1,000} \times \frac{1,000}{70,000}$$

$$e_p^s = 0.43$$

The elasticity of supply for rice is 0.43.

The elasticity of supply for rice is less than one, which implies that, a one percentage increase in the price of rice leads to a 0.43 percentage increase in the quantity of rice supplied in Shinyanga. This means that, a percentage change in the price of rice has led to a less percentage change in its quantity supplied. Therefore, the price elasticity of rice is inelastic since the coefficient elasticity is less than one.

Example 2.4

Calculate price elasticity of supply given that change in the price of sugar by 30% led to an increase in the quantity supplied of sugar by 70%. Interpret the answer.

Solution

$$\text{Price elasticity of supply } \left(e_p^s\right) = \frac{\text{Percentage change in quantity supplied}}{\text{Percentage change in price}}$$

$$e_p^s = \frac{\%\Delta QS}{\%\Delta P}$$

$$e_p^s = \frac{70\%}{30\%}$$

$$= \frac{70}{100} \div \frac{30}{100}$$

$$= \frac{70}{100} \times \frac{100}{30} = \frac{70}{30}$$

$$e_p^s = 2.33$$

Price elasticity of supply for sugar is 2.33.

The price elasticity of supply for sugar is greater than one. This means that, a one percent change in the price of sugar has led to 2.33 percent change in its quantity supplied. This imply that, a percentage change in the price of sugar has led to a larger percentage change in its quantity supplied. Therefore, the price elasticity of sugar is elastic since the coefficient elasticity is greater than one.

Exercise 2.5

The supply of fish fillets at Kiembesamaki market has decreased from 4,000 kilograms to 3,000 kilograms per week. The decrease was associated with an increase in price from TShs 8,000 to TShs 10,000 per kilogram. As a business person;

(a) help other business people at Kiembesamaki market to understand product's responsiveness to prices.

(b) what would you recommend on the price elasticity of fish fillet at Kiembe Samaki market?

Relationship between demand curve and supply curve

A relationship exists between the quantity of products that suppliers are willing and able to offer and sell at various prices and the amount that buyers are willing and able to purchase. This relationship can be explained by the interaction of buyers and sellers on exchanging goods or services in a market. This interaction brings about a market equilibrium which is a state of balance between the forces of demand and that of supply in the market.

The market equilibrium is important to ensure that goods and services are not over and under supplied. During this situation the decisions of producers and consumers are consistent with the forces of demand and supply. In equilibrium, the quantity demanded of a good is equal to the quantity supplied of that good in the market at a given level of price. At that point, the demand curve shows the quantity demanded of a good at each price level and the supply curve shows the quantity supplied of a good at each price level. The price of the good at which the supply curve and demand curve intersect is referred as the equilibrium price, and the quantity at that price level is referred to as equilibrium quantity.

Table 2.7, is a market schedule for the demand and supply of pairs of socks. In the table, market equilibrium is obtained at the price of TShs 2,000 where the quantity demanded equals the quantity supplied of pairs of socks in the market. Therefore, the equilibrium quantity will be 7 pairs of socks and equilibrium price will be TShs 2,000.

Table 2.7: *Hypothetical market schedule for demand and supply of pairs of socks*

Price (TShs)	Quantity supplied of pairs of socks	Quantity demanded of pairs of socks
200	0	19
500	0	16
1,000	1	13
1,500	4	10
2,000	**7**	**7**
2,500	10	4
3,000	13	1

Equilibrium point is the point at which quantity demanded of goods or services by consumers is equal to the quantity supplied of goods or services by suppliers in the market. Equilibrium can also be shown graphically at the point of intersection of demand and supply curves. Figure 2.9 shows a graphical representation of market equilibrium by using data extracted from market demand and supply of pairs of socks schedule in Table 2.7.

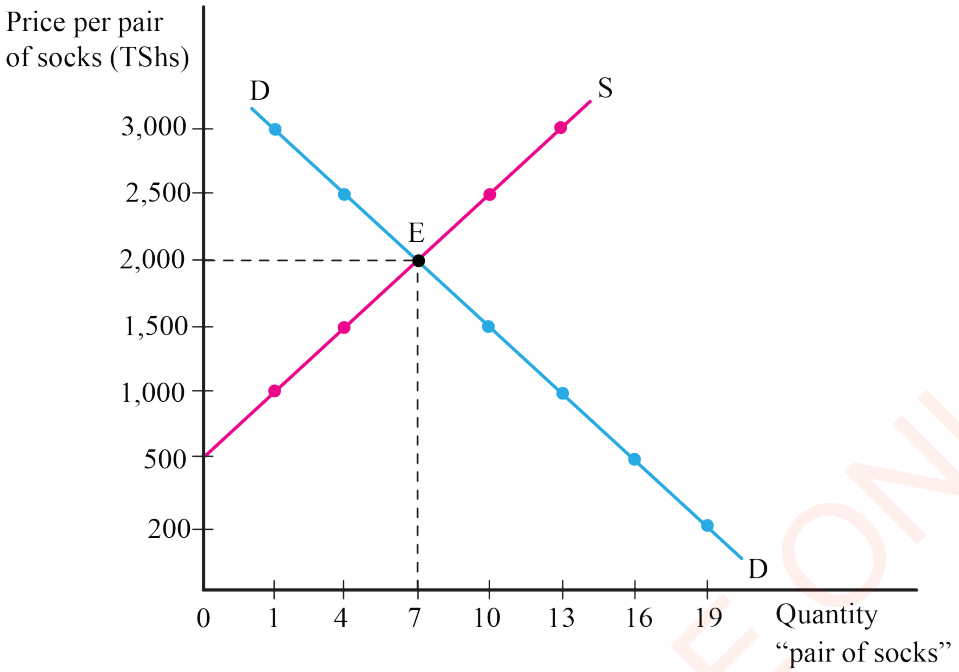


Figure 2.9: *Market equilibrium*

From the graph point E is the equilibrium point at which, quantity demanded is equal to quantity supplied and the equilibrium price is TShs 2,000 while the equilibrium quantity is 7 pairs of socks.

Activity 2.5

Conduct an investigation by interviewing a seller of a certain product near your school or home and ask about how much quantities the seller is willing and able to sell if the price changes from TShs 500, 600, 700, 800, 900 and 1,000. Then, interview a buyer of the same product to know, how much the buyer is willing and able to buy if price changes as above. Then:

(a) create a demand and supply schedule using the information you have gathered from the interview.

(b) sketch demand and supply curves using the data from the market demand and supply schedule created in (a).

(c) comment on the equilibrium.

Exercise 2.6

Suppose you are an entrepreneur selling ice creams to primary school pupils. Given the changes in prices of materials for the ice creams and quantity demanded daily, the situation has compelled you to supply different quantities and sometimes at different prices. For example, just last week the prices per ice cream and quantity demanded was:

Price (TShs)	400	500	600	700	800	900	1,000
Demand	12	10	8	6	4	2	0
Supply	5	7	8	11	14	17	20

This has resulted to a serious instability of the business caused by under and over supply. Now that you have learnt about relationship between demand and supply curve;

(a) Use the case of your business to differentiate between equilibrium price and equilibrium quantity.

(b) Determine the price that you need to charge and quantity that you need to supply which will meet the demands in full.

Chapter summary

1. Demand is the willingness and ability of a consumer to purchase a certain amount of goods or services at a given price in a specified period of time. Quantity demanded is an amount of goods or services that a consumer is willing and able to purchase at a given price level.
2. Market demand shows summation of all quantities demanded by different consumers of a certain product at different prices in a specified period of time. Market supply shows summation of all quantities supplied by different suppliers of a certain product at different prices in a specified period of time.
3. An individual demand schedule is a table that shows a list of quantities of a good or service demanded by an individual consumer at each price, when all other factors affecting its demand remain unchanged. An individual demand curve is a curve showing different quantities of a good or service demanded by an individual at each price in a given period of time.
4. A change in the price of a good or service leads to a change in the quantity demanded or quantity supplied. It is shown by the movement along the same demand or supply curve.
5. A change in any other factor that affect demand or supply other than price leads to a change or shift in demand or supply curve.
6. An increase in demand or supply is presented as a shift to the right of a demand or supply curve, a decrease in demand or supply is shown as a shift to the left of a demand or supply curve.

7. Supply is the amount of goods or services that suppliers are willing and able to offer for sale at a certain price in a specific period of time.
8. Supply schedule is the table showing the amount of goods or services offered at various prices over a specified period of time when all other factors remain constant. A graphical representation of supply schedule is known as supply curve.
9. Supply may change due to changes in capital, technology, future expectations and the number of suppliers.
10. Equilibrium in the market is reached when quantities supplied and quantities demanded are equal. Graphically, equilibrium is shown at the point of intersection between demand and supply curves. The price which equals demand and supply is known as equilibrium price and, quantity is known as equilibrium quantity.

Revision exercise

Choose the most correct answer by writing its corresponding letter

1. In a certain season, peasants faced a dry condition. Assuming all other factors were kept constant, the supply curve of maize for peasants will change to the _____ direction.
   (a) down
   (b) right
   (c) left
   (d) All of the above
2. The law of demand states that, other things remaining the same:
   (a) as demand for goods or services increases, the price of goods or services will fall
   (b) as income of an individual increases, the quantity of goods or services demanded will increase
   (c) as the price of goods or services rises, the quantity of goods or services demanded will decrease
   (d) as the price of goods or services rises, the quantity of goods or services demanded will increase
3. Once the supply curve for goods in the market moves outwards, the appropriate description of such movement will be _____.
   (a) rise in inputs price.
   (b) increase in supply.
   (c) establishment of novel production techniques which enhances reduction in input prices for such goods.
   (d) a promotion strategy such as advertisement that is effective for making awareness of such goods to customers.
4. Which among the following influences a person to purchase a good or service and varies along the same demand curve?
   (a) Income
   (b) Preference and habits
   (c) Price of the good
   (d) Price of other related goods
5. Assume your fellow students asked you to assist them to explain, what it

means when the demanded amount of a good matches with the amount of such a good offered for sale. What would your answer be?

(a) there is an excess in supply.
(b) there is shortage in demand.
(c) there is equilibrium.
(d) Neither of the above.

6. **Match the items from Group A with those in Group B by writing the letter of a statement in Group B that corresponds to an item in Group A**

Group A	Group B
(i) A change within the supply curve	A. A graph of the relationship between the price of a product and the quantity demanded
(ii) Law of supply	B. A graphical representation that describes the positive association between price and amount offered for sale.
(iii) Equilibrium price	C. Change in the quantity a producer is willing and able to supply when there has been a change in the price.
(iv) Equilibrium quantity	D. Holding other factors constant, the higher (lower) the price of a good, the greater (smaller) the quantity supplied.
(v) Supply curve	E. Means a shift in demand curve
(vi) Market supply schedule	F. Price at which market supply and market demand crosses each other.
(vii) Demand curve	G. Quantity at the intersection of market supply and market demand.
(viii) Individual demand schedule	H. Shows a list of the amount of a product demanded by an individual consumer at each price, when all other factors affecting its demand remain unchanged.
(ix) Demand	I. Shows the quantities that individual sellers are ready to supply different prices.
(x) Change in demand	J. Shows the sum amount of a product all the suppliers as a whole are ready to offer for sale at different prices over a certain duration.
	K. The situation that occurs when curves of market supply and demand crosses each other.
	L. Willingness and ability of a person to buy products at a given price in a specified period of time.

7. As a business person, how would you distinguish the following concepts in the context of the market of your product?
   (a) A change in quantity demanded and a change in demand.
   (b) Price elasticity of demand and price elasticity of supply.
   (c) A change in quantity supplied and a change in supply.
   (d) An equilibrium price and an equilibrium quantity.

8. Bread and butter are complements because they are often enjoyed together. When the price of bread rises, what do you think is likely to happens to the;
   (a) supply for butter
   (b) demand for butter,
   (c) quantity supplied for butter,
   (d) quantity demanded for butter, and
   (e) price in the market for butter

9. Determine the equilibrium price and equilibrium quantity from the market schedules of demand and supply presented. Then draw its respective curve.

Price (TShs)	100	200	300	400	500
Demand	2,000	1,000	500	200	100
Supply	500	1,000	1,500	2,000	2,500

10. The following table gives the daily supply and demand for ice creams at a sporting event:

Price (TShs)	12	14	16	18	21
Demand	4,100	3,200	2,400	1,600	800
Supply	200	800	2,400	4,800	7,200

Required:

(a) What is the equilibrium price of ice creams? What makes you think so?
(b) If the organizers of the sporting event decide to set the price at TShs18; how many ice creams will be sold?

11. In Kibaha Town the price per kilogram of beans was TShs 1,200 the quantity demanded per day was 50,000 kilograms. Surprisingly, the price of beans per kilogram increased to TShs 1,700. This increase caused demand for beans to decrease to 30,000 kilograms per day. Calculate price elasticity of demand for beans and interpret the answer.

Chapter Three

Warehouse management

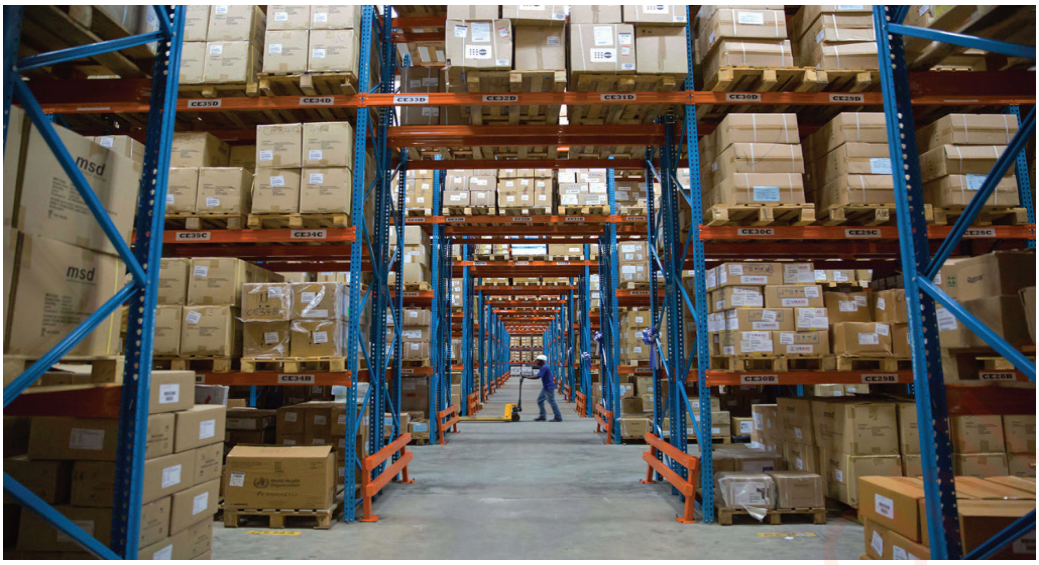
Introduction

Normally in your community, manufactured and processed products such as sugar, clothes, soap, cotton seeds and agricultural products like rice, maize, wheat and sunflower are produced in small and large quantities and stored in warehouses whereby the stock of these products are managed. The process of storing products in a special building before dispatching them to customers is called warehousing. In this chapter you will learn about the concept of warehousing and stock administration. The competencies developed will enable you to efficiently manage a warehouse.

The concept of warehousing

Warehousing is derived from two words "Ware" which means products and "house" which means a building. Thus, a warehouse is a large commercial building made for storing products (such as raw materials, semi-finished and finished goods) for future use or for sale in future. It is also called godown or storage or storeroom based on the context. It is an important building for storing bulky products and protecting them from unfavourable weather conditions, damage and theft before dispatching them to customers.

Warehousing is a set of activities that involve receiving, storing and preparing goods for shipment or distribution to traders and customers. It is an important auxiliary service to trade which enables a business to operate smoothly and efficiently. It is a process of storing products (such as raw materials, semi-finished and finished goods) in a special building until when they are needed for consumption or trade. Warehousing is not simply storage of goods, but it also includes other distribution functions such as receiving, identifying, sorting, dispatching and holding goods to storage until when needed. Thus, it plays an important role of bridging the gap between production and consumption of particular goods. Figure 3.1 shows an example of a warehouse with various manufactured and agricultural products stored.



(a) Warehouse for manufactured products

Source: https://tanzania.csis.org.jpg

(b) Warehouse for agricultural products

Figure 3.1: *A warehouse*

Usually, warehouses receive goods in bulk which are then broken down into small shipments to be distributed to customers. Also, warehouse receives goods in small shipments which are consolidate into a bulk. Therefore, selection of a warehouse is an important strategic consideration since the correct type of warehouse allows a business or company to reduce transportation costs and improve customer service. In other words, a wrong selection of a warehouse will increase the cost of business operations and, thus, drain business resources.

Activity 3.1

Visit the library and websites to study about the meaning of warehouse and its importance to a business or company and community in general, then;

(a) write down clearly the information you have gathered from various materials.

(b) share your work with your fellow students by making a class presentation.

Exercise 3.1

Mrs Ntapanta inherited her late brother's warehouse. However, she is worried that she will not be able to operate it because she is unaware of all the activities conducted in a warehouse. So, Mrs Ntapanta decided to hire an assistant to help her in running the warehouse. As Mrs Ntapanta's assistant, which activities will you perform to help her operate the warehouse?

Types of warehouses

Warehouses may be classified into six types depending on their ownership and operations. These types are private warehouses, public warehouses, bonded warehouses, distribution centres, climate-controlled warehouses and smart warehouses. These types of warehouses are explained as follows:

Private warehouses

Private warehouses are those which are owned and managed by individuals or companies to store their goods. A business or company usually can build, lease or purchase a warehouse when it needs to store goods at a selected geographical location. A private warehouse is a good option to small-scale businessmen as they need time to sort for their market strategy before goods can be sold. Moreover, this type of warehouse offers a specialised form of services to goods stored. In many events, the cost of running a warehouse is significantly reduced if the warehouse is fully-operating. Private warehouses however, face high start-up costs relating to the construction of a building. They also face other costs which include fixed costs such as insurance, maintenance costs, and debt related expenses incurred during the operation of the warehouse.

Public warehouses

Public warehouses are warehouses owned by the government, individuals or companies but they are open to any public member to store their products in return for a storage fee or charge. Any individual is free to rent a space in a public warehouse for storing products. Public warehouses are there to help individuals and businesses which do not own warehouses or those with inadequate space for storage. Public warehouses are also useful to businesses or companies that have seasonal production, low volume storage requirements, maintain stocks in many locations and operate in new markets. Public warehouses provide the distribution services such as receiving, offloading, inspecting and re-shipping products, filling orders, providing financing displaying products and coordinating shipments. These warehouses are mostly located near railway stations, truck terminals and harbours to facilitate storage of goods on transit from one location to another. One major limitation to a public warehouse is its lack of specialisation in the treatment of different goods. Once a good enters in a public warehouse, it is more or less treated the same as other goods in the warehouse resulting to possible damage of some goods that may require special attention and care.

Bonded warehouses

Bonded warehouses are warehouses owned, managed and controlled by private individuals, joint stock companies or government for storing goods in safe custody while waiting for customs clearance. In bonded warehouses, importers are not allowed to move their goods until the custom duties are paid in full. Private companies that operate bonded warehouses have to obtain a special license from the government to engage in the business. The goods stored are tied-up in a bond because the owner signs a bond contract with the custom authorities. The owner of the goods has to pay rent to the owner of the bonded warehouse for the period during which the goods would be stored.

Distribution centres

Distribution centres are large centralised warehouses that mostly receive goods directly from factories and suppliers, regroup them into orders and ship them to customers swiftly. Distribution centres play a key role in the distribution, order fulfilment, and storage services before goods are shipped to wholesalers, retailers or directly to customers. The main focus of distribution centres is on movement of goods rather than storage. They are designed for speedy flow of products. They are usually designed on single storey buildings (to eliminate elevators) with access to transportation networks such as major highways and railways. Distribution centres improve customer service, ensure goods availability, expedite their operations to lower delivery time, lower transportation

cost, and reduce the need for storage in warehouses due to rapid stock turnover, which reduces storage costs.

Climate-controlled warehouses

These are warehouses for goods that are normally affected by weather conditions. These warehouses are used to store goods that need to be managed at a specific temperature or humidity, such as perishable goods. Climate-controlled warehouses range from humidity managed environments used for the storage of fresh vegetables, flowers and fruits, to temperature managed environments used for storage of frozen seafood, meat products and other perishable goods. A few other climate-controlled warehouses cater for, both, humidity and temperature controlled environment. These are normally used to store bulks of drugs, chemicals and other goods that are sensitive to both temperature and humidity. For perishable goods businesses, a climate-controlled warehouse is necessary for ensuring proper management of the condition of goods.

Smart warehouses

Globalisation and the current era of automation makes smart warehousing a new development in warehousing. Smart warehouses use Artificial Intelligence (AI) in storage and operations. Under smart warehouses most of processes are fully automated, packing goods, sorting and transporting them to customers. Smart warehouses require minimal supervision as mostly are controlled by technological algorithms. Most of successful online operators use smart warehouses to ensure that their order fulfilment is less affected by human error. Figure 3.2 shows an example of a smart warehouse.

Figure 3.2: *Smart warehouse*
Source:https://www.europeanbusinessreview.com/5-warehouse-automation-trends-for-2021-and-beyond

Ways of managing warehouses

Warehouse management is an act of supervising, controlling and evaluating various activities in a warehouse to ensure efficient and reliable supply of stocks and thus, satisfying the customer's demand competitively. The following are the ways of managing warehouses:

Arrangement of the goods in a warehouse: A warehouse should have enough space that enables goods to be arranged according to their types or use. Moreover, the goods should be arranged in an efficient way that allow

easy movement of people and machines in the warehouse.

Cleaning a warehouse: Cleanliness of the warehouse includes cleaning of different areas of a warehouse such as rooms, floors, walls, ceilings, furniture, shelves and containers in and out. This ensures that goods are stored in clean and safe environment. This is also done to ensure a pleasant appearance of the warehouse.

Regulation of the atmospheric conditions: Ensure that the warehouse has a conducive condition which allows free and controlled flow of air and sunlight. Depending on the type of goods stored, the warehouse caretakers should ensure that goods are kept in a place with no excessive heat, humidity, sunlight or wind.

Use of modern facilities: It is important for a warehouse to have modern facilities which smoothen operations such as stock counting and handling. For instance, in large warehouses where heavy materials and mixed goods are kept, mechanised handling, such as the use of a forklift, may be used to simplify lifting of the goods. But also one may use computerised systems in recording the received goods after physical verification.

Physical inventory counting: Regular counting of materials in the warehouse will ensure quality records on ledgers which is relevant to the maintenance of physical stock. This will also enable the management to ensure that materials are well preserved while the spoiled ones are timely sorted out.

Regular equipment check: Regular safety and equipment checking is very important to ensure that everything is in good shape. Equipment like machinery and vehicles used in the warehouse need regular checks for repairs and maintenances in order for them to operate efficiently.

Enforce safety regulations: In warehouses, rules are designed to keep employees far away from body injuries and avoid loss of goods and other properties. Protective equipment like boots, heavy gloves, hard hats, safety goggles and steel-toed boots are necessary to warehouse workers. Placement of safety or warning signs is mandatory. Everyone who enters the warehouse should observe safety precautions without exceptions.

Training warehouse staff: It is very important to train staff to make them aware and up-to date with the current safety and operation requirements of laws and regulations to increase their work efficiency. A warehouse manager should prepare a training schedule for every staff, when necessary, and ensure it is upheld by the employees. Moreover, frequent in-house training on safety related matters to warehouse operations is encouraged.

Merits of warehousing

The significance of warehousing relies on the storage process of goods that help to bridge the gap between producers

and consumers of goods in a market. Other importance of warehousing, are discussed as follows:

Availability of raw materials for production: Warehouses facilitate storage of raw materials which enables manufacturing industries to continuously produce without running out of stock. Moreover, relevance of warehousing is clearly observed with the manufacturing industries that utilise seasonal raw materials. In absence of a warehouse, many would cease their operations to wait for a season in which raw materials are readily available. Warehouses therefore, enable constant availability of raw materials throughout the year which smoothens the production process.

Regular flow of goods: A warehouse enables an efficient distribution of products in the market. For instance, agricultural products are grown seasonally, thus, after harvests they are stored in a warehouse to be distributed in different areas when they are needed especially in those areas with shortage. A warehouse thus, ensures a reliable supply of a particular product throughout the year.

Price stabilisation: Warehouses ensure stable market prices as stored products can be supplied in the market during the time of low production or low supply. They minimise price fluctuation to a great extent because constant supply of products avoid over and under supply of products in the market, which helps in regulating price. Warehousing thus, ensures supply of products at more or less uniform prices.

It reduces the risks of loss: Storing products in a warehouse reduces the risk of loss resulting from theft, unfavourable weather condition, or damage to the products. This is because warehouses usually put in place strong measures to ensure safety of the stored goods. The measures include installation of security systems; security alarms, security camera and security guards, proper handling of products stored and skilled personal to handle the products. They also use insecticides to preserve products against harmful insects and install weather or climate regulators in warehouses for storing perishable goods.

It enables preparation of goods for sale: Various activities like inspection, grading, sorting, branding, packaging and labelling of the products are mostly carried out in warehouses. A warehouse enables preparation of goods for sale.

It is useful for small business: Availability of warehouses enables small businesses to safely store their products while paying a small amount of money as rent. Since majority of warehouses require huge amount of capital to be invested, it is not easy for many of the small businesses to afford, but they can afford to hire a storage facility.

Easy access of finance: When people

store goods in a warehouse they receive a legal document referred to as a warehouse keeper's warrant. The warehouse keeper's warrant can act as collateral for securing a loan from a bank or other financial institutions like microfinance and Saving and Credit Cooperatives Society (SACCOS). A business person can also be financed by the warehouse against the goods kept as a security.

Helps to store seasonal products: Goods that are produced throughout the year but yet their demand depend on the weather condition are stored in warehouses. For example, sweaters, jackets, rain coats and gumboots that are demanded during cold and rainy seasons can be kept in a warehouse during summer and hot seasons. Similarly, goods produced seasonally can be stored in a warehouse to ensure their unlimited supply in the market throughout the year.

Demerits of warehousing

The following are some of the demerits of warehousing:

Warehouse needs a huge initial capital investment: Initial costs for investing in warehouses are extremely high. Small scale businesses and companies with limited capital may not afford to construct and operate them. They can only depend on public warehouses to store their products and incur storage charges.

Additional administrative costs: When using a warehouse, a business incurs administrative costs. These are costs for running warehouses which include salaries and wages of the warehouse caretakers, as well as utility (water and electricity) bills. In small enterprises such costs may be high enough to reduce their profits.

Loss of goods or property: Since a warehouse stores large quantities of goods, in the event of problems like fire, theft and leakage it leads to huge loss to the business. In this case, a warehouse must have a special arrangement of products based on their nature to avoid damage that cause additional costs to a business.

Sometimes goods expire: Due to large quantities of products which are stored in warehouses, some products may reach their expiration date while they are still in warehouses or before dispatched to customers. Expired goods are unhealthy and can no longer be sold, thus, causing loss to a business.

Some products lose quality when stored for a long time: Some products may lose their qualities in terms of weight, taste or scent when stored for a long time. This will also lead to a fall in the value of such products.

Activity 3.2

Visit any nearby warehouse and investigate what type of warehouse it is as well as activities conducted, then;

(a) write down the information you have gathered.

(b) compare the information you have gathered with what you have learned, then identify new things you have learned from your visit.
(c) share your work with the rest of the class members by making a presentation.

Exercise 3.2

1. As an employee in one of the institutions dealing with importing and supplying various types of products in your community, identify different types of warehouses you are more likely to use.
2. ABC Warehouse Ltd is a company that has invested in storing different goods from various traders and charging them storage fees. As someone employed by ABC Warehouse Ltd describe different ways that the company can use to manage the warehouse and ensure efficient and reliable supply of goods in the market.
3. Storing products in warehouses seem to be very advantageous. Justify the validity of this statement.

Stock administration

Stocks or inventories are goods mostly kept on the premises of a warehouse so that they are available for sale, distribution or further use. Stock administration is the management of goods to ensure that there are sufficient quantities of goods without holding more or less stock than the required quantities. Stocks must be maintained at reasonable levels where the warehouse should not run short of supplies or carry more stock than what is required. A business may maintain a certain amount of stock as finished goods, raw materials or unfinished goods (work in progress) to ensure efficient production, distribution or trading activities.

Functions of stock administration

These are various activities conducted in a warehouse when managing goods. The following are some of the most important functions of stock administration.

Receiving of stock: This involves accepting deliveries of goods from suppliers or other traders, notifying the purchasing department on the receipts, and keeping the records of the goods received. It also involves unloading the deliveries and inspecting or checking the condition of the goods against quantity and quality as well as the type of goods against the order documents.

Issuing of stock: This involves the whole process of releasing the goods from the warehouse. It includes verification of requisitions, release of the goods, as well as recording the goods or stocks moved out of the warehouse. Recording is done to ensure proper record keeping and adjustment of goods in the warehouse.

Care of stock: This involves the act of keeping stored goods in good condition within the warehouse. It involves sorting out spoiled goods as well as special maintenance of fragile goods.

Placement of stock items: It is the allocation or placing of goods in a proper manner, which allows separation of goods in a convenient way. Arranging goods properly inside the warehouse does not only allow smooth inspection of the goods but also ensures safety of the goods. For example, heavy goods should be kept below the light ones, while those which are frequently demanded should be placed in areas where they are easily accessible.

Stock control: This is an act of checking and keeping proper records of quantity and value of goods in a warehouse for a particular period of time. This is to ensure that the reasonable level of stocks is maintained at all time to avoid over or under-stocking. Stock control involves the act of stock taking, restocking and stock valuation.

(a) Stock-taking is the act of checking and keeping records of the quantity of stocks in a warehouse. It involves physical counting and recording of all the stock in business operations.

(b) Re-stocking is an act of ordering new goods against the replenished ones.

(c) Stock-valuation is the process of determining the current value of stock in a given period of time. Stock may be valued at cost or at market (selling) price.

Computation of stocks

Stock can be computed by measuring stock level. Stock level is the amount of stock that should be maintained by the business to enable its operation and avoid any situation of over or under-stocking of goods. Any business should maintain an optimum amount of stock to ensure a regular supply of materials or goods that sustain business operations. Stock levels include re-order level (stock order point), minimum stock level, maximum stock level, and average level. These types of stock levels are explained as follows:

Re-order level or stock order point

Re-order level or stock order point is a point or level at which a business should place a new order from the supplier or start a new manufacturing operation. It is a point at which a purchasing order should be placed.

For the purpose of ensuring that the business does not run out of stock, there must be a determined point from which every time the stock levels reach it, a new order is placed. This point depend on factors such as

Maximum rate of consumption: This is the highest quantity consumed per given period.

Maximum re-order period: This is the maximum time from placing order to receipt of goods.

Daily sales: This is the maximum quantity that can be sold. This is also considered as average demand.

Delivery time or lead time: The time it takes to receive goods after placing an order.

Minimum stock level: The minimum amount of stock to be maintained to avoid understocking. It is also referred to as safety stock.

When the business does not need to maintain minimum stock level, Re-order level can be calculated as follows:

Re-order stock level or ordering level = Maximum rate of consumption × Maximum re-order period

When the business needs to maintain minimum stock level, Re-order level can be calculated as follows:

$$\text{Stock order point} = \left(\text{Daily sales} \times \text{Delivery time}\right) + \text{Minimum stock levels}$$

Example 3.1

Assume that you have started your own business dealing with baked products (cakes and cookies). Your business is doing great and by now you are using 2000 to 5000 tins of margarine per week. Since the margarine that you are using is directly ordered from the factory, it usually takes 4 to 6 weeks for you to receive your order. Determine the level from which you will need to order new stock of margarine so that you will not run out of stock.

Solution

Given,

Minimum usage = 2,000 tins per week

Maximum usage = 5,000 tins per week

Re-order period = 4 to 6 weeks

Maximum re-order period = 6 weeks

Minimum re-order period = 4 weeks

Recall the formula for calculating re-order stock level:

Re-order stock level or ordering level = Maximum rate of consumption × Maximum re-order period

$$\text{Re-order stock level or ordering level} = \frac{5{,}000\,\text{tins}}{1\,\text{week}} \times 6\,\text{weeks} = 30{,}000\,\text{tins}$$

Therefore, re-order stock level is 30,000 tins.

Example 3.2

Ame and Bhoke are business partners specialized in selling of rice which they purchase from Kahama and sell it in Tabora and Singida. They usually sell up to 2,000 kilograms of rice every day. To ensure constant supply, they want to maintain a minimum stock of 500 kilograms. Advise them on how they can determine the level of stock that they must order another stock to maintain their minimum stock knowing that it takes 10 days to receive the new stock.

Solution

Given,

Daily sales = 2,000 kilograms

Delivery time = 10 days

Minimum stock = 500 kilograms

Recall the formula for calculating stock order point:

$$\text{Stock order point} = (\text{Daily sales} \times \text{Delivery time}) + \text{Minimum stock levels}$$

$$= (2{,}000 \times 10) + 500$$

$$= 20{,}000 + 500$$

$$= 20{,}500 \text{ kgs}$$

Therefore, the stock order point of Ame and Bhoke is 20,500 kilograms.

Minimum stock level

Minimum stock level is the lowest level of stock that a business should maintain. It is also known as precautionary level, safety stock level or buffer. If the stock level goes below this point, then production may need to be stopped after sometime due to shortage of raw materials. Minimum stock level can be calculated as follows:

$$\text{Minimum stock level} = \text{Re-order level} - (\text{Average usage} \times \text{Average lead time})$$

or

Minimum stock level = Re-order level – (Normal consumption × Normal re-order point)

Where:

Average usage: This is a measure of how stock is used in average over a specific period of time. It can be calculated as follows:

$$\text{Average usage (consumption)} = \frac{\text{Maximum consumption} + \text{Minimum consumption}}{2}$$

Average lead time: This is a measure of an average time taken when an order is placed until the stock is delivered.

$$\text{Average lead time} = \frac{\text{Maximum Re-order Period} + \text{Minimum Re-order Period}}{2}$$

Example 3.3

At KL Supplies Ltd the re-order period is 7 to 9 days and daily consumption is 200 to 550 units. Calculate minimum stock level.

Solution

Given,

Re-order period = 7 to 9 days

Daily consumption = 200 to 550 units

Recall the formula for minimum stock level,

$$\text{Minimum stock level} = \text{Re-order level} - (\text{Average usage} \times \text{Average lead time})$$

But, $\text{Re-order level} = \text{Maximum consumption} \times \text{Maximum re-order period}$

Re-order level = 550×9

Re-order level = 4,950 units

The average usage or consumption can be calculated as follows;

$$\text{Average usage (consumption)} = \frac{\text{Maximum consumption} + \text{Minimum consumption}}{2}$$

$$\text{Average usage (consumption)} = \frac{550 + 200}{2}$$

$$= \frac{750}{2} = 375$$

Average usage (consumption) is 375 units.

The average lead time can be calculated as follows;

$$\text{Average lead time} = \frac{\text{Maximum Re-order Period} + \text{Minimum Re-order Period}}{2}$$

$$\text{Average lead time} = \frac{9+7}{2} = 8$$

Average lead time is 8 days.

Thus,

$$\text{Minimum stock level} = \text{Re-order level} - (\text{Average usage} \times \text{Average lead time})$$

$$\text{Minimum stock level} = 4{,}950 - (375 \times 8)$$

$$= 4{,}950 - 3{,}000 = 1{,}950$$

Therefore, minimum stock level of KL supplies Ltd is 1,950 units.

Maximum stock level

Maximum stock level is the highest level of stock that a business attains immediately after the receipt of a new order. It is the level of stock that a business should hold and cannot exceed at this level. Any amount of stock above this level will result to overstocking which will affect a business by incurring unnecessary additional costs and space. Maximum stock level can be calculated as follows:

$$\text{Maximum stock level} = \text{Re-order level} + \text{Re-order quantity} - (\text{Minimum consumption} \times \text{Minimum re-order period})$$

Example 3.4

The following information was taken from ABC Company's warehouse. Re-order quantity is 700 units, re-order level is 1,000 units, re-ordering period is 2 to 5 days and consumption is 100 to 170 units. Calculate the maximum stock level.

Solution

Given,

Re-order quantity = 700 units

Re-order level = 1,000 units

Re-ordering period = 2 to 5 days

Maximum re-order period = 5 days

Minimum re-order period = 2 days

Consumption = 100 to 170 units

Recall the formular for calculating maximum stock level,

$$\text{Maximum stock level} = \text{Re-order level} + \text{Re-order quantity} - (\text{Minimum consumption} \times \text{Minimum re-order period})$$

$$\text{Maximum stock level} = 1{,}000 + 700 - (100 \times 2)$$

$$= 1,700 - 200 = 1,500$$

Therefore, the ABC company's limited maximum stock level is 1,500 units.

Average stock level

Average stock level is the normal quantity of stock held by a business in a specific period of time. It is a level that is above the minimum level and below the maximum level of stock. The average stock level can be calculated as the mean of stock at the beginning and at the end of a period:

$$\text{Average stock} = \frac{\text{Opening stock} + \text{Closing stock}}{2}$$

Example 3.5

The following information was obtained from DC Supplies Ltd: Opening stock in value is TShs 43,000 and closing stock in value is TShs 27,000. Calculate average stock.

Solution

Given,

Opening stock = TShs 43,000

Closing stock = TShs 27,000

Recall the formular for calculating average stock:

$$\text{Average stock} = \frac{\text{Opening stock} + \text{Closing stock}}{2}$$

$$= \frac{43,000 + 27,000}{2}$$

$$\text{Average stock} = \frac{70,000}{2} = 35,000$$

Therefore, the DC Supplies Ltd's average stock is TShs 35,000.

Stock turnover or stock turn rate

Stock turnover or stock turn rate (stock turnover ratio) is the ratio or a measure showing how many times a company sales and replaces stock in a given period of time. It is the number of times the stock is replaced in a particular period of time or the number of times the average volume of stock held has been turned over. Calculating stock turnover can help a company to make better decision on

manufacturing, pricing and marketing of products or replacing new stock.

A fast turnover implies either strong sales or a company is running an insufficient stock while a slow turnover implies weak sales or excess stock. Stock turnover can be calculated as follows:

$$\text{Stock turnover} = \frac{\text{Cost of sales}}{\text{Average stock}}$$

Where,

$$\text{Cost of sales} = \text{Opening stock} + \text{Purchases} - \text{Closing stock}$$

or

$$\text{Cost of sales} = \text{Opening stock} + \text{Purchases} + \text{Carriage inwards} - \text{Purchases returns} - \text{Closing stock}$$

Where:

Carriage inwards: This is the transport cost incurred by the buyer on the purchases of the goods. It is also known as freight-in. Carriage inwards is considered to be part of the cost of the goods purchased.

Purchases return: This is the total amount of goods returned by the buyer to the supplier due to various reasons such as wrong size, colour, expired goods and damaged goods. These returns are also known as return outwards as the goods are returned out to suppliers.

Example 3.6

The following information was obtained from EB Supplies Ltd for the financial year ended 2021: Opening stock was TShs 67,000; purchases was TShs 402,000 and closing stock was TShs 52,000. Calculate stock turnover.

Solution

Given,

Opening stock = TShs 67,000

Purchases = TShs 402,000 and

Closing stock = TShs 52,000

Recall the formular for calculating stock turnover.

$$\text{Stock turnover} = \frac{\text{Cost of sales}}{\text{Average stock}}$$

But, $\text{Cost of sales} = \text{Opening stock} + \text{Purchases} - \text{Closing stock}$

$= 67,000 + 402,000 - 52,000$

$= 469,000 - 52,000$

$= 417,000$

Thus, cost of sales is TShs 417,000.

To calculate average stock, recall the formular for average stock,

$$\text{Average stock} = \frac{\text{Opening stock} + \text{Closing stock}}{2}$$

$$\text{Average stock} = \frac{67,000 + 52,000}{2}$$

$$\text{Average stock} = \frac{119,000}{2} = 59,500$$

Average stock is TShs 59,500.

$$\text{Thus, Stock turnover} = \frac{417,000}{59,500} = 7 \text{ times}$$

Therefore, EB Supplies Ltd turned over its stock 7 times in the year 2021.

Example 3.7

The following balances were extracted from Bondeni Supermarket as at 31st December, 2019.

Opening stock = TShs 10,000,000

Closing stock = TShs 12,500,000

Carriage inwards = TShs 500,000

Purchases return = TShs 100,000

Purchases = TShs 30,000,000

Calculate cost of sales.

Solution

Recall the formular for calculating cost of sales.

$$\begin{aligned}\text{Cost of sales} &= \text{Opening stock} + \text{Purchases} + \text{Carriage inwards} - \\ &\quad \text{Purchases returns} - \text{Closing stock} \\ &= 10{,}000{,}000 + 30{,}000{,}000 + 500{,}000 - 100{,}000 - 12{,}000{,}000 \\ &= 27{,}900{,}000\end{aligned}$$

Therefore, the cost of sales by Bondeni Supermarket in the year 2019 is TShs 27,900,000.

Activity 3.3

Visit any nearby warehouse in your area and identify the functions related to stock administration, then;

(a) write the information you have obtained about the functions conducted in stock administration in a visited warehouse.

(b) discuss the functions with your fellow students for further learning.

Exercise 3.3

1. Entrepreneurs at Majengo market are having difficulties on the management of their goods to ensure that there are sufficient quantities of goods without holding more or less stock than the required quantities.

   (a) What knowledge do these entrepreneurs lack?

   (b) If you are hired to train the entrepreneurs, what are the specific areas that you will focus on to help them eliminate their problem?

2. The following information were obtained from Maua General Suppliers. Stock on 1/1/2021 was 55,570 units, stock on 31/12/2021 was 42,420 units and net purchases during 2021 was 384,200 units. Assist Maua General Suppliers to calculate the following:

   (a) Cost of sale

   (b) Average stock

   (c) Stock turn rate

3. Assume that you have been hired by Soku Suppliers to assist them to determine their cost of sales. On doing the task, you extracted the following information for the year ended 31st December, 2020.

   Opening stock = TShs 20,000,000
   Closing stock = TShs 22,500,000
   Carriage inwards = TShs 1,000,000
   Purchases return = TShs 500,000
   Purchases = TShs 35,000,000
   Calculate cost of sales.

Chapter summary

1. Warehousing is the process of storing products (such as raw materials, semi-finished and finished goods) in a special building until when they are delivered or supplied to users.
2. A warehouse is a large commercial building made for storing goods for future use.
3. Types of warehouses include: private, public, bonded, distribution centre, climate-controlled and smart warehouses.
4. Stock administration is the management of stock in the business to ensure that there are sufficient quantities of goods without holding more or less stock than the required turnover.
5. Stock turnover or stock turn rate (stock turnover ratio) is the ratio or measure showing how many times a company has sold and replaced stock in a given period of time.
6. Stock level is the level or amount of stock that should be maintained by the business to operate and avoid any situation of over or under-stocking of goods.
7. The stock level can be minimum level, maximum level, average level or re-order level.

Revision exercise

Choose the most correct answer by writing its corresponding letter

1. Which of the following is the importance of a warehouse?
   (a) Facilitate movement of goods from one place to another.
   (b) Compensation for the loss of goods.
   (c) Facilitate regular flow of goods in the market.
   (d) Easy for small enterprises to invest.
2. One of the following is considered as a disadvantage of warehousing:
   (a) Useful for small business enterprises.
   (b) Placement of stock items.
   (c) Additional costs.
   (d) Issuing of stock.
3. Stock turnover is the:
   (a) Point at which a purchasing order is placed.
   (b) Number of times stock is replaced in a particular period of time.
   (c) Amount of stock to be ordered.
   (d) Amount of stock to be held by a business in a specific period of time.

4. Which type of warehouse is open to the public to store their products in return for a storage fee?
   (a) Private warehouse.
   (b) Wholesalers' warehouse.
   (c) Public warehouse.
   (d) Bonded warehouse.
5. At the end of the month of December 2021, the ABC company Ltd storekeeper was involved in checking and keeping records of the quantity of stock in the warehouse. Which function of stock administration was performed by the shopkeeper?
   (a) Stock control.
   (b) Placement of stock.
   (c) Stock valuation.
   (d) Stock taking.
6. **Match items from Group A with those in Group B by writing the letter of a statement in Group B that corresponds to an item in Group A**

Group A	Group B
(i) Warehouse	A. The warehouse which is open for traders to rent space and pay storage fee for their goods.
(ii) Public warehouse	B. A warehouse which belongs to manufacturers, wholesalers or retailers.
(iii) Climate controlled warehouses	C. Checking and keeping of record of the quantity of goods.
(iv) Stock control	D. Checking and keeping of records of the quantity and value of goods.
(v) Stock level	E. Commercial building for storing goods.
(vi) Issuing of stock	F. Controlling movement of goods against order vouchers or requisition order.
(vii) Safety stock	G. Level below which the stock should not fall.
(viii) Re-order level	H. Level of stock at which a new order should be placed.
(ix) Maximum stock	I. Level of stock which brings extra administration costs.
(x) Custom duty	J. Required level of stock to avoid over or under-stocking of goods.
	K. Specialised warehouses for storage of perishable goods.
	L. Tax for imported goods.

7. Mr Masanu is a maize producer at Mabondeni farms who is unaware about warehousing. Explain to Mr Masanu the advantages and disadvantages of storing his products in a warehouse.
8. Suppose you have been asked to assist on managing a newly opened warehouse. What specific activities will you conduct on managing the goods in that warehouse?
9. Kolo and Polo are partners in business who are dealing in production and distribution of maize flour. Their distribution has been unstable as they have been falling short of stock from time to time. Advise them on maintenance of stock levels.
10. JITEL Enterprises Ltd sells motor vehicle tyres. Each tyre costs TShs 150,000 and is sold for TShs 200,000 to customers. The maximum demand is 20,075,000 tyres per year and the average demand is 18,570,000 tyres per year. The average lead time is 57 days and the maximum lead time is 64 days. Based on the information given above and assuming that a year has 365 days. Compute the following:
    (a) The re-order level of tyres
    (b) The minimum level of stock of tyres
    (c) The maximum level of stock of tyres
11. During the financial year of 2021, DAMIANO Co. Ltd started operating a business of buying and selling agricultural produce with opening stock that was valued at TShs 150 million and purchased produce for that period that was valued at TShs 180 million. Additionally, the closing stock for the period was valued at TShs 30 million. Based on the given information above, calculate the following:
    (a) Cost of goods sold
    (b) Average stock
    (c) Stock turnover ratio

Chapter Four

Transportation

Introduction

In our daily lives we utilise various products many of which are produced far from where we live. In order to obtain them, they must be moved from where they are produced to various locations. On the other hand, people travel from one location to another for various reasons. All these movements are necessary, because various areas have varying abilities in producing products and no place is self-sufficient. Thus, without these movements of products, people would not get what they want. In this chapter you will learn about the concept of transportation, modes of transport and documents involved in transportation. The competencies developed will enable you to facilitate movement of products and people from one place to another.

Concept of transportation

In commerce one of the aids to trade or an auxiliary to trade is transportation. It is called an auxiliary to trade because it supports trade by carrying raw materials from different sources to producers and finished goods from producers to consumers. The term transportation is derived from Latin word 'Transportare,' whereby 'Trans' means across and 'portare' means to carry. Therefore, transportation is termed as an activity that facilitates physical movement of products and people from one place to another. For example, transporting timber, fuel, passengers, fish and coffee makes the products available to places where they are not originally produced but demanded for consumption.

Transportation is important because it enables people to get what they want and be where they want to be. For example, a product may be manufactured in one region but needed for consumption in almost all regions within the country. Failure to deliver such a product to areas with a demand for it will result into unearned income to producers. Similarly, there will be a failure in satisfying the market demand for such a product leading to market disruption. Thus, poor transport systems can negatively affect the economic activities in a country. It may also affect essential activities that provide accessibility to services like education, health care, social events, shopping, and employment.

Elements of transportation

Transportation system comprises of four main elements namely unit of carriage, way, method of propulsion and terminal. These elements are essentials to any transportation system to function effectively. Figure 4.1, shows the four elements of transportation.

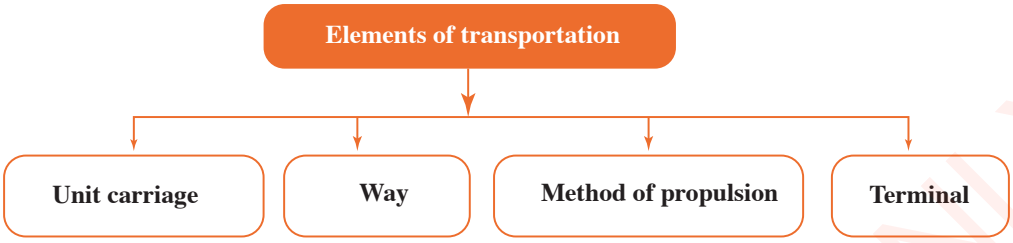


Figure 4.1: *Elements of transportation*

Unit of carriage

Unit of carriage refers to vehicles or machines by which products or people are carried. These include trucks, buses, cars, tractors, motor cycles, bicycles, tricycle, wheelbarrows, animals, human portage, trains, aeroplanes, helicopters and ships or boats.

Way

These are paths through which unit of carriage move. They include roads, water ways, airways, pipelines and railways. Ways may be natural or man-made. Man-made ways include roads such as Tanzania-Zambia highway (TANZAM) from Dar es Salaam to Zambia and railways such as the Standard Gauge Railway (SGR) starting from Dar es Salaam to Mwanza, and central railway from Dar es Salaam to Kigoma and Mwanza. Others includes, pipelines such as, Tanzania-Zambia Mafuta (TAZAMA) pipeline, rope ways like the Mount Kilimanjaro rope way and bridges such as the Nyerere Bridge, Tanzanite Bridge and Mkapa Bridge. Man-made ways cost a lot of money in their construction and maintenance. Natural ways include rivers, lakes, oceans, canals, space or air and pathways. Natural ways are free but not available in every location.

Method of propulsion

This refers to the force or power that drives the unit of carriage. The most common method of propulsion is the internal combustion engine which is either diesel, gas or petrol powered, as those used in automobiles and ships. Others include the reaction engine, normally called jet engine as those used to power some aeroplanes, rockets and some fighter jets, as well as electric motors. Choice of the method of propulsion largely depends on the desired speed, size of the vehicle and the available type of fuel.

Terminal

Terminal is a station at which products and people are loaded and offloaded from the unit of carriage. For example, in water transport, goods and people are loaded and offloaded at the port or harbour, such as the ocean ports in Dar es Salaam and Tanga, and Lake ports in Kigoma, Mwanza and Bukoba. With an air transport, loading and offloading of goods and people take place at the airport such as the Julius Nyerere International Airport in Dar es Salaam Region, Kilimanjaro International Airport (KIA) in Kilimanjaro Region and Arusha Airport in Arusha. Similarly, for road transport, products and people are loaded and offloaded at bus terminals such as the Magufuli Bus Terminal in Dar es Salaam Region, Msamvu Bus Terminal in Morogoro Region and Nyegezi Bus Terminal in Mwanza Region.

Importance of transportation

Life would be almost impossible without movement of people and products from one place to another. People would fail to meet their needs since their local supply of goods may not suffice their needs without products supply from other localities. The following are some of the importance of transportation:

Makes products available to consumers: Usually not all products are consumed in the place they are produced. Normally, they are moved from the place of production to different places of consumption. Transportation, thus, facilitates the process of making goods available to consumers.

Stabilises prices: Transportation of goods helps in maintaining relatively uniform prices throughout the country. Goods can be transported from places where there is surplus and prices are low to places where there is scarcity and prices are high. Such movement helps to stabilise prices of goods throughout the country or the world.

Makes raw materials available to producers: Usually not all industries are located near the sources of raw materials or inputs. Some raw materials are produced far from the industries, hence, they have to be transported. Transportation, thus, facilitates supply of raw materials to the industries.

Creates employment: Many people have secured employment in the transportation sector. For example, motorcyclists commonly known as *bodaboda* use motorcycles to transport people or products and earn income in return from self-employment. Moreover, individuals are employed as drivers, pilots and sailors to operate various means of transport such as cars, buses, aeroplanes and ships.

Contributes to market expansion: Development of good transport systems has enabled interconnectedness between regions and countries. This makes it possible to move products from the place of production to different places for

consumption. Thus, it expands the market for the produced products. For instance, Tanzania is able to export agricultural commodities such as cashew nuts, coffee, cotton, tea and cloves to other countries because of the well-established transport systems.

Contributes to the movement of labour: Transport encourages mobility of labour. An efficient transport system motivates workers to move from one location to another. These movements may be for the purpose of finding better jobs or offering services in other places. This reduces the shortage of labour in places where they are highly needed.

Facilitates growth of towns: Transportation facilitates growth of towns and cities in a country. This is because it ensures movement of products and enable people to travel and live to other places and engage in economic activities. Moreover, it enables movement of various factors of production, which facilitates growth of economic activities in certain areas and eventually attract people to settle in such areas.

It encourages production: Producers are motivated to produce more goods when they are sure that they would easily reach the final consumers or markets. A good transportation network provides the confidence to producers to produce goods as it provides assurance of accessing resources and markets.

Exercise 4.1

1. A large-scale farmer was asked to explain how transportation system facilitates farmers' activities. What do you think were the answers?
2. As a transportation officer, you have been invited as a guest speaker to address form two students about the essential elements of transportation. Explain the points that you will focus on.

Modes of transport

Mode of transport is a manner in which transportation is conducted. This is the method of transport used to carry products and people from one place to another. Modes of transport can broadly be divided into three categories: land transport, water transport and air transport. Figure 4.2, shows modes of transport and their associated forms.

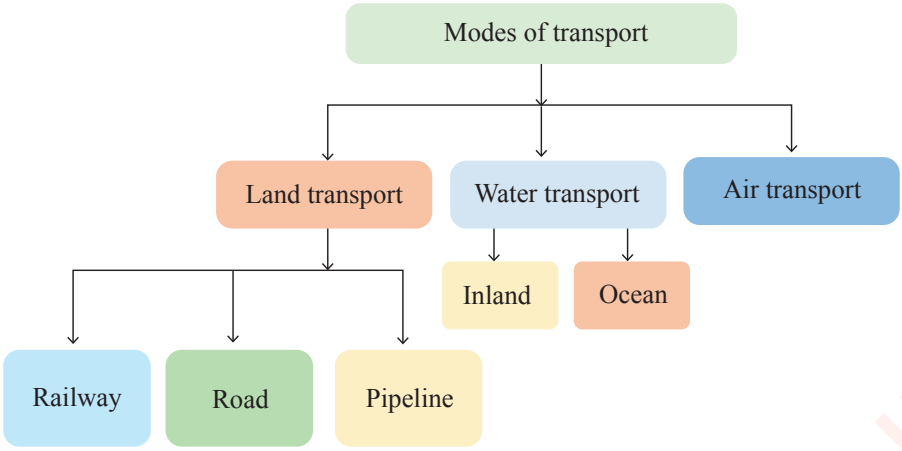


Figure 4.2: *Modes of transport*

Land transport

This is a method of transporting products and people from one place to another through land. There are three main types of land transport namely road transport, railway transport and pipe line transport. These types of land transport are explained as follows:

Road transport

Roads are the paths that connect one place to another on the surface of the earth. These paths are often constructed at a tarmac level to facilitate smooth movement of the units of carriage from one place to another. Road transport is one of the most commonly used mode of transport which involves transportation of products and people from one place to another through roads. Figure 4.3 (a and b) show road transportation in urban and rural settings.

(a) Road transportation in urban settings

(b) Road transportation in rural settings

Figure 4.3: *Road transportation*

Types of road transport

There are various types of road transport depending on unit of carriage and uses of the road. These include human portage, human powered transport, animal transport, bodaboda transport, taxi, bus and road freight transport. These types of road transport are explained as follows:

Human portage: This type of road transport involves walking on foot while carrying goods on head, shoulders or on hands to the destination. This method is usually used to transport goods in short distance-trips. It is the cheapest but slowest means of transport and it can carry relatively smaller quantity of goods than other types of road transport.

Human powered transport or non-motorised transport: These are small-wheeled transportation facilities that use human power or force to move goods. Human powered transport include wheel barrow, handcarts, wheelchair and non-motorised bicycles (a cycling transport often used for transporting a small number of people or goods within short and moderate distance).

Animal transport: This is a means of transport that involves the use of animals for transporting people and goods on roads or pathways. Animals used for this transportation include donkeys, camels, oxen and horses. Animal transport is cheap but also a slow means of transport. Comparatively, animal transport can carry a relatively larger quantity of goods than that in human portage.

Bodaboda transport: This type of transport has become the most common means of transport in rural and urban Africa. It includes motorcycles, tricycles and motorised bicycles. This type of transport has increasingly become one of the most popular mode of public transportation in Tanzania as compared to taxicabs, as it is cheaper, quite convenient and it can easily pass through narrow streets where minibuses and taxicabs cannot reach.

Taxi transport: A taxi, also known as a taxicab or simply a cab, is a type of vehicle for hire with a driver, used by a single passenger or small group of passengers. A taxicab conveys passengers between locations of their choice. This differs from public transport where the pick-up and drop-off locations are decided by the service provider, not by the customers. Taxi play an important role as a transportation alternative in many cities and towns. Taxi tends to be used as a substitute for private vehicles by passengers who use the service for convenience reasons or because they do not want to own a car. In general, taxi serve for private passengers regardless of whether they own private cars or not.

Bus transport: This is a vehicle designed to carry mainly passengers to various locations. Bus transport ranges from small vehicles such as mini-buses to large buses. Buses are used to transport people within region, across regions and in some cases across countries.

Road freight transport: These are vehicles designed for cargo carriage. They include the trucks, vans and tankers. These vehicles carry larger amount of cargo than other means of road transport.

Advantages of road transport

Road transport has several advantages to the users. These include the following:

(a) Road transport is relatively cheap compared to air transport. For example, travelling from Arusha to Kigoma by bus is relatively cheaper than using aeroplane.

(b) May facilitate door to door services. For example, most taxicabs and bodaboda carry products and customers to their destination (it may be a warehouse or a customer's doorstep). This reduces the burden of walking or carrying goods from the bus terminal. This is possible due to the fact that customers' or passengers' premises are easily accessible through roads.

(c) It is highly flexible. One can choose to travel or transport goods by using trucks, buses, motor van, motor cycles, bicycles, wheelbarrows, animals or human. Moreover, its routes and timings can be adjusted and changed to meet individual needs with minimal disruption.

(d) Contains several pick-ups and drop-by points. Road transport allow passengers and cargo to be picked-up or dropped at different destinations as per convenience. This is difficult to other means of transport.

(e) Road transport links many places. Road transport allows the movement of the unit of carriage across and within different places except those surrounded by water bodies. This eliminates the disturbance of changing the mode of transport unnecessarily.

Disadvantages of road transport

Road transport has some disadvantages as well to the users, these include;

(a) Road transport is relatively slower as compared to air transport. For example, a travel route from Dodoma to Mbeya by bus takes more time than with an aeroplane. This type of transport is not favourable when someone is in need of fast services.

(b) Road transport is not suitable for transporting heavy and bulky goods over a long distance. Heavy and bulky goods can best be transported using railway transport because road transport has limitation in its carrying capacity. For example, a load of 200 tonnes cannot be transported by using a single truck at once, and even when that is possible for some specialised trucks, they may seriously affect the roads. However, the same load or more may be easily transported through railway and waterway.

(c) Due to its limited carrying capacity, it is uneconomical for bulky goods compared to railway transport. Transporting goods by road transport would require more vehicles while the same may be transported through railway at once.

(d) Damage to road infrastructure. Many roads have been constructed to carry specific weights. Continuously and often use of such roads with overweighted or unbalanced cargo results to damage of such roads.

(e) Road transport is easily affected by unfavourable weather conditions such as heavy rain and wind. Unfavourable weather conditions can affect road visibility and vehicle performance. For example, during heavy rains some steep non-tarmac roads become slippery and, fog in some areas causes poor road visibility. All these normally cause road blockage, accidents and, thus, delays.

Railway transport

Railway transportation is the movement of goods and passengers on railways through train. It is a means of transport which involves the use of vehicles which run on rails or railroads. Good examples of the railway transport is the Central line, Northern line and TAZARA railways which use fuel to run trains. The Standard Gauge Rail (SGR) is another example of a railway transport that uses electricity to run trains. Figure 4.4 (a and b) shows railway transportation using an electric train and a fuel train respectively.

(a) Railway transportation using an electric train

(b) Railway transportation using a fuel train

Figure 4.4: *Railway transportation*

Types of railway transport

Railway transport can be classified into two major types; passenger railway transport and cargo railway transport. These are explained as follows:

Passenger railway transport: This is a railway transport that makes use of passenger trains to carry both people and a limited amount of goods from one place to another. These trains are usually operated by fuel or electric engines.

Cargo railway transport: These are trains which are solely used to transport goods from one location to another. Just like the passengers' trains, the cargo trains are mostly operated by fuel, coal or electric engines.

Advantages of railway transport

Railway transport has several advantages to the users including;

(a) It is suitable for transporting large quantities. It is easier to transport goods in large quantities to long distances using railway than road transport because of its carrying capacity. Trains are capable of carrying more bulky goods compared to lorries and trucks.

(b) Railway transport is cost effective. In most cases the cost of transporting goods by railway transport is lower than that of road transport.

(c) Its operation is less affected by adverse weather conditions such as rain, fog and wind. The railway is well structured in such a way that it is not easily destructed by adverse weather conditions compared to road transport.

(d) In railway transport, breakdown is less frequent compared to road transport. Train has fewer breakdowns due to the nature and structure of both railway and the

train itself. The railroad tracks are made up of smooth compact iron bars, the wheels and a great part of the train is made up of reinforced iron.

Disadvantages of railway transport

Railway transport has several disadvantages to the users including the following:

(a) Railway transport has limited accessibility. Usually, the railway has few fixed stations located in the interior parts of the country, often away from the highways.

(b) It lacks flexibility since the terminals are located in some selected areas. This discourages those who live at the mid of two terminals to use the railway transport since they must arrange for extra transport from the station to their homes.

(c) In the event of an accident, railway transport involves significant losses in both life and goods. Trains mostly operate through wagons connected to one train head and they carry a lot of goods or passengers at a time. In the event of accident, the loss of goods or peoples' lives can be devastating.

(d) Diesel operated trains have slower speed compared to road transport. The train speeds are limited, they are, thus, not suitable for transportation of bulk perishable goods as they can get spoiled easily.

(e) It is unsuitable for short distances, because in short distances transportation of goods by railway transport is expensive in terms of on time delivery and freshness of goods.

Pipeline transport

Pipeline transport is a long-distance transportation of liquid or gas through a system of pipes. Pipelines can transport products such as water, fuel and gas. While some pipelines are on the ground, majority of them are buried underground in order to protect them from harsh weather condition and sabotage. Thus, pipelines are well hidden from the public and most people are unaware of the vast network of pipelines. Figure 4.5 shows an example of pipeline transport.

Figure 4.5: *TAZAMA Pipeline*

Types of pipeline transport

There are three common types of pipeline transport which are petroleum pipelines, gas pipelines and water pipelines. These types are explained as follows:

Petroleum pipelines: Petroleum pipelines involve gathering crude oil from the production wells, transporting it to refinery and transporting the final products such as petrol, diesel or kerosene to storage or distribution stations. In Tanzania through TAZAMA pipeline, petroleum is transported from Dar es Salaam, Tanzania to the industrial city of Ndola, Zambia.

Gas pipelines: Gas pipelines collect crude gas from production wells to facilities, refineries and, finally, deliver the refined product to homes or industries. For example, the Mtwara-Dar es Salaam Natural Gas Pipeline (MDNGP) transports natural gas from Mtwara to Dar es Salaam in Tanzania.

Water pipelines: Water pipelines involves transportation of clean water and sewage materials from one place to another. Some pipelines transport clean water which is used for domestic, agricultural and industrial activities. Sewage water on the other hand is collected and transported from households and dumped in sewage ponds. Water supply and sanitation authorities across regions in Tanzania use water pipelines to supply clean water and move sewage.

Advantages of pipeline transport

Pipeline transport has various advantages to its users. The following are some of the advantages of pipeline transport:

(a) Pipeline transport is a convenient and low-cost mode of transport for large volume of liquid and gas products compared to other modes of transport. Once the pipelines have been fixed there is low cost of moving the liquids and gas.

(b) Pipeline transport is not affected by weather condition hence is a reliable mode of transport. With the installed pipes the changes in weather conditions have insignificant effect on the transportation.

(c) In its operation, pipeline transportation causes minimal environmental destructions compared to other modes of transport. For example, the amount of carbon emission from other means of transport is very high as compared to pipelines.

(d) Pipelines are cheap to maintain as they are to a large extent constructed underground so they are not easily disturbed. The chance for destruction of pipeline is relatively less as compared to other modes.

(e) It is suitable for transporting bulky liquid and gaseous products where roads and railways would be difficult and expensive to transport.

Disadvantages of pipeline transport

Disadvantages of pipeline transport include:

(a) Slight leakage may result into huge losses. Pipes pass through different places including areas that are difficult to quickly detect leakages, such as in forests. Leakages may last long before being detected and worked on, causing huge losses.

(b) Pipeline transport has limited flexibility. Pipeline transport can only transport goods in gaseous or liquid forms. Solid or crystalised materials may not be transported through pipelines.

(c) It is normally a one-way transportation system unlike the road or railway transport which involves go and return within the same infrastructure. For example, TAZAMA pipeline transports oil from Tanzania to Zambia but does not transport another item from Zambia to Tanzania.

(d) Pipeline transport attracts theft, because unfaithful individuals are likely to dig into the ground, drill the pipeline and steal products that are being transported such as water and gas.

Water transport

Water transport is the movement of goods and passengers from one place to another through waterways. This process involves the use of different means of transport such as ships, boats and canoe across the sea, ocean, lakes, rivers and canal. Figure 4.6 (a, b and c) shows examples of three different means of water transport.

(a) Water transport using passenger's ship

(b) Water transport using cargo ship

(c) Water transport using canoe

Figure 4.6: *Water transportation*

Types of water transport

There are mainly two types of water transport which are inland water transport and sea or ocean water transport. These are explained as follows:

Inland water transport: This is the movement of passengers and goods in water bodies other than ocean such as lakes, rivers and canals. Inland water transport makes use of different means including canoes, ferries, and barges to carry goods and passengers.

Sea or ocean water transport: This is the movement of goods and passengers through the sea or ocean. Sea transport makes use of various means of transportation such as boats, barges, ferries and ships. Sea transport is also used in coastal areas to transport goods and passengers. This transport has a fixed route that connects different countries in the world. It may be of the following two types, namely, coastal shipping and overseas shipping;

(a) Coastal shipping: In this transportation, ships carry goods and people from one part to another along the same coastline. This facilitates domestic trade and movement of goods in the country. For example, in Tanzania, ferries and boats play very important role in shipping goods and people in coastal areas.

(b) Overseas shipping: This is where ships travel between two or more countries separated by sea water. It is highly preferred in the transportation of large machines and goods in bulk. Overseas transportation is done on fixed routes that connect

many countries. They involve liners, tramps, and tankers.

Advantages of water transport

Water transport has several advantages including;

(a) No construction cost of waterways. Most waterways occur naturally hence no cost is incurred in their construction. For example, seas or oceans, rivers and some lakes occur naturally and may be used as water ways without further construction.

(b) It is a less expensive mode of transport. Water transportation is less expensive mode of transportation compared to air and road transportations especially when transporting bulky goods.

(c) It is suitable for transporting bulky and heavy goods. Water transport facilitates the movement of heavy and bulky goods to and from one place to another, including extremely long distances at a lower cost than of any other mode of transport.

(d) Water transport promotes international trade. This mode of transport forms the major means of moving goods between countries due to its capacity and cost effectiveness. This tends to stimulate and develop international trade.

(e) Water transport is relatively secure and dependable, with few chances of accidents or breakdowns. Water transport records fewer cases of accidents and losses as compared to other modes.

(f) Water transport is suitable for transporting fragile goods. The risk of fragile goods like glass breaking is low. Special equipment that can reduce breakdown possibility can be used for loading and offloading.

Disadvantages of water transport

The following are the disadvantages of water transport:

(a) Slower means of transport than other modes of transport. Goods transported through waterways can take weeks and months to reach their destinations depending on the distance. It is thus, unsuitable for transportation of perishable goods and people who need to arrive at their destination urgently.

(b) Water transport may be affected by bad weather. Bad weather conditions such as storm may result into cancellation of routes hence delay of goods or passengers to their destination.

(c) It incurs extra cost for packing and repacking. Transportation through water requires packing of goods before loading into the ship to avoid moistures or water droplets and unpacking of goods after being offloaded. This is an additional cost unlike in other modes of transport where goods can be directly loaded and offloaded from the vehicle.

(d) It may affect the quality of goods. The quality of goods may be affected by delays in shipping and port handling.

(e) Water transport requires too many documents which sometimes cause delays. Many documents are involved in the process of transporting goods by water transport. This may result into delay of products to be transported to the destination.

(f) In water transport sometimes there are congestions at the ports, which cause delays in delivery of goods to their destinations. This may affect demand, supply and quality of the goods.

(g) Water transport may lead to water pollution. Oil may leak into the water, and the ship's crews as well as passengers sometimes throw wastes into the water, endangering marine life.

Air transport

Air transport is the movement of passengers and goods from one location to another through airways using airplanes, helicopters, rockets, jets, balloons or drones. Each of these types of air transport has a unique way of achieving speed and sustainability of its voyage. Other types of air transport such as hot air balloons and parachutes are normally used for recreation purposes and not for moving goods. Figure 4.7 (a and b) shows examples of air transportation namely an aeroplane and a hot air balloon.

(a) Air transport using an aeroplane

(b) Air transport using hot air balloon

Figure 4.7: *Air transportation*

Types of air transport

The following are types of air transportation.

Passenger aircraft: These refer to air transport used to carry passengers with limited amount of cargo. Passengers' aircraft provide a faster mode of transportation allowing people to move in different places around the world.

Cargo aeroplanes: These are aeroplanes designed to carry cargo. Compared to commercial planes, cargo aeroplanes do not have passengers' sits, in-turn the area is empty to accommodate cargo to be transported.

Helicopters: This is another mode of transport through air. In comparison to commercial aeroplanes, helicopters have much less passenger space as they can only transport few people at a time. Helicopters have the advantage of flexibility in landing as they can land to most places especially in the event of emergency.

Private aeroplanes: Private aeroplanes are designed to transport a limited number of people at a time. They range from small simple planes to luxury jets. These planes provide comfort and privacy during travel, and they can be used to travel for business or pleasure.

Hot air balloons: Hot air balloons are recreational tool used to transport people, mostly tourists. The nature of the hot balloon basket allows the passengers an aerial view of a location from different angles unlike if they were to view it from the ground. In Tanzania balloons are used in Serengeti National Park for better viewing of wild animals and other attractions.

Advantages of air transport

Air transport has several advantages that include:

(a) Air transport is the fastest and high-quality mode of transport. Air transport is a quick and efficient system that is well-suited to high quality, expensive passenger travel providing comfort and high-quality service. To-date, air travel accounts for nearly all long-distance passenger movements.

(b) Air transport provides a natural highway. Airways are naturally created, hence no cost is incurred in creating airways.

(c) Air transport is free from natural obstacles such as mountains, forest, rivers, valleys, lakes and sea. It, thus, enable one to create shortcuts to distances that could need a lot of diversions.

(d) It is suitable for transportation of perishable goods. Since it is the quickest mode of transport it facilitates movement of goods especially perishable goods in a relatively short period of time. This sustains goods freshness and customer service. Tanzania transports fish and beef to different countries in the world through air transport.

(e) Air transport is very helpful during natural calamities such as floods and landslides which have the tendency of blocking road networks. Air transport can as well be used during evacuation process to save peoples' lives.

(f) Some aircrafts can reach areas that are inaccessible by other modes of transportation. For example, helicopters can travel faster and reach inaccessible areas like steep hills and deep valley easier than other means of transport.

(g) Air transport is beneficial to agriculture as it enables aerial spraying of insecticides, pesticides, fungicides, herbicides and rodenticides.

(h) Air transport plays a critical role in a country's defence. Airplanes have largely been used in modern wars. It has the advantage of destroying the enemy in a short period of time.

(i) It enables space exploration. Air transport helps in the scientific exploration of space such as research carried out on the moon and mars.

Disadvantages of air transport

Disadvantages of air transport include;

(a) Air transport has a limited carrying capacity. It is more selective when it comes to certain goods. Because of its limited capacity and high cost, air transport is sometimes unsuitable for transporting inexpensive, bulky, and heavy goods. Moreover, goods that are highly flammable are not normally transported by air.

(b) It is the most expensive mode of transportation. Air transport fares for passengers are so high that it is out of reach for the low-income earners. Similarly, it is quite costful to transport bulky and heavy goods.

(c) More vulnerable to bad weather. Weather conditions limit air travel to a large extent. Conditions such as fog, snow, hurricanes or heavy rains may cause scheduled flights to be cancelled or air service to be suspended.

(d) In the event of an accident, there is a significant loss of goods, property, and life. Compared to other modes of transportation, the likelihood of peoples' survival is too small in an accident.

(e) Air transport lacks flexibility. It does not provide a door-to-door service, so passengers must rely on other modes of transportation to get to and from the airport.

Exercise 4.2

1. Suppose your neighbour wants to transport goods from point A to point B. But she is not sure on the appropriate type of road transport to use. Give her a brief overview of the various types of road transport so she may select the best option.
2. If you are to transport perishable goods from your locality to a nearby town, which type of transport will you use and why?
3. Mr Abbas is a large-scale maize farmer. After harvesting his maize, Mr Abbas intends to export the maize to Kenya. Briefly explain the suitable mode of transport for Mr Abbas.
4. Imagine that a hiring agency has selected your name from the list of applicants. During the interview, you are asked to explain the merits and demerits of air transport. What would be your response?

Factors to consider when choosing the mode of transport

The following are the factors to consider when choosing the mode of transport to use:

Safety: Safety refers to the ability to protect people and goods from partial damage, loss, or total destruction. The frequency of accidents and possible crimes along the route from the loading point to the destination are used to evaluate the safety of a transportation mode. For example, it can be safer to transport fragile goods by water or railway than road.

Cost of transportation: The choice of mode of transport must consider the cost of transportation in relation to the value of the goods being transported. For example, it may be more appropriate and economical to transport maize by road transport than air transport.

Availability and accessibility: Availability and accessibility of a mode of transportation must be considered when making a transport decision. Some modes of transportation are available but not easily accessible, while others are neither available nor accessible. For example, Cotton cannot be transported by water from Geita to Dar es Salaam Regions, because they are not connected by a water body.

Carrying capacity: The transporter must consider the carrying capacity of the means of transport in relation to the quantity of goods to be transported. For example, it is uneconomical to transport goods in bulk by air transport as opposed to railways and water ways which are the best means in carrying heavy and bulk loads.

Characteristics of goods: Deciding which mode of transport to use depends on the characteristics of goods to be transported. For example, the extent to which goods are dangerous, delicate or of high quality determines the mode of transport to use. Usually when goods are

delicate air transport or water transport is preferred. When goods are dangerous such as explosive air transport is not always preferred.

Speed and urgency: The transporter would also need to consider the time taken by the means of transport to get to the destination. For example, if the goods are emergently needed at the market the transporter would prefer air transport, followed by road transport or fast-moving rail transport. For urgently needed goods, water transport may not be suitable.

Terminal and flexibility: It is critical to think about where the goods will be loaded and off-loaded. If individuals wish to transport by air, rail, or water, they must plan how goods will move from the warehouse to the airport, railway station, or port, and vice versa. Railways, sea, and air transport modes are all rigid modes of transport. They run services on fixed routes and at fixed schedules. The goods must be transported to the railways, ports, and airports, where they will be picked up. Road transportation, on the other hand, offers flexibility because it is not bound by defined routes or schedules. It can function at any time and goods can reach the business premises in a variety of ways for loading and off-loading.

Activity 4.1

In a group, think about five products available in your local community.

(a) For each product, suggest how best it can reach the final users in other regions and justify your choice of that mode of transport.

(b) Share the results with your fellow students in the class and discuss that together.

Transportation documents

Transportation documents are different kinds of certificates used to convey information about the cargo or people that are being transported from one place to another within and outside the country. These documents differ depending on the mode of transport used and the type of cargo that is being transported.

Common types of transportation documents

There are various common transportation documents. Some of them include consignment note, air waybill, bill of lading, packing list, delivery note, manifest, cargo insurance certificate, tickets and charter party. These transportation documents are explained as follows:

Consignment note

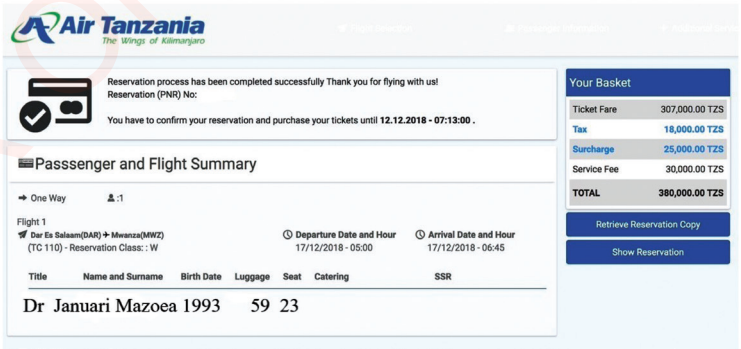
Consignment note is a standard contract of carriage of goods used when transporting goods by road. It constitutes proof of the contract of carriage, determines the scope and responsibility for the operation performed and identifies the parties involved and the goods being transported. Figure 4.8 shows an example of a consignment note.

UHAI PHARMACY COMPANY LTD UPCL	UHAI PHARMACY COMPANY LTD PO.BOX 2876, PLOT NO 1, MICHUNGWANI, IRINGA, TANZANIA TEL: +1255-27-2843714, FAX 1695134, WEBSITE: www.upcl.co.tz, EMAIL:info@upcl.co.tz
ROAD CONSIGNMENT NOTE NO:	EXP/T/132/2022
QUANTITY:	2,470
UNITY OF MEASURES:	CARTONS
DESCRIPTION OF GOODS:	MIX COSMETICS PRODUCTS
GROSS WEIGHT IN KGS:	27,562.00
NET WEIGHT IN KGS:	23,227.00
SHIPMENT FROM:	IRINGA, TANZANIA
FINAL DESTINATION:	DODOMA, TANZANIA

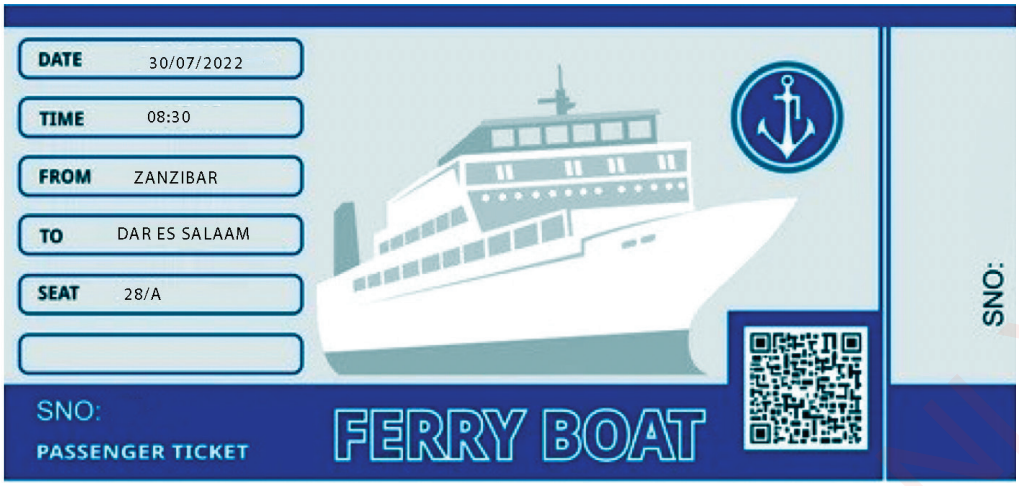
Figure 4.8: *Consignment note*

Passenger's ticket

A passenger's ticket is a document containing information and notices required by passengers for travelling purposes. It includes the passengers' name, reporting and departure time, seat number and fare. Passenger's tickets can be air ticket for air transport, marine ticket for marine or water transport and train ticket for land transport as shown in Figure 4.9. Tickets can be in one of the two types; a paper ticket or an electronic ticket (commonly referred to as an e-ticket). A ticket in either form, is required to obtain a boarding pass at the departure terminal during check-in. The passenger is then permitted to board in the means of transport using a checked ticket or a boarding pass and the accompanying ticket.



(a) Air Ticket



(b) Marine Ticket

(c) Train Ticket

Figure 4.9: *Passenger tickets*

Air waybill

An air waybill, or AWB, is a document that constitutes a contract of carriage of goods issued by the transporter (airline) as a receipt for goods and as evidence of contract of carriage. It provides important information about the transportation of specific goods and can be used for tracking the goods. Figure 4.10 shows an example of an air waybill.

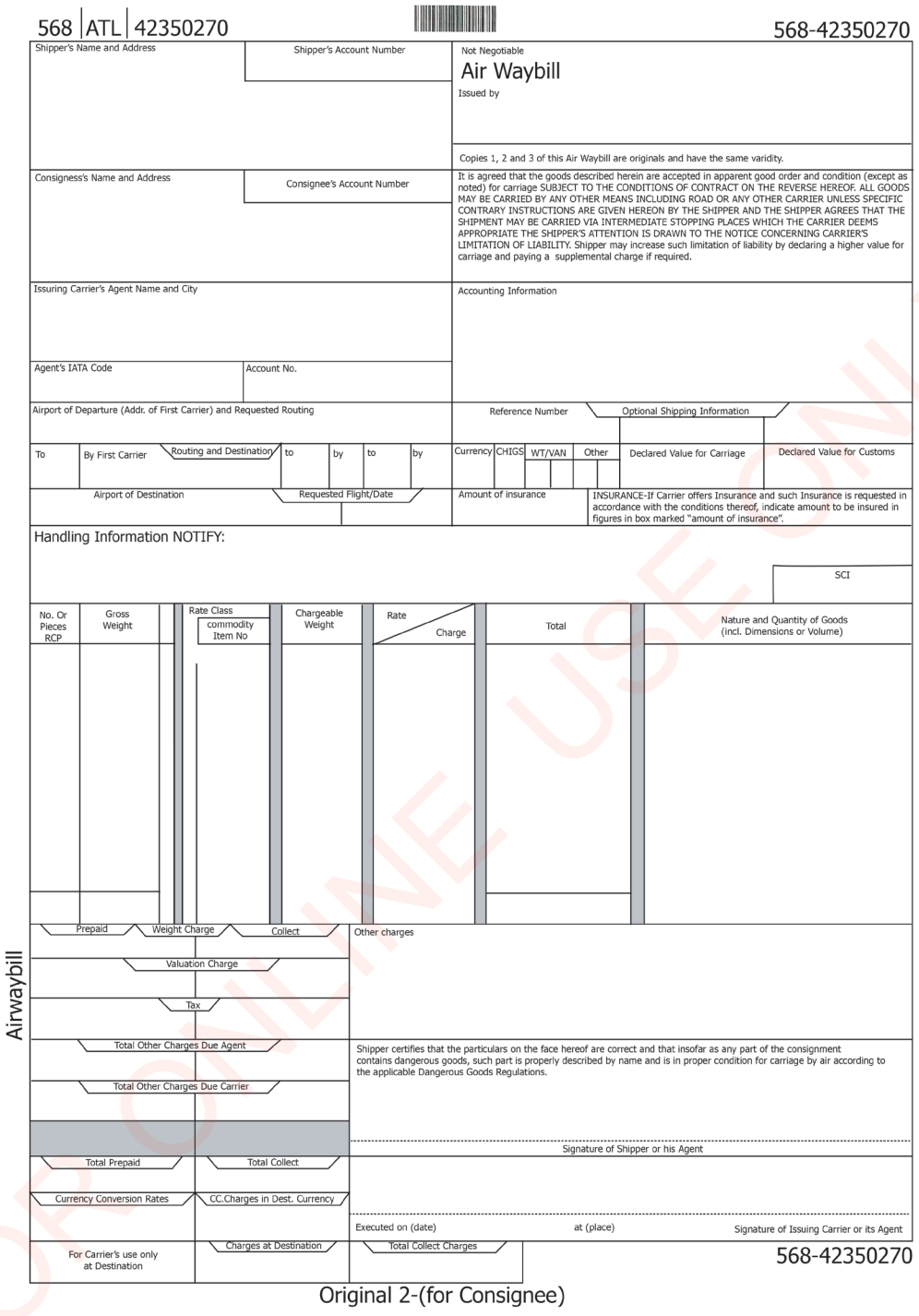


Figure 4.10: *Air waybill*

Packing list

The packing list is a document used in international trade that provides information about the goods shipped, the quantity and description of the goods, the weight of the goods, the number of packages and the shipping marks, among other things, as seen in Figure 4.11. Other information includes the buyer (consignee), country of origin, transport date, delivery destination, weight, and volume. A copy of the packing list is attached to the shipment, and another copy is delivered directly to the consignee (buyer) to aid in the shipment's inspection when it arrives. A packing list is also known as delivery docket or shipping list.


Company Name

Packing List

Sent To:
Sent From:
Date:
Account No:
Shipping Date:
Shipping Co:
Department Name:

Product Description	Total Quantity:	Shipping No:	Total Weight:	Product No:

Special Info:

Authorized Signature:

Packing List Template

Figure 4.11: *Packing list*

Delivery note

A delivery note is a document accompanying the shipment of goods that shows description and quantity of goods delivered. A copy of the delivery note, signed by the buyer or consignee is returned to the seller or consignor as a proof of delivery. It serves to verify that the goods received match those listed on the purchase order or contract. For the carrier, it is the document used as proof of delivery of the goods. A delivery note is also known as a 'dispatch note' or a 'goods received note'. Figure 4.12 shows an example of a delivery note.

DELIVERY NOTE

To :		Your Order Number :	
Address :		Date Sent :	
		Per Invoice Number :	
		Our Contact Person :	
Attention :		Telephone :	

Quantity Delivered	Description

Figure 4.12: *Delivery note*

Bill of lading

A bill of lading is a document showing the acknowledgement of the shipping company's receipt and commitment to deliver goods to the buyer or specified person. It is also defined as a contract for the carriage of goods and a document of title to them. Three copies of the bill of lading are usually issued: one for the shipper, one for the consignee (buyer), and one for consignor (seller). The number of the bills of lading that can be issued is not limited, but they must be specified on the bill. The original copy is often required by the buyer or specified person as a proof of ownership and taking possession of the goods on arrival. The bill of lading serves the purpose of being a receipt, a contract and a document of title. As a receipt it indicates that the carrier has received the merchandise. As a contract it indicates the obligation of the carrier to provide certain transportation. As a document of title, it is used to obtain payment or written promise of payment before the merchandise is released to the importer. Figure 4.13 shows an example of the bill of lading.

Shipper

Booking No. | B/L No.

BILL OF LADING

SHIPPED on board the Goods, or the total number of Containers or other packages or units of enumerated below (*) in apparent external good order and condition except as otherwise noted for transportation from the Port of Loading to the Port of Discharge subject to the terms hereof. One of the original Bills of Lading must be surrendered duly endorsed in exchange for the Goods or Delivery Order unless otherwise provided herein. In accepting this Bill of Lading the Merchant expressly accepts and agrees to all its terms whether printed, stamped or written, or otherwise incorporated, notwithstanding the non-signing of this Bill of Lading by the Merchant. IN WITNESS whereof the number of original Bills of Lading stated below have been signed, one of which being accomplished, the other(s) to be void.
(Terms of Bill of Lading continued on the back hereof)
Declared value USD _____ subject to clause 5 (5) overleaf. If no value declared, liability limit applies as per clause 5(4) or 32 as applicable.

Consignee (not negotiable unless consigned 'to order')

Notify Party

Also Notify (For the Merchant's reference only)

**Local vessel | From

Ocean vessel/Voy. No | Port of loading

Port of discharge | For transhipment to | Final destination (For the Merchant's reference only)

Particulars furnished by shipper

Marks & Numbers	No. of pkgs. or Units/kind of packages; description of goods	Gross Weight	Measurement

*Total number of packages or units.

Code	Tariff Item	Basis	Freighted as	Curr.	Rate	Per	Prepaid	Collect

No. of Originals | Place and date of B/L issue: | Totals & Pay at:

Date | Signature

As Agents

as Carrier

By _____

As Agents

**Applicable if carriage by local vessel to port of loading of ocean vessel arranged by carrier as agent for the Merchant in accordance with clause 7

MO-1O1EJ (100,000) PRINTED IN JAPAN GS

Figure 4.13: *Bill of lading*

Manifest

A manifest is a compiled list of information about the goods carried on a mode of transport as well as information about the mode of transport itself. The manifest may be used to ensure that passengers and cargo listed as having been placed on board at the beginning of the route continue to be on board until they arrive at the designated destinations. Figure 4.14 shows an example of a cargo manifest.

C.2

EAST AFRICAN COMMUNITY

CUSTOMS
Regulations 11 (1), 12 (2), 20 (1), 88 and 110

CARGO MANIFEST

***REPORT INWARD / OUTWARD OF VESSEL/ AIRCRAFT / VEHICLE**

Rotation No…….. Port of landing/departure/loading…… Country ……..

Date of landing/departure …….. Nationality and Port of Registration/ ……

Name/ Registration of Vessel/ Aircraft/Vehicle……Port of destination …… Country ……..

Net registered tonnage……

Number of crew ……..

Name of master……

Agent's Name……PIN / TIN……

I declare that the particulars in the inwards Report are true to the best of my knowledge and belief, that the inward manifest consists of _____ pages and that I have not broken bulk or delivered any goods out of the vessel since departure from _____

Date of Arrival …… Master or Agent ……

I declare that the outward manifest consisting of _____ pages contains a true account of all goods shipped and that the particulars of the vessel/aircraft/vehicle and the cargo are correct to the best of my knowledge and belief.

Date of departure …… ……
Master or Agent

Signed and declared this …… day of …. …..20... in my presence

……
Proper Officer

CARGO MANIFEST

Bill of Lading/ Airway Bill/Freight Note No.	Marks and Nos.	Number and description of packages.	Description of goods.	Measurement and or weight	Consignee / consignor	Destination	For Customs use

N.B:
1. Indicate Total No. of Bills of Lading/ Airway Bills/ Freight Note …… Page ……..of……
2. All pages of the cargo manifest must be numbered.

Note

"The above noted cargo is hereby reported for discharge at …….. ..(place).

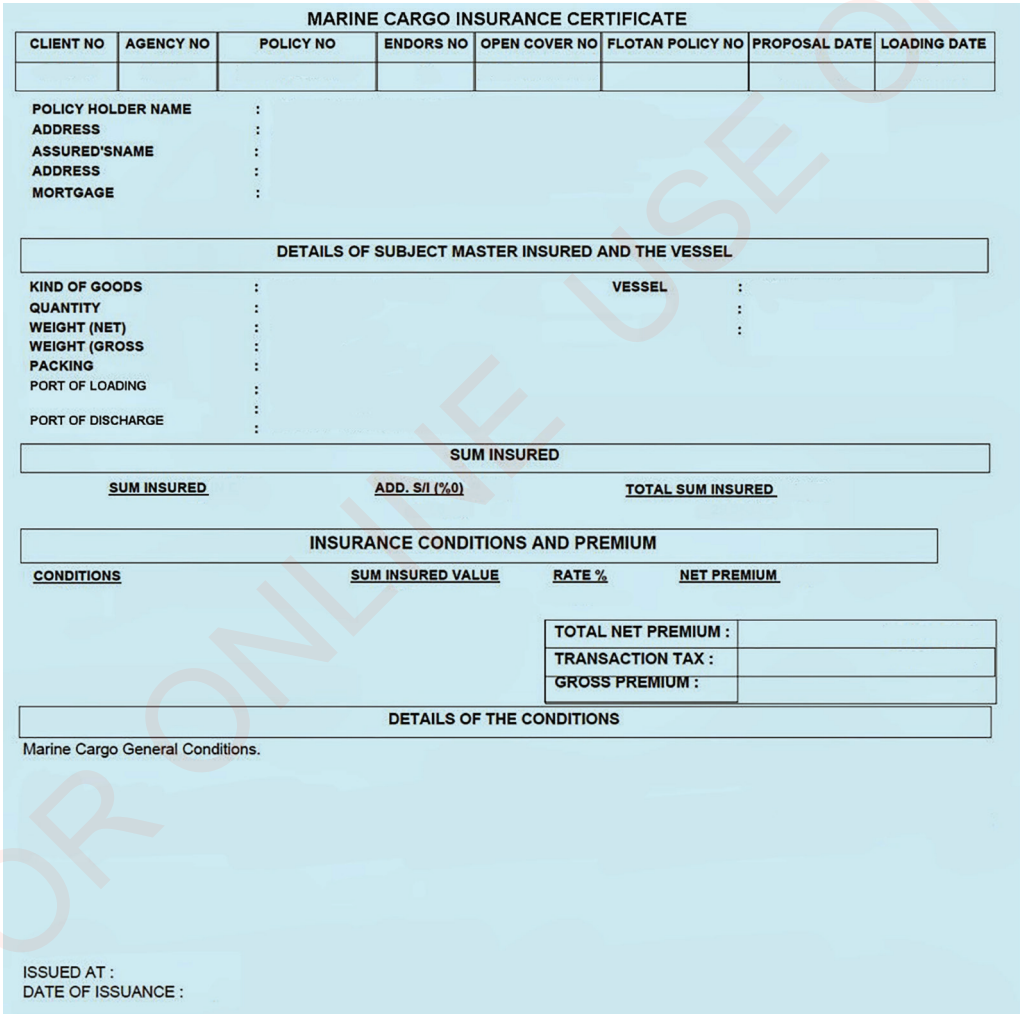
cargo remaining *On board/in Transit/for Transhipment/for re -exportation is …… Tons"

**Delete whichever is inapplicable*

Figure 4.14: *Manifest*

Insurance certificate

Insurance certificate is a document providing proof that the cargo (goods transported) has been properly insured. It is a document that specifies the type and amount of insurance covered for the specific shipment, particularly items that are exported outside the country or imported from other countries. It contains the insurance company's name as well as the terms and conditions of coverage. It provides assurance to the consignee that insurance is in place to cover any cargo loss or damage throughout the transportation process. Figure 4.15 shows a sample of a cargo insurance certificate. When filing a claim in the event of loss, the original copy of the cargo insurance certificate is necessary. Other documents attached include, the bill of lading, invoice, packing list, and the survey report.



MARINE CARGO INSURANCE CERTIFICATE

CLIENT NO	AGENCY NO	POLICY NO	ENDORS NO	OPEN COVER NO	FLOTAN POLICY NO	PROPOSAL DATE	LOADING DATE

POLICY HOLDER NAME :
ADDRESS :
ASSURED'SNAME :
ADDRESS :
MORTGAGE :

DETAILS OF SUBJECT MASTER INSURED AND THE VESSEL

KIND OF GOODS :
QUANTITY :
WEIGHT (NET) :
WEIGHT (GROSS :
PACKING :
PORT OF LOADING :
PORT OF DISCHARGE :
VESSEL :

SUM INSURED

SUM INSURED | ADD. S/I (%0) | TOTAL SUM INSURED

INSURANCE CONDITIONS AND PREMIUM

CONDITIONS | SUM INSURED VALUE | RATE % | NET PREMIUM

TOTAL NET PREMIUM :	
TRANSACTION TAX :	
GROSS PREMIUM :	

DETAILS OF THE CONDITIONS

Marine Cargo General Conditions.

ISSUED AT :
DATE OF ISSUANCE :

Figure 4.15: *Cargo insurance certificate*

Charter party

A charter party, often known as a charter, is the contract between a ship-owner and a charterer for rental of a ship for carriage of passengers or cargo. This is a specialised contract in which the owner of a ship leases the entire or part of the ship to another person for transportation of commodities on a specific voyage to one or more destinations or for a set period of time. In a nutshell, a charter party is a contract of a ship. Figure 4.16 is an example of a charter party.

HEAVYLIFTVOY
HEAVY LIFT VOYAGE CHARTER PARTY
PART 1

1. Place and date of Contract (Cl.43)

2. Carrier/Place of business (Definitions) (C1.1)	3. Merchant/Place of business (Definitions) (C1.1)

4. Vessel (name, type and other particulars) (Definitions) (C1.1 and 5)

5. Cargo (state whether complete, sole or part cargo) (Definitions, C1. 1,2 and 26)

Description	Number	Dimensions	Weight	m^3	Deck option

6. Loading port(s) (Definitions) (C1.1)	7. Discharging port(s) (Definitions) (C1.1)
8. Loading conditions (C1.9 and 10) (Indicate either (i) or (ii) to apply) (i) free-in: ☐ laytime: hours (ii) liner-in hook ☐	9. Discharging conditions (Cl. 14 and 15) indicate either (i) or (ii) to apply) (i) free-out: ☐ laytime: hours (ii) liner-out hook: ☐
10. Layday period (Cl.6) (i) First layday (ii) Cancelling date	11. Standard of lashing/sea fastening (Cl. 11)
12. Notification Schedule (Cl. 8) (i) Loading port: (ii) Discharging port:	13. Notices to be given to (Cl. 8)
14. Certificate of weight (Cl. 2(c) (state weight of cargo)	15. Freight (Cl. 18)

Figure 4.16: *Charter party*

Importance of transportation documents

Transportation documents have the following importances.

(a) Facilitate the receipt of goods from the carrier or its agent. Goods in the customs office cannot be received without producing relevant documents such as the bill of lading to show legal ownership of the goods.

(b) Transport documents aid in the identification of the package and its contents. When the vessel carries cargo for multiple buyers or sellers, identification of the shipments must be verified by official documents.

(c) Help to plan requirements for handling, transport, storage and delivery of the consignment to the final destination. Basing on the documents one is able to know the size, weight and form of the goods transported which helps one to plan handling of the good when they arrive.

(d) Help in obtaining customs exemption certificate. In some countries, there is custom duty reduction and exemptions for certain goods depending on their policies. These exemptions require submission of supporting document related to such goods.

(e) Help to confirm goods received against goods ordered and goods shipped. Through documents one can physically cross-check and verify the type, quality, and quantity of the goods ordered versus goods shipped and goods received.

(f) Helps to make insurance claims in the event of loss or damage of goods. Usually, the insurance company makes compensation in the event of loss or damage of the insured cargo on transit. This, though, is impossible without producing insurance certificate relating to the damaged or lost cargo.

Activity 4.2

Visit any nearby business entity or transportation company to identify different documents used in transportation.

(a) Compare the transportation documents used by the company with those you are aware of.

(b) Share your work with your fellow students in the class by making a presentation on the transportation documents used by the company.

Exercise 4.3

1. Suzan aspires to travel the world. She made a list of the benefits and drawbacks of each mode of transport. But as someone who is familiar with transportation, you

are aware that there are factors to take into account when selecting a mode of transport. Describe to Suzan those factors so she may have a memorable trip.

2. Suppose you are invited to address transporters on the importance of documentations in commercial transportation, what will you emphasise?
3. MX Company from Hong Kong sent goods to QX Company in Dar es Salaam. Upon arrival of the goods at the port, QX Company was denied to receive the goods. What were the possible reason(s)?
4. Differentiate between the following transport documents
   (a) Air waybill and bill of lading
   (b) Consignment note and delivery note
   (c) Charter party and Manifest
   (d) Cargo manifest and cargo insurance certificate

Chapter summary

1. Transportation is an activity that facilitates physical movement of goods, services and people from one place to another. The means of transport are vessels, vehicles and others through which goods, services, and people are carried from one place to another.
2. Essential elements of transportation include unit of carriage, way, method of propulsion, and the terminal.
3. Mode of transport is the manner in which transportation is conducted or it is the method of transport used to carry people and products from one place to another. This includes water transport, air transport, land transport and pipeline transport.
4. Factors to consider when choosing the mode of transport includes safety or security, cost, availability and accessibility, carrying capacity, characteristics of goods to be transported, speed and urgency, terminal, and flexibility.
5. Land transport includes road, railway and pipeline. Railway transport can be a passenger or cargo transport. Pipeline transport can be petroleum, natural gas or water pipeline.
6. Water transport includes inland water transport and sea or ocean water transport. Inland water transports include lakes, rivers and canals while Sea water transport includes coastal shipping and oversea transport.
7. Air transport includes commercial air planes, helicopters, private jets, rockets, and hot air balloons.
8. Transport documents are different kinds of certificates used to convey information about the cargo that is being transported from one place to another within and outside the

country. Some of the common transportation documents include the Bill of Lading, Air waybill, packing list and consignment note.

Revision exercise

Choose the most correct answer from the following questions

1. The most suitable mode of transport in the areas with full of hills and valleys is:
   (a) Road Transport
   (b) Rail Transport
   (c) Air Transport
   (d) Water Transport
2. Which of the following is the most suitable mode of transport for carrying heavy goods in large quantities over long distances within the country?
   (a) Rail Transport
   (b) Road Transport
   (c) Air Transport
   (d) Water Transport
3. Among the following is a mode of transport that does not incur construction cost for its way:
   (a) Rail transport
   (b) Land transport
   (c) Pipeline transport
   (d) Water traport
4. Which of the following is not an advantage of water transport?
   (a) Relatively economical for bulky and heavy goods
   (b) May be affected by weather conditions
   (c) Promotes international trade
   (d) A safe mode of transport with reference to occurrence of accidents
5. The mode of transport which is relatively less likely to be affected by weather condition is:
   (a) Air transport
   (b) Railway transport
   (c) Water transport
   (d) Road transport

6. Match items from Group A with those in Group B by writing the letter of a statement in Group B that corresponds to an item in Group A

Group A	Group B
(i) Could be a harbour, bus stand or a port	A. A bill for lending goods on transit
(ii) A means through which vehicles, aeroplanes, trains and ships move	B. A document of title to the goods
(iii) A mode of transport that allows door to door services	C. A list of ships parked at port
	D. Contract of carriage of goods by airline
	E. Document for ship hire
	F. Evidence of insurance cover of cargo
	G. Pipeline transport

Group A	Group B
(iv) Commonly used mode of transport by water supply and sanitation authorities	H. Specify important details of goods sent from the seller to the buyer
(v) Convenient means for transporting bulk goods in long distances	I. Standard chartered
(vi) Bill of lading	J. Terminal
(vii) Airway bill	K. The way
(viii) Charter party	L. Water transport
(ix) Insurance certificate	
(x) Consignment note	

7. Usually, products are produced in different places and consumed in different places. Use this fact to explain the concept of transportation by considering both goods and services.
8. Elaborate circumstances that you would opt for the following modes of transport.
   (a) Water transport
   (b) Railway transport
   (c) Road transport
   (d) Air transport
   (e) Pipeline transport
9. A business tycoon wants to transport 10,000 tons of sugar from Morogoro to Kigoma. She is considering using road transport to get the product reach the final destination. What advice would you offer to her?
10. If you are to meet the president of the United Republic of Tanzania, provide the president with the reasons as to why should the transportation sector be improved.
11. As a trader, you often buy goods and services inside and outside the country. Whenever goods are bought, there are specific documents for transporting such goods. Provide three kinds of goods that you can purchase abroad, associated documents and importance of such documents.

Glossary

Artificial Intelligence	capacity of a computer or a robot controlled by a computer to do duties traditionally carried out by humans
Branding	is designing, formulating mission statement or logo that will create positive attitude or perception on consumer's mind about product or service
Brokerage	an intermediary who connects buyers and sellers to complete a transaction
Bulky	a large amount of goods
Buyer	an individual who makes payments in order to acquire goods or services
Cargo	goods transported by ship, plane, or automobile
Carrier	person or company that engages in the professional transportation of goods or people
Charterer	a person or an organisation that rents out an aircraft, ship, or motor vehicle
Collateral	anything pledged as security for a debt or loan repayment
Commercialise	the process of introducing new products to the marketplace
Competency	the capacity to act on something well at minimal cost
Consignee	a person to whom goods are sent from consignor
Consignor	someone who sends goods to consignee for sale
Custom duties	are taxes paid to imported goods before and after they leave the warehouse
Drones	a flying object that can be remotely controlled using software

e-transport	means of public transport accessed or requested through online applications
Expiration date	the last date to which a consumable good will be safe for use
Factors of production	it includes land, labour, capital and entrepreneurship
Fingerlings	a very small fish typically about the size of a finger
Fog	a dense cloud close the land or sea that obstructs clear visibility
Goods	things that are touchable, useful and fulfil peoples' wants
Incubation hubs	working spaces that provide a range of services, including infrastructure, networks, and coaching aimed to support start-ups and new firms at a reasonable cost
Inferior good	a good for which an increase in income reduces their quantity demanded and a decrease in income increases their quantity demanded
Inputs	resources used to produce goods and services
Labelling	a process of displaying information about product in a cover or product itself
Ledger	a book of record of account transactions
Locus of control	an extent to which a person believes that he or she can exercise control of the environment and ultimately his or her destiny
Market	a mechanism through which buyers and sellers interact to exchange goods or services
Market equilibrium	a situation at which demand and supply are equal
Market qualitative gap	opportunities in the market resulting from absence of quality products matching the tastes and preferences of customers

Market quantitative gap	opportunities in the market resulting from inadequate quantity of a product matching the tastes and preferences of customers
Necessity good	a good whose demand does not change with increase or decrease in price not even an increase in income
Normal good	a good for which an increase in income raises the quantity demanded
Nursery	a place where plants are raised
Optimum amount	the best level at which stock has to be maintained
Packaging	is the covering of the products or any protection that will facilitate handling, storage and movement of a particular products
Products	these are goods and services
Product grading	is classifying products basing on quality, rank or size
Purchase	an action of acquiring goods and services by buying them
Safe custody	the safe keeping of commodities
Seller	an individual who makes availability of goods or services at a market
Service	things that are not touchable but useful and fulfil peoples' wants
Shipment	a large amount of goods sent together to a place on the actual act of sending goods
Storing	keeping products for future use
Tankers	ships, vehicles or planes designed specifically for transporting liquids, particularly petrol, diesel, kerosine and gases in bulk

Trailers	unpowered vehicles towered by another and pulled or pushed by truck engine
Utility	ability of a commodity to satisfy human wants
Voyage	a trip by ship through a specific route
Wagons	are unpowered vehicles towered by another and pulled or bushed by the train engine
Warehouse keepers' warrant	document provided by a warehouse keeper to show he or she hold certain goods

Bibliography

Amani, S. P. (2019). *Modern commerce for secondary schools form 2 student's book*. TQ Publishers Ltd.

Drucker, P. (2014). *Innovation and entrepreneurship (1st ed.)*. Routledge.

Everett, D. (2010). *Commerce education in north-east India*. Mittal Publications.

Frazelle, E. (2016). *World-class warehousing and material handling, (2nd ed)*. McGraw-Hill Education.

Johnson, F., Leenders, M. R., & Flynn, A. E. (2021). *Purchasing and supply management*. McGraw-Hill Companies, Inc.

Kolmar, M. (2017). *Principles of microeconomics an integrative approach.* Springer International Publishing AG.

Kuratko, D., O'connor, A., & Howard, F. (2016). *Entrepreneurship: theory/ process/practice, (4th ed)*. Cengage Learning Australia.

Mankiw, G. N. (2019). *Principles of economics,(8th ed)*. Cengage Learning.

Mankiw, N. G. (2021). *Principles of microeconomics 9e*. Cengage Learning Asia Pte Limited.

Mazzarol, T., & Reboud, S. (2020). *Entrepreneurship and innovation: theory, practice and context* (4th ed.). Springer Nature Singapore.

Mulcahy, D. E., & Sydow, J. (2008). *A supply chain logistics program for warehouse management*. Auerbach Publications.

Mbura, O. K (2013). *Entrepreneurship development and management in Tanzania: theoretical and practical reflections*. National Board of Accountants and Auditors.

Ministry of Agriculture, M. (2021). *Minister's budget speech 2021/2022*.

Ministry of Finance and Planning, M. (2021). *National five year development plan 2021/22 - 2025/26* (Issue June).

Rwabutoga, G. R. (2005). *Comprehensive commerce*. East African Publishers.

Tanzania Institute of Education (2016). *Commerce syllabus for ordinary secondary education*.Tanzania Institute of Education

TIC. (2022). *Investment guide to Tanzania: A Gateway to Invest in Tanzania*.

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