

ENTREPRENEURSHIP

Senior

4

Student Book

ACCOUNTING PROFESSION

Experimental version

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FOREWORD

Dear Student,

Rwanda Basic Education Board (REB) is honoured to present Senior 4 Entrepreneurship book for the students of Accounting Profession Option which serves as a guide to competence-based teaching and learning to ensure consistency and coherence in the learning of Entrepreneurship. The Rwandan educational philosophy is to ensure that you achieve full potential at every level of education which will prepare you to be well integrated in society and take advantage of employment opportunities.

The Government of Rwanda emphasizes the importance of aligning teaching and learning materials with the syllabus to facilitate your learning process. Many factors influence what you learn, how effectively you learn and the skills you gain. Those factors include the relevance of the specific content, the quality of teachers' pedagogical approaches, the assessment strategies and the instructional materials available. In this book, we focused on activities that help the learning process by allowing you to deepen your ideas and make new discoveries through actual tasks that may be done independently or in groups.

In competence-based curriculum, learning is considered as a process of active building and developing knowledge and meanings by the learner where concepts are mainly introduced by an activity, situation or scenario that assists the learner in constructing knowledge, developing skills and acquiring positive attitudes and values.

For efficiency use of this textbook, your role is to:

- Work on given activities which lead to the development of skills.
- Share relevant information with other learners through presentations, discussions, group work and other active learning techniques such as role play, case studies, investigation and research in the library, on internet or outside.
- Participate and take responsibility for your own learning.
- Draw conclusions based on the findings from the learning activities.

To assist you in carrying out activities, the materials of this book is self-explanatory allowing you to easily use it yourself, acquire and assess

your competencies. The book is divided into units -based on the syllabus. Each unit is structured as follows: the unit title and key unit competence are given, and they are followed by the introductory activity before the development of mathematical concepts related to real world situations specifically production, finance and economics.

The development of each concept has the following points:

- Learning activity which is a well planned and simple activity students must complete in order to generate the concept to be learned
- Main elements of the content to be emphasized.
- Worked examples; and
- Application activities to be performed by the user in order to consolidate competencies or to assess the achievement of objectives.

Even though the book-contains some worked examples, you will succeed in the application activities based on your reading, questioning, thinking and problems solving methods not by searching for similar looking worked out examples.

I wish to sincerely express my appreciation to the people who contributed towards the development of this book, particularly, REB staff, development partners, University Lecturers and secondary school teachers for their technical support. A word of gratitude goes to Secondary Schools Head Teachers, Administration of different Universities (Public and Private Universities) and development partners who availed their staff for various activities.

Any comment or contribution for the improvement of this textbook for the next edition - are appreciated.

Dr. MBARUSHIMANA Nelson

Director General, REB

ACKNOWLEDGEMENT

I wish to express my appreciation to the people who played a major role in the development of this Entrepreneurship textbook for Senior 4 students in Accounting Profession Option. It would not have been successful without active participation of different education stakeholders.

I am grateful to different universities and schools in Rwanda that permitted their personnel to collaborate with REB in the in-house textbooks production initiative.

I wish to extend my sincere gratitude to University Lecturers, Secondary school teachers and staff from different education parterres whose efforts during writing exercise of this book were very much valuable.

Finally, I would like to express my appreciation to the Rwanda Basic Education Board staff who were involved in the entire process of developing in-house textbook

Joan MURUNGI

Head of CTRLR Department

TABLE OF CONTENT

FOREWORD	iii
ACKNOWLEDGEMENT	v
UNIT 1: CAREER OPPORTUNITY CHOICE AND ENTREPRENEURIAL PATHWAY	11
1.1. Introduction to career opportunity and entrepreneurial pathway.....	13
1.1.1. Career opportunity.....	14
1.1.2. Business as a career opportunity.....	17
1.1.3. Entrepreneurial pathway.....	18
1.2. Entrepreneurial pathways of some successful entrepreneurs.....	20
1.2.1. Some successful entrepreneurs' testimonies.....	21
1.2.2. Characteristics of successful entrepreneurs	24
1.3. Choosing work to do	26
1.3.1. Sources of career information.....	26
1.3.2. Examples of careers one can pursue.....	28
1.4. Career guidance, maintaining and enriching one's career.....	33
1.4.1. Career guidance.....	34
1.4.2. Maintaining and enriching one's career	34
1.4.3. Importance of training and development	35
1.4.4. Approaches to learning and development.....	36
1.4.5. Personal Development Plan.....	37
UNIT 2: SETTING PERSONAL GOALS	42
2.1. Meaning and types of goals	43
2.1.1. Meaning of a Goal, Personal Goal and Goal setting.....	43
2.1.2. Characteristics of a SMART goal.....	44
2.1.3. Types of Goals	45
2.1.4. Setting long and short-term goals	45

2.2. Personal values, skills and qualities in relation to Entrepreneurial mindset competences	47
2.2.1. Importance of personal qualities, talents and entrepreneurial mindset	49
2.2.2. Entrepreneurship mindset competencies:.....	49
2.3. Strategies to learn new skills	52
2.3.1. Learning styles	52
2.3.2. Guidelines for different learning styles.....	53
UNIT 3: BUSINESS IDEAS AND OPPORTUNITIES	56
3.1. Concepts of business, business idea and business opportunity	58
3.1.1. Definition	60
3.1.2. Characteristics of a viable business idea	60
3.1.3. Sources of viable business ideas and opportunities	61
3.2. Factors influencing the choice of business opportunities.....	63
3.3. Evaluation of Business ideas	65
3.3.1. How to evaluate a business idea.....	65
3.3.2. Evaluating business ideas using SWOT analysis	66
UNIT 4: TECHNOLOGY IN BUSINESS OPERATIONS.....	69
4.1. Meaning and types of technology.....	70
4.1.1. Meaning of technology.....	70
4.1.2. Types of Technology	71
4.2. Factors considered when choosing appropriate technology.....	74
4.3. Role of technology and ICT tools in business and Problems associated with using ICT	76
4.3.1. ICT in business	77
4.3.2. Role of ICT in business.....	78
4.3.3. Problems associated with use of ICT.....	80
4.4. ICT as a source of business opportunities & E-commerce	81
4.4.1. Business opportunities in ICT	81
4.4.2. E- Commerce/Online business	82

UNIT 5: BASIC ECONOMIC CONCEPTS AND IMPORTANCE OF ECONOMICS IN ENTREPRENEURIAL ENVIRONMENT	84
5.1. Meaning, origin, and branches of economics	86
5.1.1. Meaning and origin of Economics.....	86
5.1.2. Branches of Economics	87
5.2. Importance of Economics	89
5.3. Basic economic concepts	92
5.3.1. Economic environment	92
5.3.2. Economic activity	92
5.3.3. Economic agents	92
5.3.4. Wealth.....	93
5.3.5. Resources.....	94
5.3.6. Commodities	94
5.3.7. Demand and supply.....	94
5.3.8. Economic growth and Economic development.....	94
5.3.9. Price	94
5.3.10. Economic Goods and Needs /Wants	96
5.3.11. Economic systems	103
UNIT 6: FUNDAMENTAL PRINCIPLES OF ECONOMICS.....	109
6.1. Meaning and relationship of fundamental principles of Economicse.....	110
6.1.1. Meaning of fundamental principles of Economics.....	111
6.1.2. Production Possibility Frontier (PPF) curve.....	111
6.1.2. Relationship between scarcity, choice and opportunity cost	114
6.2. Fundamental economic questions	117
UNIT 7: THEORY OF DEMAND AND SUPPLY	120
7.1. Theory of demand.....	122
7.1.1. Law of Demand, Demand schedule and Demand curve.....	122
7.1.2. Determinants of demand	128

7.2. Types of demand & Abnormal Demand Curves.....	133
7.2.1 Types of demand	134
7.2.2. Abnormal demand curves.....	135
7.3. Change in quantity demanded Vs Change in demand	137
7.4. Theory of supply	139
7.4.1. Law of Supply, Supply Schedule, and Supply curve	139
7.4.2. Determinants of Supply	144
7.4.3. Types of Supply & Abnormal Supply Curves.....	147
7.4.4. Change in Supply Vs Change in quantity supplied	150
7.5. Equilibrium price and quantity supplied.....	153
7.5.1. Definitions of key terms.....	154
7.5.2. Calculation of equilibrium quantity and equilibrium price	155
UNIT 8: ELASTICITY OF DEMAND AND SUPPLY	158
8.1. Introduction to elasticity	159
8.2. Types of elasticity.....	161
8.2.1. Elasticity of demand.....	162
UNIT 9: PRICE MECHANISM.....	184
9.1. Meaning, advantages, and disadvantages of price mechanism.....	185
9.1.1. Meaning of price mechanism.....	185
9.1.2. Advantages and Disadvantages of Price mechanism	186
9.2. Solutions to shortcomings of price mechanism.....	188
9.3. Price fluctuations	189
9.3.1. Meaning of price fluctuation	189
9.3.2. Causes of price fluctuations of agricultural products.....	190
9.3.3. Effects of price fluctuations	191
9.3.4. Measures to control price fluctuation	192
9.3.5. Effects of price control.....	194
Bibliography	196

UNIT One

CAREER OPPORTUNITY CHOICE AND ENTREPRENEURIAL PATHWAY



Key unit competence: To be able to make rational career choices



Introductory activities

1. MUGWANEZA is a student at “Good health” school where she is pursuing a career in accounting. She has been invited to attend a young entrepreneurs’ forum where she will present on the topic “Possible career opportunities for Youths”

Question:

Based on the knowledge and skills gained from senior three (S3) (Unit 2: Career opportunities), help MUGWANEZA to prepare the first slide of her presentation highlighting possible career opportunities in tourism.

2. Read the testimonies of different entrepreneurs and answer the questions that follow.

Mahoro, Kalisa and Berwa are three Rwandan young entrepreneurs. Mahoro has opened a women's shoe store in Bubiha sector. Her parents compelled her to start a shoe selling business with FRW500,000 as a startup capital.

On the other hand, Kalisa once paid a visit to Joseph at his coffee shop business. Joseph testified that the Coffee shop is a profitable venture. He eventually received a loan of FRW 700,000 from Umurenge Sacco to open a coffee shop in his home town.

Berwa has aspired to start a profitable business, which has led him to participate in different business-related trainings and seminars. He also decided to purchase and thoroughly read the book titled: "Starting a successful business" by Michael J Morris, in order to improve essential business management skills. He was asked to work in her mother's Supermarket where he was paid a monthly salary of FRW 200,000. After a year, he decided to open his own retail fruit shop in Bwiza city.

Questions:

What are the effects of each of the above entrepreneurial pathways?

3. People have different hobbies, preferences, and career aspirations. It is also observed that everyone undergoes a career path which requires continuous professional development. In your point of view, why is it important to conduct Continuous Professional Development?

1.1. Introduction to career opportunity and entrepreneurial pathway.

Activity 1.1



Analyze the picture the below and answer the questions below.



Fig. 1.1: Different career fields one can undertake

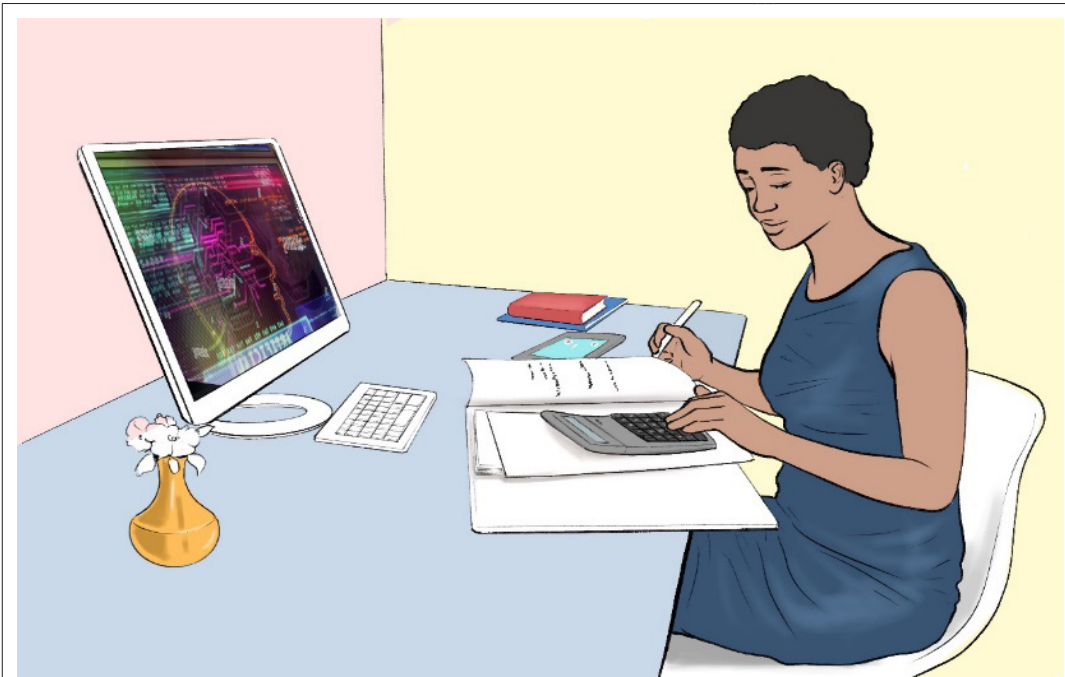
- i) Mention the possible career fields illustrated above.
- ii) Which possible career opportunities are in each area identified above?
- iii) Analyze the career field you are interested in and give reasons as to why?

1.1.1. Career opportunity

A **career** is an undertaking a person gets involved in pursuit of their future or life goals. It also refers to what one wants to become in the future, for instance a doctor, accountant or engineer. On the other hand, an **opportunity** is a situation in which it is possible for someone to do something he or she wants to do. **Career opportunity** is any job, circumstance or situation which favors someone to pursue a given undertaking. This can further be defined as a particular job that may be a steppingstone to high ambitions.

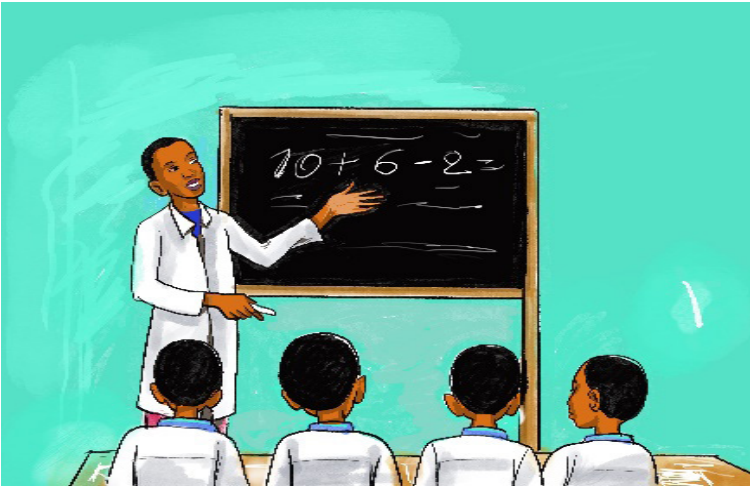
Some of the factors to consider in choosing a career are skills and talents. Different jobs require different skills, talents and character. If your character does not contain elements of strong sense of ethics, consistent learning, emphasizing accuracy, organizational skills, sense of accountability, teamwork, trustworthiness and reliability, it may be difficult for you to become an accountant.

The following are examples of different careers with some of their recommended characteristics and skills:



Accountant

- Strong sense of ethics
- Consistent learning
- Emphasizing accuracy
- Organizational skills
- Sense of accountability
- Teamwork
- Trustworthiness and reliability
- Creativity



Teacher

- Patience
- Passion
- Organizational skills
- Creativity
- Communication skills
- Empathy
- Time management
- Self-control
- Objectivity



Musician

- Social skills
- Good voice
- Communication skills
- Creativity
- Linguistic skills



Farmers

- Problem solving abilities
- Time management proficiency
- Good interpersonal skills
- Basic mechanical skills



Medical Doctor/ Nurse

- Caring
- Sympathetic
- Detail oriented
- Responsible
- Honest
- Problem solving
- Social skills



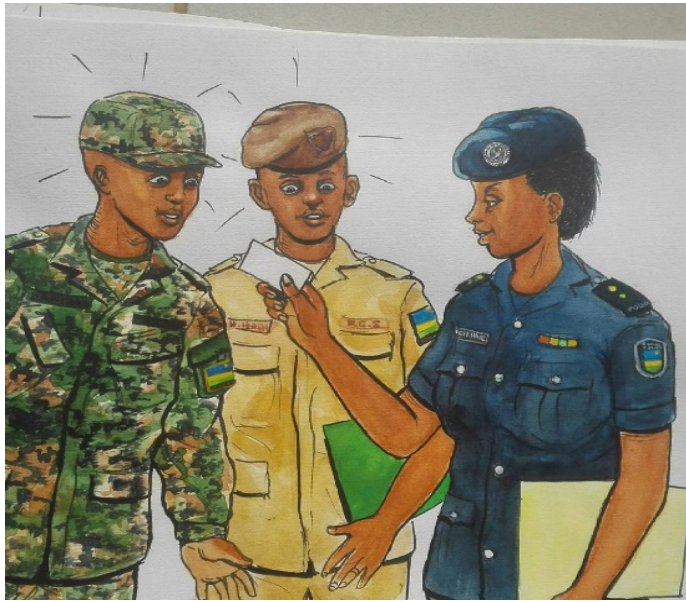
Engineer

- Creativity
- Problem solving
- Interpersonal skills
- Ability to manage people



Driver

- Willing to lead
- Calm under pressure
- Dedicated to work
- Respectful of others



Officers

- Brevity
- Carefulness
- Discipline
- Patience
- Alert
- Honest
- Physical ability
- Loyalty

Fig 1.2: There are different careers, and each career requires different skills, talents, and characters

1.1.2. Business as a career opportunity

Entrepreneurs play a great role in the life of any country. They are very big agents of community problem solvers. In most countries, you always find people in the business field. The following are some of the benefits and challenges of business as a career compared to other careers.

Benefits of business as a career	Challenges of business as a career
<ul style="list-style-type: none"> ▪ Independence in decision making ▪ No minimum academic qualification ▪ Interaction with different kinds of people ▪ Flexibility in shifting from one business to another ▪ High income in form of profits ▪ Improved social and economic status ▪ Direct service to the community ▪ Self-reliance 	<ul style="list-style-type: none"> ▪ Requires startup capital ▪ Higher temptation to spend business money ▪ More risks of losing resources invested ▪ Business risks like theft, fire, etc. ▪ Economic instability like inflation, low demand, high unemployment ▪ Income is uncertain ▪ Longer hours of work

1.1.3. Entrepreneurial pathway

The entrepreneurial pathway is anyone's route taken while pursuing an entrepreneurship journey. From developing your idea to launching your business, you will find resources for every step in your journey organized into four key stages. There is no need to move through the entrepreneurship pathway in a linear fashion. Often, learning from one stage will require revisiting a previous stage. It is up to you to adopt these considerations based on your business needs.

Let us analyze these stages one by one:

Stage 1: Develop

Developing a business idea is the first step for any start-up. In this stage, you will find resources that will help you cultivate and identify good ideas, and then clearly define and communicate your business idea.

There are five basic types of business ideas:

1. **Bringing an existing idea into a new market** i.e., custom suits for a younger male demographic
2. **Improving on an existing idea** i.e., Modern produced computers imitate the idea of the computer inventor, **Charles Babbage**
3. **Merging of two or more ideas** i.e. A university that provides both education and restaurant services
4. **Completely new idea** i.e., Invention of a computer by Charles Babbage
5. **Taking advantage of an opportunity using an existing idea, in an existing market** i.e. Opening a shoe store in area where other shoe stores already exist

Stage 2: Explore

A good business idea is only a starting point for further exploration of a market. There are many factors you must make informed assumptions on when building your business. Ideally, you are testing these assumptions before launching. In this stage, you will find resources that will help you research and test different aspects of your business model.

You also have to understand your customers and competitors at this stage. Customers are not always people. They can be governments, businesses and other organizations too. In designing your product or service, you have

to account for your customer's viewpoints, habits, needs and preferences. On the other hand, the value of your business is always relative to what your competitors are doing. Understanding their market position, offering and strategy should always be a prerequisite to crafting your own.

Stage 3: Build

Once you have validated your business idea through research and testing, it is time to build a plan. The more detailed and robust your planning, the higher your chances of securing financial support and ensuring business success. This stage will walk you through key components of building a marketing, operations and financial plan. Marketing, operations, organization plan, and financial plans are elaborated at this stage of the entrepreneurship pathway.

Stage 4: Launch

Once you feel comfortable with your planning and secure sufficient capital to execute, it's finally time to launch your business. A key component of directing your business post-launch will be tracking progress against targets and managing growth. This last stage of the entrepreneurship pathway provides tools and resources for effective post-launch navigation.

At this fourth stage, the following essential activities must be set as priority:

- **Measuring marketing Return on investment (ROI)**

Measuring the impact of each marketing activity is essential to making better marketing decisions. As you learn what is working, and what is not, reallocate accordingly.

- **Tracking financials**

Your cash flow projection, as your other financial documents, should be something that is referenced and updated routinely. If your real-world financials differ significantly, make corrective adjustments to your strategy.

- **Growth planning**

Scaling your business operations is something that requires as much planning as starting up. Reference these resources for tips approaching growth strategically.



Application activity 1.1

MAJYAMBERE is a fresh university graduate who is dedicated to business as a career (specifically in agribusiness), a decision he made one year before graduation. He is currently looking for advice on how to start a successful agribusiness.

As a senior four year student with intensive knowledge and skills about career opportunities and entrepreneurial pathway, assist MAJYAMBERE to design a sound agribusiness pathway (by identifying key activities at each entrepreneurial pathway stages).

1.2. Entrepreneurial pathways of some successful entrepreneurs

Activity 1.2



Analyze the pictures below and discuss the entrepreneurial pathways of some famous entrepreneurs.

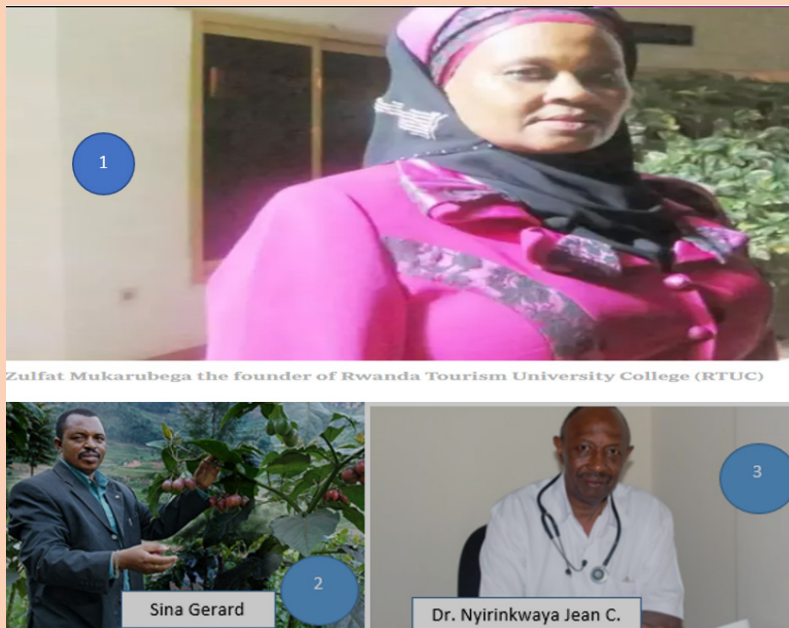


Fig 1.3: Some famous successful entrepreneurs in Rwanda from different career fields

Secondary sources: <http://www.hope-mag.com> <https://igihe.com>

1.2.1. Some successful entrepreneurs' testimonies

We are going to learn about entrepreneurial pathways of some of the successful and impactful entrepreneurs in Rwanda.

a) SINA Gerard: A hard road to success

The following testimony is extracted and adapted from Hope magazine as posted on 13th November 2012.

SINA Gerard is widely known as Rwanda's foremost agri-business entrepreneur. His business include restaurants, bakeries, a juice and wine industry, a school and extensive land holdings. His ascent to the top, which started with almost nothing, is a typical rags to riches story in Rwanda. Sina Gerard's inspiring story is exemplifies the opportunity that Rwanda's agri-business sector may provide for a true entrepreneurs.

Started with a small bakery in 1983. His parents were farmers and he baked products from the farm", Sina recalls. After a while Sina Gerard ventured into higher forms of value addition by making juices. "Agashya" is likely the well known amongst the family of drinks by the entrepreneur while the "Akabanga" hot sauce a very popular item is now expected to break into -foreign markets.

"Overtime my products became popular and which allowed enabled my businesses to grow", he recalled during interview with Hope magazine. Once Sina Gerard's company known as Enterprise Urwibwutso was placed on a sound footing, he diversified his portfolio to include new ones like manufacture of banana wines which he named "Akarusho". Sina Gerard is a true business visionary in the business world. One approach to verify such a claim is his great trust in what education can accomplish for the long term viability of his fast his rapidly growing business. He believes that proper education for his employees is a key driver of taking his growing empire to the next level. Sina Gerard Educational Centre which is a modern educational institution that includes nursery, primary and secondary sections should be seen in this light.

During his interview, he also revealed: "I finally thought it worthwhile to support the school project since I saw the need to be responsible for my employees and their families. They work for my company and I make a profit out of their work. The least I can do for them is to give back something to them. That is what I am doing with the school project. The schooling is free, and the children

can attend from nursery to high school”. He added; “It benefits the children and parents but in a way, it also benefits me. Because, I would rather have educated staff than uneducated ones”.

If anything, education is at the forefront of propelling Enterprise Urwibutso since offering extension services to farmers that enables them to produce more for less is a cornerstone of the company’s success so far. Gerard continued saying that there is increased capacity over time that gives room for exports something they never thought of initially. But that is now very possible since they brought in experiences from other countries that have enabled them to achieve the best results. This makes him very proud. His dream is that Rwandan farmers should aspire to deliver the best quality just the way others are doing it in the first world countries. SINA said that the increased capacity of his contracted farmers places them at a vantage position of looking beyond his company for sustaining their livelihoods. Enterprise Urwibutso has state of the art plant production capacity. The sky is the limit for Enterprise Urwibutso. As a leader in the sector the deep reforms in Rwanda are likely to give SINA and his company an added boost.

b) Testimony of Mukarubega: The woman who built a business empire with just FRW 5000

Hajati Zulfat Mukarubega, the founder and legal representative of Rwanda University Tourism College (RTUC), in Kicukiro District. She is one of the remarkable entrepreneurs in the education sector. Read and learn from her told story during an interview she had with The New times, and published on July 21, 2012

Her journey is a fairy tale characterized by perseverance and patience. Zulfat Mukarubega the founder of Rwanda Tourism University College (RTUC) has changed the face of the hospitality industry. Her story is not only inspiring, but also remarkable, as she is the brains behind the country’s first and only tourism university in Rwanda. She has touched the lives of many who have had a chance to pass through her gifted hands of entrepreneurship. At a time when women had limited opportunities and were confined to the kitchen, Mukarubega defied the odds and ventured into entrepreneurship; with only Rwf 5000 she opened up a restaurant which later opened doors for success.

The 56-year-old established RTUC in 2006 and though the journey wasn’t a bed of roses, she managed to build it from scratch into a recognized and prestigious institute it is today.

“Starting a business is full of ups and downs; things were tough in the beginning. Friends discouraged me not to start up something which has never even existed in the country but because I saw the need of what I intended to start, I never gave up. I started with twelve students of which seven dropped out and I remained with five. Getting lecturers wasn’t easy and making people understand the need to embrace the importance of hospitality was the hardest thing then,” Mukarubega says.

She traveled to South Africa and Kenya where she identified the customer care gap that existed within hotels and restaurants in comparison to Rwanda. This instantly sparked off her need to enhance hotel management and with all the challenges she faced, which of course being a woman and a mother was part of, Mukarubega never gave up, but rather strived for excellence.

Starting a business at the tender age of 19 was what shaped her into a powerful and extremely ambitious woman.

In January 2012, Mukarubega was honored as the woman entrepreneur of the year by Rwanda Development Board (RDB). In addition, her business was recognised as the best Small and Medium Enterprise (SME) in the tourism sector. Since its inception, RTUC has blossomed into a successful college with over 3000 students and now has a second branch in Gisenyi which attracts students from as far as the Democratic Republic of the Congo, Burundi and Uganda. The college has had graduations, and most of the graduates are employed while others have started their own businesses.

The love for her country is what drives her to give back to society. “Most young girls finish secondary school and fail to continue to university. Out of desperation they end up into prostitution. As a mother, I saw the need to save our children from such misfortunes by equipping them with skills that will enable them to survive,” she says.

Besides RTUC, Mukarubega plans to open up a home care training centre where house maids will be trained on how to raise children.

“Women should believe in themselves; they should be innovative and think about the future because in Rwanda women have a high potential to realize their dreams and excel. The government has opened doors for us, we should use the opportunity,” she says.

Note: RTUC has changed its name to UTB (University of Tourism Technology and Business Studies).

For further information about other successful and hustling Rwandan entrepreneurs' pathways, watch the following videos:

1. **Dr. Nyirinkwaya Jean, Owner of La Croix du sud Hospital:** https://www.youtube.com/watch?v=x5eYQ56E_34/
2. Origène IGIRANEZA, O'Genius Priority Ltd: <https://www.youtube.com/watch?v=liTmWLPJIFg/>
3. Marc Rugenera, founder and owner of Insurance company:
4. <https://www.youtube.com/watch?v=IPQ8c8t6k3o/>
5. Charles MPORANYI, former owner of SORAS: <https://www.youtube.com/watch?v=0dl5Gjthl4/>

1.2.2. Characteristics of successful entrepreneurs

Every individual entrepreneur possesses some characteristics that pushes him or her to success. According to the book titled "Starting a successful business" written by Michael Morris in 2008, there are some characteristics successful entrepreneurs share in common. Furthermore, every entrepreneur has some unique characteristics. The table below explains some generally accepted characteristics of a good entrepreneur versus examples from case studies.

Some general characteristics of a successful entrepreneurs	Examples from case studies
Risk taking	All the entrepreneurs whose testimonies are told above took risks by investing their resources in businesses without a certainty of investment success and return. For example, as the brain behind the <u>first and only tourism university</u> in the country, MUKARUBEGA's story is not only inspiring but extraordinary
Risk diversification	SINA Gerard diversified his business risk by producing different products such as Agashya, Akabanga, Akarusho, etc.

Innovative	SINA Gerard diversified his portfolio to include new ones like manufacture of banana wines which he named “Akarusho”.
Visionary	Sina Gerard is a true business visionary. His firm believed in what education can do to the sustainability of his rapidly growing business
Social	<p>Both entrepreneurs share this characteristic in common.</p> <p>SINA Gerard believes that proper education for his employees is a key driver of taking his growing empire to the next level. He established an educational center which is a modern educational institution that includes nursery, primary and secondary sections.</p> <p>Similarly, MUKARUBEGA is one of the remarkable entrepreneurs in the education sector. She is the founder of Rwanda Tourism University College (RTUC) has changed the face of the hospitality industry. The love for her country is what drives her to give back to society.</p>
Perseverance and patience	With reference to MUKARUBEGA's testimony, her journey is a fairy tale characterized by perseverance and patience.
Problem solver	MUKARUBEGA has touched the lives of many who have had a chance to pass through her gifted hands of entrepreneurship.
Hustling and hard working	MUKARUBEGA established RTUC in 2006 and though the journey wasn't a bed of roses, she managed to build RTUC from scratch into the recognized and prestigious institute it is today.
Keen to opportunities	MUKARUBEGA traveled to South Africa and Kenya where she identified the customer care gap that existed within hotels and restaurants in comparison to Rwanda.

With the examples above, it is noticed that entrepreneurs have some globally recommended characteristics of a good entrepreneur they share in common. However, as they pass through different journeys, everyone has some special qualities that pushes her or him to succeed in her/his journey. Watch other suggested testimonies of Rwandan successful entrepreneurs to learn from them and compare their characteristics along their different journeys.



Application activity 1.2

Evaluate the entrepreneurial pathway of any Rwandan successful entrepreneur of your choice and examine qualities which contributed to his/her success.

1.3. Choosing work to do



Activity 1.3

1. Basing on the knowledge and skills acquired about characteristics of a successful entrepreneur, answer the following questions:
 - i) Identify the type of work(s) you are interested in and give reasons for your choices.
 - ii) Identify your possible careers based on your personal characteristics.
2. Discuss with your friends/family members about the various sources of career information

1.3.1. Sources of career information

In most schools, there are career teachers whose responsibilities are to help students choose subjects they should study in preparation for the career they wish to take on in future. It is also common in some schools to have a careers day. People in different careers go to schools and interact with students. This enables learners to get first-hand information about careers they may be interested in.

Career choice is very important for every person. It requires serious analysis and consideration.

Choice of a career determines what we eventually become, what we do, how much we earn and our lifestyle. Even if we went to the same schools, we may sometimes end up taking different careers in future. Let us discuss different possible sources of career information hereafter.

The sources of career information include, but are not limited to the following:

- **Schools:** Schools are important sources for acquiring information about careers. Through career day events, learners interact with professionals, ask questions, and get to understand about their career of interest. It is important for learners to attend such events and ask as many questions as they can.
- **Media,** it includes newspapers, radios, TV sets, etc. Newspapers normally have columns and articles advising about different careers. Radio and TV broadcasters have talk shows about careers. Learners should get time to read newspapers as well as listen to radio and watch TV for career advice.
- **Potential workplace:** Potential workplace is a useful source of information. If you already have a job and you are seeking another for fear of being “right sized” by the present employer, then it’s better to seek information from those already employed by that organization or you may check on their website.
- **Parents, friends and relatives:** Families and friends can be extremely helpful in providing career information. While they may not always have the information needed, they may know other knowledgeable people and be able to put you in touch with them. These contacts can lead to an “information interview, which usually means talking to someone who can provide information about a career.
- **Professional societies, trade groups, and labor unions:** These groups have information on careers with which they are associated or which they actively represent. This information may cover training requirements, earnings, and listings of local employers.
- **Personal skills, talent, and passion:** The first place to start when looking for business ideas or opportunities is to look within you. Most people miss this greatest source of career information because of ignorance, laziness, and self-doubts. If you are talented or having a proven track record in a specific field, then it is time to analyze that skill or talent.

- **Guidance and career counselors:** Counselors can help you make choices about which careers might suit you best. Counselors can help you determine what occupations suit your skills by testing your aptitude for various types of work
- **Local libraries:** These can be an invaluable source of information since most areas have libraries, they can be a convenient place to look for career information. Also, for those who do not otherwise have access to the Internet or e-mail, many libraries provide this access
- **Tertiary institutions** such as colleges, universities frequently have career centers with libraries of information on different careers, listings of related jobs, and alumni contacts in various professions.
- **Exhibitions, expos and trade shows:** Another means to get career information is to attend exhibitions and trade fairs. These are usually advertised on the radio or in newspapers.



Fig 1.4: Trade exhibitions can serve as a source of career information

- **Listening to customer complaints:** Complaints and frustrations on the part of customers have led to prospective career opportunities
- **Surveys:** You can carry out a survey online or offline. One can visit different people of different career fields and find out the advantages and disadvantages of each career field.

1.3.2. Examples of careers one can pursue

When it comes to deciding about future occupation, one might find it helpful to review a comprehensive list of career options. The following are some fields of career opportunities:

a. Agriculture and natural resources



Fig 1.5: Agriculture is one of the trending fields of career opportunities in Rwanda.

Agriculture is a profession dealing with growing crops and rearing animals. It is one of the careers with many employment opportunities. It ensures the safety and stability of the environment and people's food supply and security. Persons might be interested in working in agriculture or natural resources. These jobs involve the processes from learning how to manage the earth's resources to producing the food.

Some positions in agriculture career include food scientist, farmer, animal breeder and conservation scientist.

b. Education

Education refers to the act of acquiring new skills and knowledge either through formal or informal educational ways. Education takes place mostly at schools and training institutions to help learners to reach their potential. A number of rewarding career options are available in this field like education administrator (principal, assistant principal), teacher, school resources manager and counselor.

c. Health

Health is a very crucial sector since it deals with people's lives. There are numerous career options which include a medical doctor, dentist, dermatologist, pharmacist, laboratory technician and nutritionist etc.



Figure 1.6: Being a pharmacist is a career opportunity under the health career field

d. Security forces

This career involves keeping security of people and their properties. It is an important career because nothing else can be done without security. Some of the occupations in this career include military and police officers, private security companies such as TOPSEC, ISCO, etc.



e. Law

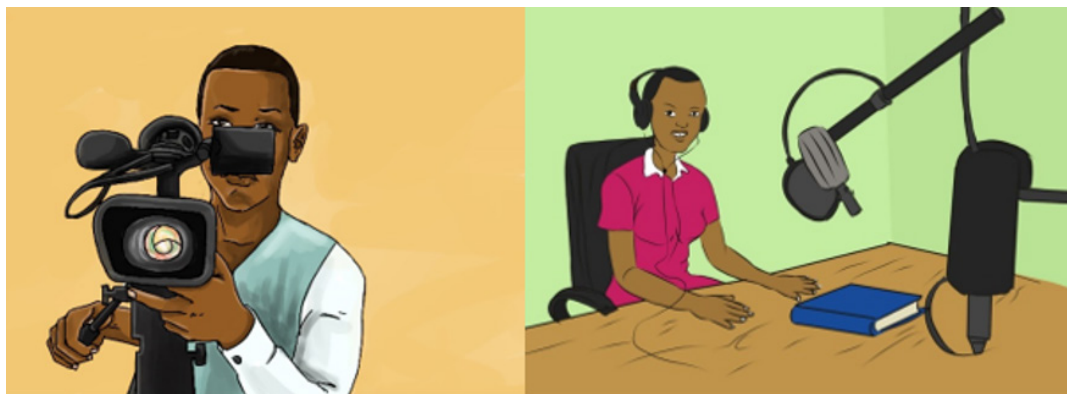
This career is concerned with establishing laws and assisting different people in legal matters such as contract formulation. The following are some of the career options available in this field like lawyer, judge, court clerk and paralegal.



Fig 1.7: Legal advice services are provided by legal professionals

f. Media

Media is a career, which involves collecting and disseminating information through different channels like radio and televisions. Different options are available in this field such as being a TV presenter, editor, photographer and journalist.



g. Hotel and tourism

People love to relax, be comfortable, and have fun enjoy working in the hospitality industry. However, a person who is interested in providing people with good food, quality lodging, or engaging entertainment, has to discover a career in the hospitality and tourism industry. They may include tour guide, travel agent, housekeeper, bartender, chef and food service manager.

h. Commercial and manufacturing

Manufacturing refers to the process of transforming raw materials into finished products while commerce is the act of selling different products and services. People who enjoy working in commercial and manufacturing have to explore the wide range of careers available in this field such as purchase agent, machine operator, technician and engineers.

i. Construction

Construction is a career that is concerned with developing, building, and designing residences and commercial structures. This field also includes careers that involve maintenance and rehabilitation of buildings. It involves the following jobs like designer, architect, plumber, carpenter, building inspector and masons.

j. Information Technology careers

Information Technology is a rapidly growing field all over the world. As people perform more and more of their daily activities using computing technology, there is tremendous potential for growth in this field. However, people who want to be involved in this career have different options to choose from like being a software engineer, programmer, repairer, IT technician or web designer, etc.

k. Arts and communication

Creatively inclined people may be well suited for careers in the arts and communication. Artistic persons with a technological bent might consider career options that combine the two inclinations such as being a copywriter, artist, dancer or choreographer and fashion designer.

In brief, the careers we may take are in many fields such as Education, Health, Security, Forces, Law, Media, Hotel and Tourism, Commercial and Manufacturing, Media, Construction, etc.



Fig 1.8: Artists turn their imaginations into visual art that is not only appealing but also conveys messages.

Many people decide their career when they are still in school. The choice of a career enables a student to choose subjects that are relevant to the desired career. For instance:

- To be a journalist, literature and language subjects are important.
- To become a medical doctor, science subjects are important.
- To become an engineer, mathematics and physics are important subjects.



Application activity 1.3

As a Senior Four student who has acquired knowledge and skills about career choice, assume that you are invited by the school management to address the school general assembly about different career fields one can choose based on self-assessment., and which talents and skills are associated with each type of career. In not more than 150 words, discuss what will be entailed in your presentation.

1.4. Career guidance, maintaining and enriching one's career



Activity 1.4

1. Reflecting on your choice of subject combinations,
 - a) Give reasons why you chose that combination and who helped/influenced you make your choice.
 - b) What do you understand by “career guidance”?
2. TSINDA UBUJILI is a school located in RUGWIRO village. The head teacher advocates for Continuous Professional Development by encouraging the school teaching staff to consistently upgrade their teaching competencies by undergoing different professional teaching training, gaining experience, and planning for the future.
 - c) What is Continuous Professional Development?
 - d) Describe the importance of CPD at the workplace.

1.4.1. Career guidance

Career guidance is the act of assisting students and adults to successfully choose a right career for themselves, manage and develop it. Having the right and accurate information is important in the choice of a career. The choice should be based on accurate information. Career guidance can be obtained from various sources:

1. Teachers

Teachers provide the best source of career information to learners because they spend most of their time with learners hence understanding their strengths, weaknesses, talents and skills. It is important for learners to consult their teachers at any time with ease for guidance about career development.

2. Parents

Some families have bias either against or in favor of certain careers and consequently encourage or discourage their family members to either take them up or leave them. Some people, therefore, choose to undertake certain careers because all their family members are taking the same career and are successful.

3. Career guidance counselors

Counselors are professionals trained to help people assess their strengths and weaknesses, evaluate their goals and values, and determine what they want in a career.

1.4.2. Maintaining and enriching one's career

Continuous Professional Development (CPD) is a systematic process of planning for the future and of gaining experience and training relevant to the directions in which employees want to develop both with the current job role and in future career progression.

Members of professional bodies are required to complete a certain amount of CPD as a condition of continuing membership. This ensures that their knowledge and skills are always up to date and of a good standard. This, in turn, protects the interests of their clients and employers, as well as the standing and credibility of the professional bodies and the accounting profession.

CPD can be pursued in several different ways. One may study for progression to membership of a professional body (like the ICPAR), or he or she may receive instruction, training or coaching in the workplace. Self-development is also possible by a continual process of identifying weaknesses, seeking opportunities to practice, gathering feedback, and learning from mistakes.

A key feature of the CPD approach is that the responsibility for development lies mainly with the individual, in collaboration with their employers, and other parties such as the professional bodies.

You are responsible for maintaining CPD appropriate to:

- **Your current job role:** helping you to meet the requirements of the role better and ensuring that you stay up to date with the changing requirements of the role, and/or changing developments in your field.
- **Your career aspirations:** equipping yourself with the knowledge and skills you will require for higher-level roles and enabling you to seek more challenging job opportunities.

1.4.3. Importance of training and development

The ongoing development of skills and knowledge has significant benefits for the learners/trainees themselves, and for the organization in which they work.

Benefits for the individual	Benefits for the employing organization
Greater confidence and flexibility	More competent job performance
Improved job performance (perhaps leading to increased rewards and recognition)	Competent performance achieved more quickly by new recruits
Greater job security	Less supervision required
Ability to take on more challenge and responsibility in the job	Increased efficiency and productivity, through faster, more skilled work
Increased prospects of promotion	Reduced cost of errors, reduced non-compliance with regulations/laws

Enhanced skills, which can be used outside the job (e.g.: communication skills)	Supports employee initiative, ideas, flexibility and innovation
Satisfaction from greater contribution	Improved staff motivation and morale
Greater employability and value in the job market	Enhanced ability to recruit and retain high-quality employees.

1.4.4. Approaches to learning and development

Learning objectives will in most cases involve acquiring new skills and knowledge for current and future job challenges. So how will you go about this? It will require research into specific opportunities relevant to your SMART objectives, but some of the sources of CPD you may consider are as follows.

- **Technical briefings and updates:** if you want to enhance your knowledge on a topic relevant to your work, or to keep your knowledge up to date, you might seek out technical briefings and updates. These may be provided by technical experts within your organization, or by external bodies. Government agencies such as the RRA, for example, may offer update seminars on topics such as VAT, payroll, income/corporate tax, and online reporting. Professional bodies such as ICPAR or the ACCA may similarly offer technical seminars and local branch events on topics relevant to their fields.

You should also look out for technical briefings and updates provided by such bodies in printed form (mailed or emailed to subscribers) or posted on their websites. Your organization may keep a library of such resources.

- **Training courses and seminars:** courses or seminars on technical and wider topics (e.g.: management skills) may be run internally by your organization. Alternatively, external courses can be researched by contacting a local college of further education or by using the internet.

The key advantage of training courses is that they generally give you access to experts, in a structured environment which is designed to maximize learning. There is a disadvantage to “off the job” learning, however, in that it may not be easy to transfer or apply what you have learned in the workplace and of course it tends to be expensive for your organization.

- **Colleagues and coaches:** One of the most neglected sources of information and learning is work colleagues. They may be able to give you advice on training courses to attend or books or journals to read. You may also be able to learn new skills from colleagues, through instruction or coaching.

You may find that you can also simply watch more experienced colleagues at work, to learn from their methods, procedures, techniques and behavior. This observation may take place informally as you work with colleagues, or on a more formal shadowing or coaching basis.

- **On-the-job training:** a common method of training employees is to provide support in the workplace. Methods of on-the-job training include:
 - **Demonstration/instruction:** show the trainees to do the job and let them get on with it. It should combine telling a person what to do and showing them how, using appropriate media. The trainee imitates the instructor and asks questions.
 - **Coaching:** the trainee is put under the guidance of an experienced employee who shows the trainee how to do the job.
 - **Job rotation:** the trainee is given several jobs in succession, to gain experience of a wide range of activities
 - **Temporary promotion:** an individual is promoted into their superior's position while the superior is absent
 - **Assistant to positions:** a junior manager with good potential may be appointed as assistant to the managing director or another executive director.
 - **Action learning:** a group of managers is brought together to solve a real problem with the help of an adviser who explains the management process that happens.

1.4.5. Personal Development Plan

Having come this far, you have all the tools necessary to formulate a more formal and systematic Personal Development Plan-(PDP).

A PDP is a clear developmental action plan which, once agreed with the individual's supervisor, act as a "learning contract" between them.

You may have your own preferences for formatting and recording action plans: timetables, diaries, checklists, and other methods mentioned earlier. Be sure to use any format recommended by your organization. In

the absence of such guidelines, feel free to use whatever works for you but we recommend a simple, systematic format shown below.

Objective	Methods	Timescale	Monitoring/ review
Concise statement of your SMART learning objective	Specific learning methods and activities selected	Target completion date for each listed learning method or activity	How, with whom and how often you will check your progress

Example:

Back at Inyange industries, having identified some immediate learning needs to improve your job performance, you prepare the following Personal Development for the next six months, which you agree with HRM (your designated learning superior).

Objective	Methods	Timescale	Monitoring/review
To be able to perform petty cash operations	Coaching: instruction and supervised practice with the cashier	By last week of September	Practice tasks under the cashier's supervision and seek feedback
To be able to perform double entry bookkeeping tasks with 100% accuracy, without assistance	Reading: review Financial Accounting coursebook Training: short external bookkeeping course	By last week of October Completed by last week of October	Practice tasks, checked by HRM End of course competency test
To be able to perform receivables ledger reconciliations effectively, without assistance	Reading: review Financial Accounting coursebook Coaching: ask HRM to instruct and coach me on the process	First week of November By third week of November	Review progress with HRM during coaching Practice at the end of October, and seek feedback from HRM

To pass the working effectively in Accountancy and Finance exam	Training: complete the coursebook and all the practice questions	Completed by end of February	End of course competency test Feedback from Eric Rukundo on application at work
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i) Including your supervisor or line manager in the planning process

Personal Development Planning puts the responsibility on the individual to define development goals which are relevant to them, and to seek out learning opportunities which suit their needs, preferences, and opportunities.

However, it is important to include your supervisor, line manager or designated coach in the process, so that they can:

- Check that your goals are SMART, and of potential benefit to the department and organization
- Check that the learning activities selected are suitable and cost effective for the organization
- Suggest learning methods and opportunities that you might not be aware of
- Mobilize learning opportunities and resources (e.g.: by recommending you for a training course, providing access to publications, or appointing a coach or mentor)
- Authorize and arrange the time off and expenditure that will be required for your training (including cover for your absences, where relevant)
- Plan to participate, as required, in your learning (e.g.: by acting as a coach or providing feedback) and in monitoring and reviewing your progress.

ii) iRecording your CPD activity. As we noted at the beginning, members of professional bodies are required to complete a certain number of hours of CPD, to ensure that they maintain their technical competence and up to date knowledge. You must therefore record any CPD activity you undertake, so that you can prove that you have fulfilled the requirements and updated your knowledge and skills appropriately.

Example:

POSITIVO BGH electronics encourages all accounting staff to maintain a CPD log template, which is reviewed alongside everyone's Personal Development Plan. The company uses a simple pro forma log sheet for CPD activity.

CONTINUING PROFESSIONAL DEVELOPMENT RECORD						
Name: Membership no:						
Covering the period from: to:						
Date(s)	CPD hours	Links to PDP goal	Learning activity	Training provider	Outcomes/benefits	Follow-up required



Application activity 1.4

- i) Prepare a career plan for the work you are interested in.
- ii) Select the most appropriate learning or training approach for each of the following learning needs.

Picklist:

External training course
 Induction training
 Internal training course
 On-the job training

Your answer:

Learning needs	Suitable approach
An accounting clerk wishes to work towards becoming iCPAR qualified	
A worker is transferred to use a new piece of equipment and needs to learn how it operates.	
A new member of staff is about to join the organization	
An organization decides that its supervisors would benefit from leadership training	

Skills Lab 1



By using sample IDPs (Individual Development Plans), students in groups discuss & develop their own IDPs as in relation to their business ideas already developed. By using gallery work, students present their IDPs.

Students defend why their business ideas are important and how they are ready to overcome possible challenges.




End of Unit 1 assessment:

1. a) Define the term career as used in the field of entrepreneurship.
- b) From which sources can we obtain information concerning work to do?
- c) Identify any 10 career opportunities that people today are engaged in starting with those in your home area.
2. Visit two people in your locality who work in different careers for example “a doctor, teacher, and an entrepreneur. One should be female and another male, then do the following.
 - i) (i) Ask the steps they followed to choose their present careers.
 - ii) (ii) Identify the challenges they face in their present careers.
- 3a) How can you define the term “career guidance”
 - b) Make a list of sources where career guidance can be obtained.
4. a) Assess the benefits of being an entrepreneur.
- b) Discuss the challenges of being an entrepreneur.

UNIT 2

SETTING PERSONAL GOALS



 **Key unit competence:** To be able to set achievable entrepreneurial goals



Introductory activity

After analyzing the illustration above, answer the following questions:

1. What does the illustration mean to you?
2. If you have any different dream goal, write it down and explain why it is important to you?
3. What entrepreneurial qualities do you want to develop that will enable you to achieve your goals?
4. Among the example of goals in the above illustration, classify short term, medium term and long-term goals and explain why they are different.

2.1. Meaning and types of goals

Learning activity 2.1



1. Explain to your colleague what is meant by the terms:
 - a) A goal
 - b) SMART goal
 - c) Personal goal
 - d) Business goal
2. Which among the following goals is a short-term goal and which one is a long-term goal? Justify your answer
 - a) Starting my own business in 6 years to come
 - b) Obtaining at least 85% in my end term exams
 - c) Earning CAT and A2 Certificate at the completion of my secondary studies

2.1.1. Meaning of a Goal, Personal Goal and Goal setting

A Goal is an aim or an objective that you work towards, with effort and determination. It can also mean a result towards which the effort is directed. As an accountant in special or an individual in general it is very important to have and pursue a specific objective (goal) of what you will achieve or do after a specific period for the success in your life

Personal goal: This is an objective that someone sets for a specific reason within a specific timeframe. When someone's goal relates to business activities, it is called "Business Goal"

Example of personal goal	Example of a business goal
Do CPA (Certified Public Accountant) after S6	Increasing my business turnover by 12% each year
Join Military course in next 3 years from today	Buy a bicycle for transportation services in October 2023
Do push-ups every morning for my fitness	Do customer survey for my business lunch in December

As future Professional Accountants, it is imperative that each student finishes senior four having a very clear and SMART personal goal of which teachers will provide coaching and continuous guidance. This helps effective goal implementation and generally success in life.

Goal Setting: This term refers to the activity or a process of setting one's goal. Setting goals is more than deciding what you want to do. It involves figuring out what you need to do, to get where you want to go, and how long it will take you to get there. The first step to success is knowing where you want to go. The second step is having a plan to get there. Your goals are your roadmap, follow them and you will be on your way to success.

2.1.2. Characteristics of a SMART goal



Figure 2.1: A good goal must be specific, measurable, achievable, realistic, and timely

Sometimes a goal seems like it is just a dream. You may wish to do something one day that never seems to happen but it takes courage, patience, and hard work to get where we desire to be.

SMART is an acronym that stands for **S**pecific, **M**easurable, **A**chievable or **A**ttainable, **R**ealistic, and **T**imely. Therefore, a SMART goal incorporates all of these criteria to help focus your efforts and increase the chances of achieving your goal.

Goals should be	Example that cannot be reached	Example that can be reached
Specific	I will do very big businesses.	I will start a small project with my little money I have.
Measurable	I will attend morning lessons.	I will attend morning lessons five days a week.

Achievable	I will become chief legal advisor of Airtel Rwanda next year.	I will apply for employment in Airtel company next year.
Realistic	I will milk 400 litres of milk from my one cow every day.	I will milk 30 litres from one cow every day
Time framed	I will find a good job soon.	I will find a job after three months from now.

SMART is a useful tool for setting goals that you can reach. When we set a SMART goal, we can direct our actions into achieving the goal.

Therefore, a good goal should be characterized by Specific, measurable, attainable, realistic, time bound aspects.

2.1.3. Types of Goals

Many people set goals to be achieved within various time frames due to different reasons. When a goal is to be achieved in a period less than One year, then it is known as a “**Short-term goal**”,

When a goal is to be achieved in a period between two to five years, then it is known as a “**Medium- term goal**” while a goal is to be achieved in more than five years then it is known as “**Long-term goal**”

2.1.4. Setting long and short-term goals

In setting long, medium term and short- term goals; One should first respond to the following questions:

- Where do I want to be in the next period?
- What must I know to get there?
- What abilities and experience do I already have that are going to help me take these steps?
- What obstacles might be on my way and how can I deal with them?
- What should I do first, second, third, fourth and so on?
- Do I have necessary resources to use while working on my goal?
- What opportunities are already in place to help me reach my goal?
- What strategies should I employ?

Determination of what one needs to achieve in future, setting priorities, defining the Start and Ending point, identifying possible challenges and opportunities are the keys for someone to confidently achieve his/ her goal.



Application Activity 2.1

1. Differentiate the following terms:
 - Personal goal from collective goal,
 - Short term Goal from Long term goal.
2. On a sheet of a paper, draft any two short term personal goals and other two long term business goals
- 3) Write down the steps you need to take to reach your goals.
- 4) When setting a goal; what do you think should be focused on?
- 5) Identify your goals and complete the following table:

State your long term goal

.....

Steps	By when	Resources needed
1.....		
2.....		
3.....		
4.....		

State your medium -term goal

.....

Steps	By when	Resources needed
1.....		
2.....		
3.....		
4.....		

State your short- term goal

.....

Steps	By when	Resources needed
1.....		
2.....		
3.....		
4.....		

2.2. Personal values, skills and qualities in relation to Entrepreneurial mindset competences

Learning activity 2.2



1) Case study:

Read the short conversation provided below and use it to find answers to the questions given:

John: Good morning my friend?

Iraguha: Good morning to you.

John: You seem to be unhappy today. What is the problem?

Iraguha: My parents have failed to get me scholastic materials such as books and pens as well as a school uniform. My uniform is no longer fitting me!

John: Oh, sorry my friend. You should not give up. Look at it as an opportunity of starting to plan for your better life.

Iraguha: John! How can you say that to me? I am helpless and poor.

John: My friend, for me, I buy books, pens and I have two sets of uniforms.

Iraguha: It is because your parents bought them for you.

John: No. When I was in Senior three last year, I was given RWF 3000 for pocket money instead I saved it and used it to buy one hen. After 10 months, I had already started rearing 30 hens. By the end of the year, I was coming close to 120 hens. I now have a promising poultry business, I sell eggs and some hens to mothers with young kids to fight malnutrition and hotels.

Iraguha: Oh, that is great! Now, what can I do because I have no money?

John: Every coin matters. Get your friends and identify a given challenge in our community and find a solution to it that requires no money, and let people pay you. Then, use that money partly to solve your problems and save for the type of business project that you need to do. Please, once you start, you should never give up and aim at achieving the best.

Iraguha: Now, I can see why you are always happy. Thank you so much. Now I must be self-reliant.

Questions:

Between John and Iraguha who had a productive entrepreneurial mindset and why?

Using the above conversation, what do you understand the concept of a productive entrepreneurial mindset?

iii. Identify the entrepreneurial mindset competencies reflected in the above conversation.

2. In each of the following columns, choose the top 5 values in each category that you think can best describe yourself, family/ friends, and employers.

Values	My-Self	Friends	Employer
Tolerance			
Responsibility			
Persistence			
Respect			
Optimism			
Loyalty			
Involvement			
Honest			
Friendliness			
Focus			
Fairness			
Dignity			
Empathy			
Ethics			
Enthusiasm			
Determination			
Creativity			
Communication			
Commitment			
Caring			
Cautiousness			

2.2.1. Importance of personal qualities, talents and entrepreneurial mindset

Knowing your qualities, values and skills, will help you work towards achieving your goals.

Values are internal. Values are a means of perfection of personality. “We need **Values to Become...** We need **Skills to Do...**”

Mindset is a set of opinions and the way an individual thinks. It can also refer to a person’s usual attitude or mental state and reactions towards a given situation. Mindsets influence an individual’s response to a situation. E.g.: People may react differently to similar situations due to the nature of the mindset they have.

An entrepreneurial mindset is a set of skills that equips an individual with the ability to identify and make better use of challenges, find solutions to the setbacks, and succeed in varying settings.

Personal qualities are inner feelings. E.g.: Kind, Helpful, Caring, Understanding, Patient, ... You can see people doing good things but deep inside, they may be filled with anger, hate, ... They may just be showing off. We all have different values and interests. Some people may not know their values well. This topic will help you discover your values. It is always advisable for one to communicate their values and interests to friends, family members, fellow employees and to employers. Many values are similar, but employers might put more emphasis on values that will help them get their businesses ahead.

Therefore, it is important to be aware of the values you have and those that your employers want so that you can try to behave in a way that reflects those values. You should also identify your talents early, nurture them and develop them since whatever surrounds you, embeds an opportunity that can make you successful in life as an entrepreneur. Always look at whatever your community is experiencing with an entrepreneurial attitude or ‘eye’. This is the power of the entrepreneurial productive mindset.

2.2.2. Entrepreneurship mindset competencies:

Entrepreneurial mindset competencies refer to a combination of mental abilities, attitudes, values, and knowledge that any entrepreneur must have on top of other factors to succeed in the business world. Here are some of the Values and qualities related to Entrepreneurial mindset that everyone should strive to develop for his/her personal and Entrepreneurial development:

Domain	Personal qualities/ values & skills	Entrepreneurial mindset competencies
Entrepreneurial culture	Profit oriented & Hard working	Need for achievement
	Decision making skills & risk taking	Taking Action and Initiative
	Goal Setting	Values-driven
	Responsibility & self-confidence	Self-efficacy
	Problem Solving	Innovation problem solving
	Persistence	Resilience

- **Need for achievement:** Preference for the challenge, acceptance of personal responsibility, or a personal drive for accomplishment. Setting and working towards future goals and targets helps you to achieve success. This brings you recognition and boosts your confidence. When you work hard and put in a lot of effort to accomplish something difficult - the rewards are high. This is a valuable skill that can be continuously developed throughout your life and will be helpful in all situations.
- **Taking action & initiative:** The ability to turn ideas into action through creativity, innovation, and risk-taking, as well as the ability to plan and manage the project. Taking Action and initiative is all about having a plan and making it happen. With the world facing many challenges, people have to implement plans that will make a difference.
- **Values-driven:** A deep sense of purpose and commitment to life-affirming values, such as honesty, integrity, excellence, courage, humility, trust, care for people, and social/environmental responsibility.
- **Self-efficacy:** This is self-confidence in one's ability to accomplish and succeed in organizational tasks or business operations. An important part of self-efficacy is learning to identify your own strengths and weaknesses, and then being able to improve them.
- **Innovation problem solving:** Generating innovative ideas to solve the problem, although there is no one right away to solve any particular problem.

- **Resilience:** The capacity to recover quickly from difficulties and carry on when faced with failures/difficulties. When there is a challenge, there is an opportunity. Resilient people don't fear challenges but use them to learn and improve. Farmers are well-known for their resilience to all the factors that influence their success.



Application Activity 2.2

- 1) In Ubumwe village, there were two young people who were friends. One was called Mugisha and another Byirigiro. One day, as they were traveling, they reached a valley and found that there was a small river and the bridge had been washed away by the rain. From one bank of the river to another side it was almost 2 meters.

Mugisha told his friend, no this is a simple challenge. We are going to cross it. We should not give up. Let us jump over it and continue with our journey. His friend Byirigiro hesitated and said, please let us go back and we shall continue with our journey once the bridge is repaired. His friend refused and took three steps backward and came running and jumped over the small river.

Byirigiro started shouting and saying, "I will not jump. I may fall into the river and drown. His friend encouraged him to jump. But because of his attitude, guess what? Unfortunately, Byirigiro tried to jump and fell into the river. Without thinking twice, Mugisha jumped into the river and rescued his friend.

In the process, Mugisha noticed that the river had a variety of fish in it. Then, he told his friend, "We are going to be rich". How? Says his friend. See there is a lot of fish. We are going to use the papyrus and make fishing baskets and start selling fish to our community. They were all happy and after four months they opened a joint bank account where to keep their savings.

Referring to the above case study, answer the following questions:

- i. From the story, explain the meaning of mindset.
- ii. Between Mugisha and Byiringiro, who had a productive entrepreneurial mindset and why?

iii. Discuss how mindsets influence our success.

- 2) Suppose in the Local meeting, you are given time to address to the youth about the desirable entrepreneurial qualities. On a small sheet of paper write any four desirable entrepreneurial competences that you would advocate for youth to adopt and justify why each one is important.

2.3. Strategies to learn new skills

Learning activity 2.3



People learn differently using the following styles



1. Analyse the pictures above and identify different learning styles illustrated
2. Choose your preferred learning style.

2.3.1. Learning styles

After setting one's goal, it becomes very important for someone to start developing a productive entrepreneurial mindset and start to learn about the new goal. Using your best learning strategies will enable you to acquire basic skills for that goal. However, it is very crucial to note that people learn differently, using different learning styles like gestures, observing, Writing, Reading, Hearing, Speaking... Most of the time, you will combine different learning styles to be able to comprehend or do something new.

2.3.2. Guidelines for different learning styles

The following are guidelines for different learning styles:

If you learn best by speaking do the following:

- Choose an activity that requires a lot of talking
- Ask questions if you have not understood or you need clarifications
- Repeat things right after you hear them so as to better remember them
- Study with other people in order to share new information through talking.

If you learn best by listening do the following:

- Choose an activity that requires a lot of listening
- Call people on phone instead of writing to them
- Study with others to share views via talking
- Ask people to explain things you don't understand
- Read aloud information you need to study

If you learn best by reading do the following:

- Choose an activity that requires a lot of reading
- Get information through written words
- Have people write down directions for you to read
- Read instructions instead of being told or shown
- Take good notes and then read them later on

If you learn best by writing do the following:

- Choose an activity that requires a lot of writing
- Write down the things you need to do and keep a written schedule
- Take notes when listening to instructions
- When you are reading underline important point and take notes as you read along

If you learn best by seeing/observing do the following:

- Choose an activity that requires a lot of observation
- Use charts, graphs, pictures, etc....
- Visualize words, pictures, telephone numbers, etc....in your mind
- Take notes of shapes, and colors of things that you need to remember
- As you read something imagine how it would look like if it is happening in real life
- Watch others do things you need to know how they are done

If you learn best by doing do the following:

- Choose an activity that lets you work with hands and move around
- Visit places so as to see how things are actually done
- When you want to learn how to do something new, watch someone doing it and ask him/her to show you how it is done
- If given a-chance, show others how things are done by doing it in front of them.



Application Activity 2.3.

- 1) Following the requirements in setting goals, set a SMART goal for your dreamed business.
- 2) Explain the best strategies you would like to use while learning and acquiring new skills related to your business idea.
- 3) Explain the Rwandan proverb that says “Kora ndebe iruta vuga numve” justify why it is said so.



Skills Lab 2

On a piece of paper, set any two short-term, medium, and long-term goals for your back home project.



End of unit 2 assessment:

Case study:

Beatha is a local Entrepreneur operating in Gitaraga business center. She employs 15 casual workers in her banana plantation and 3 workers for her poultry farm. She is aiming at changing her businesses to starting a small bakery which will be producing Mandazi and cakes to the local population as soon as possible. The problem with Beatha is that she has no idea on:

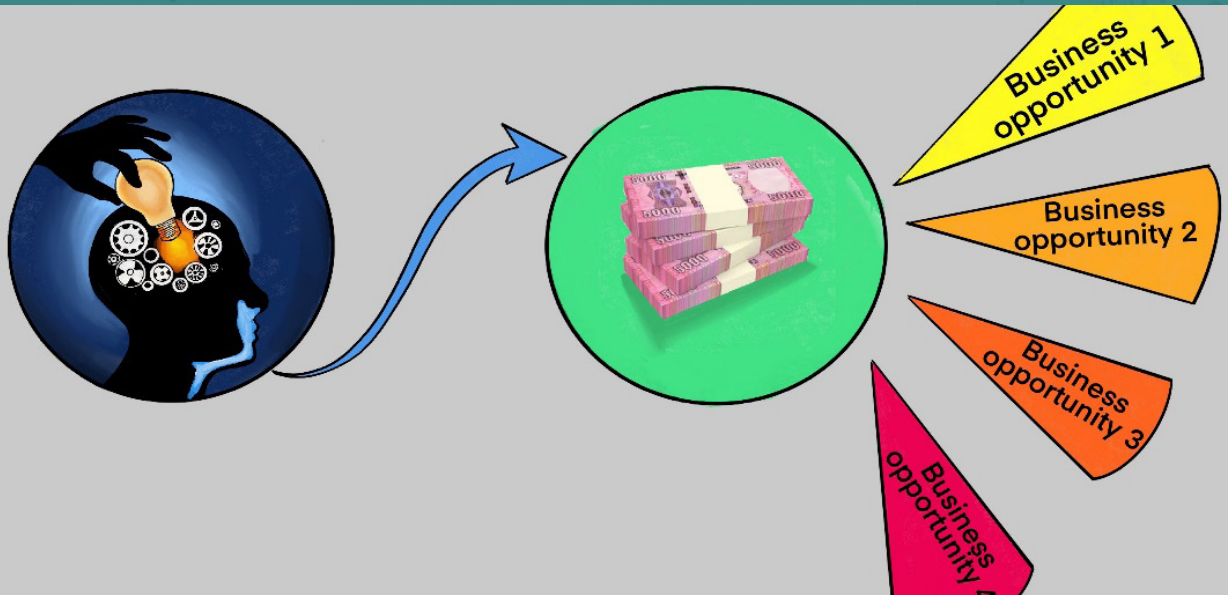
- a) The steps she would go through for her transition to make her goal come true.
- b) The behaviors she would adopt for her to fit within the new business
- c) Where to learn the basics of Bakery business

Required:

1. If you were to give Beata advice ,how would you make her goal smart?
2. Indicate the steps and the requirements she would consider while trying to reach her new goal.
3. Explain any 5 Entrepreneurial mindset competencies that Beatha needs to adopt so that she can easily reach her goal.
4. If you were Beatha and your friend Zilipa gives you a chance to visit a successful Bakery in nearby town, explain the learning strategies you would use to enable you to acquire necessary knowledge and skills for your bakery? Justify your answer
5. What Challenges do you think Beatha will encounter during her transition and how would she overcome them?

UNIT 3

BUSINESS IDEAS AND OPPORTUNITIES



Key unit competence: To be able to generate viable business ideas



Introductory activity

Case study:

Caleb and Coco are two classmates at GS Rugarama. With their creative thinking and entrepreneurial mindset, they recently decided to scan their hometown environment to come up with a viable joint business. Currently, Caleb and Coco had raised up to four hundred thousand Rwandan Francs (FRW 400 000). For their second meeting, they figured out that they never thought of possible businesses to undertake based on the identified market needs and the available funds. They felt nervous and didn't know what to do next. Meanwhile, Caleb had shared a few challenges with his father and the father found it difficult to guide and advise the kids on how to handle challenges given his time constraints. However, Caleb and Coco understood the general situation in their hometown as presented in the below table:

Current situation in the hometown (problems identified)	Business ideas
Day school students experience heavy rains that usually damage their books.	
In the area, there is scarcity of wrapping materials. There are so many used papers left in compounds of schools.	
Majority of the population have no access to smart phones and computers, yet majority of local government related services require to use technology.	
High demand of charcoal as source of energy	
No clean water in the community	

Suppose that Caleb and Coco approach you for advice and guidance before Caleb’s father intervenes.

1. a) What business ideas should they generate given the identified problems/ opportunities?

Why do you think Caleb and Coco couldn’t immediately start their business?

- b) Define the terms “a business idea” and a “business opportunity”? to Caleb and Coco.

c)Is there any business opportunity in the above table? If yes, which one? If no, why?

d)After your advice on possible business ideas, what factors do you think Caleb and Coco should consider while selecting the best/ viable business ideas? (The one that can generate higher returns & can fit the existing conditions)

2. Think, pair, and share with your group mates customer’s complaints in your locality and determine what profitable business ideas you can come up with as solutions to the customer’s complaints.

3.1. Concepts of business, business idea and business opportunity

Learning activity 3.1



Case study: Reality TV show



Rwiyemeza is a prominent entrepreneur dealing in growing and processing of Mushrooms in Kicukiro district. One day she was invited to give an interview on Rwanda Broadcasting Agency (RBA) about her business to the whole nation by Mr. Makuru.

Read through the excerpts from the interview.

Makuru: How did you decide to get into mushroom growing and processing? How did you start?

Rwiyemeza: It was during the long senior six vacations after failing to get a job as I waited for my results. I basically got the idea after listening to the radio, reading newspapers, and watching TV about how different people have succeeded by starting their own business activities. Coupled with my secondary school entrepreneurship competences, I decided to give it a try and started with very many ideas of business activities I could start.

It was not an easy task deciding on one activity but after doing enough research from various people, I finally settled for Mushroom growing and processing.

Makuru: What was the biggest challenge while starting your business activity and how did you overcome it?

Rwiyemeza: There were so many challenges such as competition, unsure market, lack of experience but deciding on turning my business idea into a profitable business was the most challenging. I had to do a lot of research from existing entrepreneurs, Sector offices, and financial institutions. I also had to do personal evaluation.

Makuru: What are the benefits of your business to the community?

Rwiyemeza: Aaahhh....there are so many I can't exhaust them.... but I will start with employment for me and my family which has improved our standards of living. I have 5 workers who earn a monthly salary, I pay taxes, my business helps to conserve the environment. Most importantly, I have inspired a lot of other young entrepreneurs, especially women to start their own businesses.

Makuru: What advice would you give to the young people who may want to start business activities?

Rwiyemeza: My advice would be that all around us are opportunities for business ideas, but one has to be careful because NOT all business ideas can become business opportunities and therefore turned into profitable businesses. Before I finally decided to start mushroom growing and processing, I had tried a number of businesses which failed because they were not viable. So, I again advise the young people that take time and study/research the business ideas before investing money because "Not all business ideas are business opportunities" '.

Referring to the case study (A reality T.V. Show) above, answer the following questions

- a. What do you understand by business and what is Rwiyemeza's business?
- b. Explain what you understand by a business idea. Mention any sources of business ideas for Rwiyemeza's business activity.
- c. Rwiyemeza says it was not easy for her to start up the business activity. Explain what you understand by a business opportunity and identify some challenges Rwiyemeza faced.
- d. Why do you think that it is important to generate viable business ideas?
- e. What do u think would be the characteristics of a viable business idea?

3.1.1. Definition

A business refers to any economic activity that involves the production, selling of goods and services, covering risks with the aim of getting profits.

A business idea is a thought about the possibility of a business. It can also be defined as a thought that an entrepreneur may come up with as a result of scanning the environment with the purpose to develop a business activity. Examples of business ideas in Rwanda include Real estates, clothing and textiles, food processing, E-Commerce, internet and computer services, food delivery services, photography and videography, horticulture business.

Business ideas are internal to the entrepreneur because they originate from the entrepreneur's mind. Ideas are not visible, but they can be shared through discussions. Generating a good business idea is the first step towards transforming the entrepreneur's desire and creativity into a real business. Generating viable business ideas is an innovative and creative process. Not everyone can have a viable business idea. One can have so many business ideas but all of them may not be turned into real businesses simply because there are no matching business opportunities.

Business Opportunity is an identified situation that can be turned into a real and profitable business activity. Business opportunities are situations or circumstances that create a good environment to implement a business idea.

Business ideas and business opportunities are complementary for one to succeed. When business ideas meet opportunities, then there is a high chance to turn them into real business activities "Ceteris paribus". Contrary, when a business opportunity arises but there is no business idea, that opportunity is lost. However, to some people in some instances business opportunities may trigger business ideas.

3.1.2. Characteristics of a viable business idea

In the previous definitions, it has been indicated that "not all business ideas can be turned into real business activities" This is to mean that "All business ideas can't be viable".

A viable business idea will be characterized by the following:

- Available market demand (number of willing buyers / customers)
- Simplicity to turn it into real business

- Accessibility of factors of production (Land, Labour, Capital, entrepreneur, Time, etc.)
- Favorable government policy
- Conducive social & cultural factors
- Availability of required technology
- Value creating (Is the intended business product going to add any advantage to the already existing products?)
- Availability of required funds, etc.

3.1.3. Sources of viable business ideas and opportunities

Before you start a business, you must decide on the business you are to engage in. you must have a business idea. The question is where to get the idea from? Some people may copy businesses they see other people doing while others come up with unique business ideas. Business ideas may be:

- Completely new business ideas
- Modified business ideas (improving upon an existing idea - Franchises) or
- Using differently an existing business idea

Any of the above business ideas may be developed from any of the following sources:

- a) Personal skills and experiences:** You can generate a business idea based on what you can do with the skills you possess. What do other people normally ask you to help them do
- b) Changes in the business world:** Most of the new changes may not yet be fully exploited and thus present opportunities. As an entrepreneur, you need to monitor changes in various business aspects to come up with possible business ideas.
- c) Filling gaps in existing business:** If you realize that there are some unmet customer's needs, then it is your opportunity to provide the missing product hence filling in the gap within the existing business model.
- d) Visiting and learning from other businesses and entrepreneurs:** By visiting other businesses and entrepreneurs, you may identify the needs of that business that you can meet or simply learn from them on how things are done.

e) Attending trade shows and exhibitions: Trade shows and exhibitions provide opportunities to study customers' behavior, identify needed products, identify suppliers etc.

f) Interviewing different people: Through interviews, one can discover people's problems, needs, complaints etc. Societal problems are the best sources of business ideas & opportunities. If in a certain area, day school students struggle with rain on their heads & back, providing affordable waterproof jackets, bags and boots; This will be an ideal business.

g) Information from the media: Through radio, newsletters, TV and internet one can understand business trends and environment, know what is scarce, what is on demand, what is on fashion and much more information, Etc.

On the other hand, business opportunities can also be as a result from:

- h) People's needs
- i) Nature & types of available customers
- j) Availability of idle resources
- k) Existing businesses, etc.

Source of business opportunity	Examples of categories	Viable Business ideas based on the identified opportunity
People's needs	Entertainment	-Cinema, Night clubs etc.
	Transportation	- Bicycle transportation, Moto etc.
Nature & types of available Customers	Age group	- Daycares for babies
	Profession	- Coaching services
	Belief	- For Nyamacoma business e.g. don't sell pork to Muslims
Availability of idle resources	Scrap metals	Recycling
	Waste papers	Envelops (paper bags)
	Animal skins	Shoes, Belts etc.
Existing businesses		Duplication of what is available
		Modifications, etc



Application Activity 3.1

- 1) After studying about different sources of business ideas, think about the problems your community is facing and answer the following questions to make it a better place.
 - a) Identify any four market gaps or business opportunities in your locality
 - b) write up three businesses ideas to match with the identified gaps
 - c) Based on the characteristics learnt, with vivid examples, explain and justify how feasible are your business ideas stated above?

3.2. Factors influencing the choice of business opportunities



Activity 3.2

Suppose you are asked to choose a business that is fit for you from a variety of viable business ideas that follow:

- 1) Doing Mandazi Business
- 2) Liquid soap making and selling
- 3) Envelopes and paper bags
- 4) Rearing chicken layers
- 5) Buying a bicycle and do local transportation
- 6) Doing a small hair salon (barber shop)
 - a) What business idea would you choose to do first? Why?
 - b) What factors influenced you from not choosing other business ideas? Explain to justify your answers
 - c) What effects do you think would happen if you didn't consider those factors?

Some entrepreneurs absolutely believe that choosing viable business ideas must be through a purposeful search for opportunities while others believe that a viable business idea is something that had been readily available and overlooked but now discovered accidentally. Businesses established on accidentally discovered venture ideas and which had not

been subjected to prescribed screening achieved break-even sales faster than those businesses that had undergone purposeful searches.

Below are some factors to consider when deciding what business opportunity to pursue.

- **Identified market need or gap;** the nature of the identified need or challenge in the market or customer need will influence an entrepreneur's choice of a business idea. A person is likely to choose an opportunity which he/she thinks will solve the identified market needs.
- **Growing market:** most people want to avoid the hustles of starting a new business. So, they will choose ideas or opportunities that are easy for them to start their businesses while others may choose ideas that give them a chance to be creative.
- **Low funding requirements:** the amount of funding required to implement a business opportunity may influence one's choice of a business idea. Most people will choose opportunities that do not involve a lot of funding in relation to profits.
- **Vision or goals;** the choice of a business opportunity will greatly depend on the vision or goals of the entrepreneur. These could be short term or long-term goals.
- **High profit margins;** of course, on every entrepreneur's mind is profit. The profit margin expected from the opportunity will greatly influence one's choice.
- **Not easily copied;** every entrepreneur of course wants to protect their ideas, protect intellectual property and develop a brand reputation. So entrepreneurs are likely to choose ideas/opportunities that cannot be easily duplicated in the market at least in the short run.
- **Inheritance:** Inheritance is the practice of passing on properties, rights, and obligations upon the death of an individual. Most people would prefer continuing in the line of family business than going for new business opportunities.
- **Discovery vs Purposeful:** Some entrepreneurs absolutely believe that choosing viable business ideas must be through a purposeful search for opportunities while others believe that a viable business idea is something that had been readily available and overlooked but now discovered accidentally. Businesses established on accidentally discovered venture ideas and which had not been

subjected to prescribed screening achieved break-even sales faster than those businesses that had undergone purposeful searches.



Application Activity 3.2

Suggest one business opportunity around your school, give the factors you will base on while choosing that business opportunity.

3.3. Evaluation of Business ideas



Activity 3.3

1. Suppose you provide business consulting services in your locality. A customer with a variety of business ideas, approaches you for advice on which one to implement. On a simple note, State the main questions you would ask the customer to help you properly evaluate his/her business ideas.
2. Write in full: “SWOT” What does SWOT mean?

3.3.1. How to evaluate a business idea

After getting a business idea, it is important to analyze it and be sure it is profitable and worth to be implemented.

The following factors should be taken into consideration while evaluating your business idea:

- Is the business legal?
- What are the entry barriers?
- What problem is going to be solved?
- Are there potential customers?
- How big is the market?
- What are the requirements to start?
- What is your Unique Selling Proposition (USP)?
- What is your exit strategy?
- Is the idea profitable?
- What is the expected Return On Investment (ROI)? Etc.

1.3.2. Evaluating business ideas using SWOT analysis

To set meaningful business, entrepreneurs should first look at what would be the business strength and weaknesses, then opportunities and threats to the business. This will help them to evaluate different business opportunities and then arrive at a decision of what to do in business. There are two approaches to internal and external analysis for business opportunities.

Inside out approach: Entrepreneurs evaluate themselves first in terms of skills, experience and abilities and then try to find how they can apply them in the business world and create a product for the market.

	STRENGTH	WEAKNESSES
Internal	<ul style="list-style-type: none"> -Good brand image -Good location of the business -Brand loyalty -Better quality products -Superior packaging -Enough capital -Increasing sales 	<ul style="list-style-type: none"> -Small sales team -Business located far from the customers) -Few delivery vans -Poor marketing skills -Unreliable supply -Limited customers - Limited capital
	OPPRORTUNITIES	THREATS
External	<ul style="list-style-type: none"> -An expanding market -Merge with a competitor -Discovery of better-quality raw materials -Increase in hostels Selling overseas to reduce the number of competitors. 	<ul style="list-style-type: none"> -New and similar businesses being set up -Higher taxes -Barriers from the competitors -Scarcity of raw materials

Outside in approach: Entrepreneurs study the environment in terms of market needs, availability of resources and other external factors and then relate the identified gaps and opportunities to themselves.

-S- Strengths: they increase the chances of success of the business opportunities

-W- Weaknesses: these are likely to frustrate chances of success.

-O- Opportunities: these are external factors that give the business idea more chances of success.

-T- Threats: these are also external factors that are possible sources of problems for the business and may limit the chances of success.



Application Activity 3.3

1. Explain the difference between strengths and opportunities as used in SWOT analysis
2. Using the SWOT analysis, evaluate the feasibility of your business idea by considering at least two local competitors. Clearly, show your Strengths and Opportunities available to you.s
3. Explain the potential weaknesses and threats to your business idea stated in 2 above.



Skills Lab 3

Visit and interview the nearby local entrepreneur and investigate on the following:

1. How s/he came up with the business idea being undertaken.
2. The challenges encountered and how s/he has resolved them.
3. Any other important information you feel can guide you to refine your business ideas and take advantage of opportunities in that market.

Required:

- a) Based on the findings from the interview, produce a short note of the viable business ideas to that can be implemented in your locality
- b) Indicate what challenges you are likely to face and explain how you think you will handle / mitigate them.
- c) Portfolio assignment:

After interviewing the local entrepreneur and generating various business ideas, Evaluate the generated business ideas using SWOT analysis tool and identify which business indicates greater chances of success.

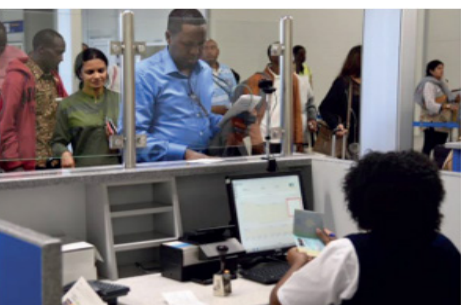


End of unit 3 assessment:

1. Define the following terms:
 - a) Business idea
 - b) Business Opportunity
2. For any business idea, explain how availability of different resources creates business opportunities
3. Many people confirm that “Businesses built up on the identification of societal problems have higher chances of success than those built up based on the available resources. Do you agree with this statement? support your answer
4. Examine the factors that you would use to evaluate a business idea and opportunity.

UNIT 4

TECHNOLOGY IN BUSINESS OPERATIONS



Key unit competence: To be able to choose an appropriate technology for a business.



Introductory activity 4.1:

1. Scan the environment in which you are in and respond to the following questions:
 - a) After studying the previous unit about Business Ideas and Opportunities, Discuss the various business ideas that can be started basing on ICT opportunities.
 - b) What do you understand by the terms: ICT, Technology and E-Commerce?
 - c) Examine the impact of using technology in businesses today.
2. Differentiate the following types of technology:
 - Capital intensive technology

- Labour intensive technology
 - Intermediate technology
 - Appropriate technology
3. From the above types, which one do you think is suitable for your school business club? Give reasons to justify your answer

4.1. Meaning and types of technology

Learning activity 4.1



- 1) Refer to your school and describe how technology has helped in increasing efficiency for both students and the school itself.
- 2) Look around in your community and find a feasible project that you may start.
 - a) Which type of technology will you use in your business?
 - b) Why would you use this type of technology?
- 3) Define the term technology as used in business?

4.1.1. Meaning of technology

Technology means the use of knowledge, tools, techniques, or specific methods to solve a problem or serve a purpose.

Information Technology involves the use of electronic means to help to transmit and interpret information internally and externally

Information and Communications Technology usually called ICT, is often used as an extended synonym for Information Technology (IT) but is usually a more general term that stresses the role of unified telecommunications and the integration of telecommunications (telephone lines and wireless signals), intelligent building management systems and audio-visual systems in modern information technology. ICT consists of all technical means used to handle information and aid communication, including computer and network hardware, communication middle waves as well as necessary software. In other words, ICT consists of IT as well as telephony, broadcast media, Electronic Billing Machines (EBM), all types of audio and video processing and transmission and network-based control and monitoring functions.

4.1.2. Types of Technology

a. Capital intensive technology:

This is a production method which uses more capital or machines than labor. It is also known as “*labor saving technology*” that is, we save more labor to use machines.



Figure 4.1: Capital intensive technology

Many heavy industries are capital intensive industries for example construction, mining, textile and communications industries. A business is considered capital intensive if the ratio of the unit’s capital required is greater than units of labor used. The use of tools and machines makes labor more effective hence pushing up labor productivity. Capital intensive societies tend to have a higher standard of living over the long run.

b. Labor intensive technology:

This is the production method/ technique which uses more labor than machines to produce its goods or services. It is also called “*capital saving technology*” meaning we save capital to use more labor. Examples where labor-intensive production is common are hotels, restaurants, small scale farming, fishing, mining etc.



Figure 4.2: Labour intensive technology

In Rwanda, the largest part of the population is employed in the primary sector, which uses more labor than machines. Most labor is employed in agriculture, fishing, mining, and the service sector. Labor intensive technology has many advantages and that's why it employs a bigger percentage in our economy. Although, it is associated with very many challenges like, being very expensive to maintain through medical insurance, wage bills, low and poor-quality output, strikes, and labor gets tired and exhausted easily, unlike the use of machines.

c. Intermediate technology:

This is the technology which is between the high intensive technologies and the local indigenous techniques and usually relying on the use of local materials and skills e.g. ox-ploughs. It involves the use of both labor and capital in almost equal proportions. It is neither too advanced nor simple.

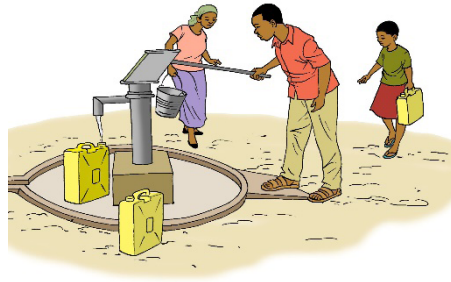


Figure 4.3: Intermediate technology

d. Appropriate technology

Appropriate technology is the type of technology which matches with the existing conditions in the host country. It thus fits in the conditions existing and responds to the needs of the society at that time.

The following table provides a summary of advantages and disadvantage of each type of technology:

	Types	Advantages	Disadvantages
1	Capital intensive technology	<ul style="list-style-type: none"> - Commodities of high quality are produced - Mass production - Promotes development of skills -Saves time and increases labor productivity 	<ul style="list-style-type: none"> -It is expensive - It leads to technological unemployment - It may promote over exploitation of natural resources - It requires infrastructures like power, transport

2	Labour intensive technology	<ul style="list-style-type: none"> - It generates more employment opportunities - Labor is more mobile than capital intensive technology - It does not require a lot of skills - It helps in improving the standards of living 	<ul style="list-style-type: none"> - Inferior quality products are produced - Limited hours of work - It requires a lot of supervision - Lack of uniformity in production - Human capital is subject to disputes
3	Intermediate technology	<p>It provides employment opportunities to the available skilled manpower</p> <p>Efficient utilization of local resources</p> <p>It leads to rural development</p> <p>Linkages among sectors</p>	
4	Appropriate technology	<p>Tends to improve the living standards of people</p> <p>No heavy investment expenditure required</p> <p>It promotes self-reliance</p> <p>It promotes fair income distribution through job creation.</p> <p>It helps to eradicate poverty since there are many sectors which generate income.</p>	Sometimes a solution simply does not work as planned.



Application Activity 4.1

1. Using a local business or a production unit in your locality, explain how intermediate technology is applied.
2. If you were to start a business in any of the following human activity areas, which technology would you be likely to choose and why? use the following table to answer the exercise.

Human activity area	Type of Technology to use	Why?
Cultivation		
Cloth making (Tailoring)		
Secretariat		
Transportation		
Milking		
Mining		

4.2. Factors considered when choosing appropriate technology

Learning activity 4.2



Using examples of your Students Business Club, businesses near your school or your community employing different types of technologies, investigate to find out the factors considered when choosing an appropriate technology. Provide a summary report that indicates:

1. The type of technology used and the factors they have taken into account while choosing it.
2. Reasons for the use of that type of technology

Technology is evolving at an incredible pace. The rapidity of changes challenges any business trying to employ the most appropriate technology for their business model and environment.

The following three approaches can help in making the right decision:

- i) Balance cost against benefits,
- ii) Look for ease of use,
- iii) Take it for a test drive.

However, responding to the following questions would guide someone in the selection of an appropriate technology:

- **Social benefit:** The technology should have social benefits to the country, in terms of job creation, as well as not having a lot of social costs like pollution (air, water and noise).
- **Health impact on users:** The technology should put into consideration the health of the users as well as the population around. Some technology for example machines and mobile phones make vibrations which affect the health of the people leading them to get cancer related problems.
- **Ease of use and adaptability:** The technology chosen should be simple to use and easy to learn and adopt. It should be able to accommodate the skills of the available labor in a given country.
- **Productivity and profitability:** The technology chosen should be able to yield profits for the business as well as efficient and effective use of resources to produce much output.
- **Cost effectiveness:** The technology chosen should be affordable to the company and should be able to yield more returns for the capital invested.
- **Institutional needs:** The technology should be able to address the needs of the institution or company where it is being used. For example, banks need more capital-intensive technology in form of information communications technology as compared to labor intensive technology.
- **Environmental friendly:** The technology must comply with the environmental laws; thus, it should not degrade the environment. This is very common with industries which use capital intensive technology.



Application Activity 4.2

- a) Referring to a particular business in your community or even from other places in Rwanda, give an example of a business and describe how its technology (business activities / operations) benefits the society/ community around.
- b) Discuss the negative effects of your business club's activities to the environment and propose an appropriate technology that you would use in your club.
- c) Imagine you are the president of your business club and there is a disagreement among members on choosing between the two possible production technologies (. In two paragraphs, give reasons why should your business club compare technology costs against its benefits

4.3. Role of technology and ICT tools in business and Problems associated with using ICT

Learning activity 4.3



1. Discuss the role of technology in a business today.
2. Mention any ICT tools used in business
3. Discuss the problems associated with Information Communication Technology in the business world today and propose solutions.

Most common technologies used in business.



Picture 1. Email



Picture 2. Automated teller machines



Picture 3. Cashless public transport system (Tap and go)

		
<p>Picture 4. Electronic safe</p>	<p>Picture 5. Closed Circuit Television (CCTV) camera</p>	<p>Picture 6. Metal detectors</p>
		
<p>Picture 7. Electronic Point of sale machine</p>	<p>Picture 8. bar coders</p>	<p>Picture 9. Point of sale terminals</p>

4.3.1. ICT in business

If you research and identify the various technologies that are being used in businesses, be it in your school or other business enterprises, you will figure out that ICT provides great importance in terms of communication, management, accounting and transport.

In the twenty-first century technology has become completely integrated in the business operations. Whether you are running a small start-up business or a worldwide enterprise, technology is vital in all aspects of business operations. It helps workers to communicate with one another easily which is critical to the success of a business. It is also used to protect confidential financial data which may be subject to security threat and vandalism. Fortunately, several technology tools are being used by companies in the day today running of business. Examples include use of emails, mobile phones, internet etc.

A serious analysis will show you that businesses use various kinds of technology, depending on the type of business, and department.

The table below shows the types of technology and different ICT tools used in business departments.

Business departments	Technology & ICT tools used
Communication	Telephone, email, internet, fax, SMS, websites, blogs, social media like: Twitter, Instagram, Facebook, LinkedIn, WhatsApp etc.
Management	Computers, time recorders, software, access control gadgets.
Accounting	Computers, calculators, money counting machines, Automated Teller Machine (ATM), computerized accounting software's (Quick book, Sage line 100, Sage pastel, Tally, etc.) electronic safes etc.
Transport	Cashless public transport system, cars, planes, motor bicycles, airline booking and reservations software.
Security	Closed Circuit Television (CCTV) cameras, webcams, fingerprints, metal detectors, locks, electronic safes.
Human resource	Email, internet, SMS, time recorders, drop box
Marketing, Sales and Distribution	Email, SMS, electronic displays, point of sale terminals, websites, electronic money transfer, mobile money, e-commerce
Energy and Power	Generators, solar panels, inverters, UPS, etc.

4.3.2. Role of ICT in business

The following are some of the roles of Information Communication Technology in business.

- **Makes work easier.** It simplifies work in all aspects.
- **Quality products.** The use of ICT helps to produce better quality products that may fetch a lot of money for the enterprise thus increasing customer satisfaction.
- **Complicated tasks are completed faster & with ease.** For example, use of computerized accounting software like quick books, sage and pastel helps in accounting.
- **Global marketing.** Technology helps companies to sell around the world. People can buy and sell products online and receive payments electronically. This is possible using E-commerce sites like E-Bay, Amazon, Jumia, etc. and payments can be made using Credit cards and visa electronics cards.

- **Monitoring buying habits.** ICT helps firms to monitor the buying habits of their customers and be able to stock the right products in the right quantities at the right time. E.g.: Bar code readers
- **Ability to process high volumes of information and at a high speed:** Computers can perform a lot of work in the shortest time possible which would require a lot of time if done manually. Examples include preparation of control accounts, financial statements and preparing payrolls etc.
- **Communication.** ICT enables businesses to communicate both nationally and internationally with clients and business partners. It also helps to improve communication within a company which helps managers to make informed decisions.
- **Production and distribution of products.** Technology plays a key role in the production and distribution of products by use of machines and transport means.
- **Technology has made it easy** for companies to handle large numbers of employee profiles as well as client profiles.
- **Technology cuts costs.** For example, the costs incurred while transporting and delivery of goods can all be done using computers and the internet.
- **Advertising:** Information Communication technology introduced new methods of advertising particularly through the Internet which helps businesses to be known and sell worldwide hence increasing producer's income.
- **ICT improves stock control.** The use of barcode scanners and point of sale terminals within shops, enables firms to know immediately what their stock levels are, reducing the need for many manual checks.
- **Advertising:** Information Communication technology introduced new methods of advertising particularly through the Internet which helps businesses to be known and sell worldwide hence increasing producer's income.
- **Security:** Information stored on computers is safer. This is because access to information can be restricted by using passwords. Also, in some accounting software which allows multi-users, it is easy to trace which user has performed a given transaction. This reduces the risk of fraud. For example, in banks.

- **Research tools:** ICT helps businesses to carry out research easily about their competitors which helps them to survive. The Internet allows a business to virtually travel into new markets without the cost of an air ticket or the risks of creating a factory abroad. By doing this, businesses grow and acquire new opportunities.
- **Reduces the worker's costs,** a computer can be used to perform a given task which can be done by many people. Therefore, there is reduction of costs in terms of salaries and other fringe benefits that would be incurred.

4.3.3. Problems associated with use of ICT

Much as ICT has many advantages, it also has many disadvantages in business. These challenges include the following.

- **ICT needs staff training.** With the various updates in technology, it will require the business to incur costs of training, either on-the-job, off-the-job or induction training.
- **Difficult to implement in some systems.** Systems made by different companies may be incompatible and fail to work together, limiting the firm to use the latest technology.
- Sometimes the users of technology may not be able to interpret the generated information and as a result, fail to use the information for proper decision making.
- **Technological unemployment.** ICT automates so many processes and as a result, may result in mass unemployment of people.
- ICT heavily depends on regular and sufficient power supply which is still a challenge in developing countries
- The internet provides consumers with the ability to rapidly search for alternative goods and prices which is likely to lower a firm's profit margin.
- It does not put into consideration the use of body language which may lead people to miss-interpret messages because of the use of instant messaging, voice calls.



Application Activity 4.3

1. Describe how new technologies affect business activities.
2. What do you think will be your loss if your business club doesn't adhere to the use of ICT in its daily operations?

4.4. ICT as a source of business opportunities & E-commerce

Learning activity 4.4



Having the notion about business ideas and opportunities, think critically and identify various areas where ICT is used and show how it has contributed to the creation of business opportunities. (Support your answer by listing at least three possible ICT related business opportunities).

4.4.1. Business opportunities in ICT

Information Communication Technology itself offers numerous business opportunities. The following are some of the businesses that can be started basing on ICT.

- Develop and design websites for individuals, organizations, and companies.
- Selling ICT equipment's like power cables, phones, network cables, tablets, laptops etc.
- Repair ICT equipment's like laptops, computers, and mobile phones.
- Starting and managing online shops.
- Starting training programs for people who want to use computers and such technology in their business enterprises.
- Money transfer etc.
- Offering irembo services etc.
- Manage databases for different companies
- Providing delivery services to other online retailers.
- Tax declaration services, Preparation of financial statements for clients.
- Create companies that train people about information technology
- Develop Accounting software
- Multimedia publishing
- Computer networking
- Graphics design

4.4.2. E- Commerce/Online business



Figure 4.4: Sample online businesses

E-commerce means Electronic Commerce. In some years back, buying and selling of goods involved movement from one place to another (e.g., to the shop or market) and physically meeting between the seller and the buyer.

Today, ICT has extended the scope of buying and selling goods within and outside a country. An e-business / e-commerce is supported by internet services, and it allows businesses to transact without geographical limitations. However, e-commerce presents several advantages and challenges:

Advantages	Disadvantages
<p>It is easy to start and manage an online business</p> <p>It reduces costs</p> <p>It helps consumers to buy products anywhere in the world</p> <p>Easier to audit and monitor</p> <p>No need for buildings</p> <p>Buying and selling is done 24/7</p> <p>It is cheap</p> <p>Electronic commerce can also make products and services available in remote areas</p>	<p>There is no guarantee of product quality</p> <p>It requires internet connection and yet not everyone can be connected</p> <p>Mechanical failures can cause unpredictable effects on the total processes</p> <p>Many firms have had trouble recruiting and retaining employees with the technological, design</p> <p>There are many hackers who look for opportunities, and thus an e-commerce site, service, payment gateways, all are always prone to attack</p>



Application Activity 4.4

Although ICT has led to technological unemployment in some parts, there could be many benefits to entrepreneurs.

- a) Mention some businesses you know, which came up as a result of ICT in Rwanda.
- b) Explain the businesses that you are ready to embark on after discovering the opportunities brought by ICT.
- c) How have these businesses (from a, above) boosted economic development in Rwanda?



Skills Lab 4

Visit a nearby business and investigate the different technology used, reasons for choosing such technology and limitations for using it. Think critically about your business idea and explain the appropriate technology for your business idea.




End of unit 4 assessment:

1. Discuss the pros and cons of labor-intensive technology.
2. Imagine you intend to produce Irish potatoes and sell them both in the local and international markets. If you plan to use e-commerce in your business,
 - i) What 3 E-shops in Rwanda can you contact for advice?
 - ii) Explain the merits and demerits of using e-commerce in a business like that.
 - iii) What appropriate technology do you think you can employ in that business? Give details about your answer
3. Explain how ICT can be of great importance in financial management of your business club

UNIT 5

BASIC ECONOMIC CONCEPTS AND IMPORTANCE OF ECONOMICS IN ENTREPRENEURIAL ENVIRONMENT



 **Key unit competence:** To apply the basic economic concepts in daily entrepreneurial activities



Introductory activity

Case study: Kagabo's Shopping Experience

One day, Mr. Kagabo went to shopping with FRW 50,000. From home to the supermarket, he had no idea of what to buy first, second, and third. All he knew was that once he reached the market, he would buy whatever items his family needed. When he reached Mutoni's Supermarket, he found a variety of interesting goods and Kagabo felt he could buy them all, but his budget wouldn't allow it!

After selecting a few items and adding them to his shopping cart, he contacted Mutoni for an invoice. Mutoni billed Kagabo FRW 185,000. Out of sheer shame and frustration, Kagabo did not comment on whether he would pay for the packaged items or send them back and only take those that he could afford. Mutoni, after observing Kagabo's consumption patterns, happened to pack only a few items that correspond to Kagabo's purchasing power.

She also advised Kagabo to:

1. Make a scale of preference every time he thinks about going shopping,
2. Allocate a reasonable budget for the required items and/or substitute some goods in case of a price conflict.

Kagabo paid the FRW50,000 and went back home. At home, Ms. Kagabo was not happy at all when she found out that her husband had brought unnecessary things.

After observing all of them, Ms. Kagabo took him into the room to have a serious conversation about her future consumption. The following was an excerpt from the statements Ms. Kagabo gave to her husband.

Human needs and desires are unlimited, but the resources to meet them are limited. Therefore, we must use our limited resources properly.

Dear, we live in a world of scarcity. If we need to be economically stable, we should learn to make appropriate choices for our wants and needs.

Read the case study above and answer the following questions:

1. What do you understand-by the following economic terms?
 - Needs and wants
 - Choice
 - Scale of preference
 - Complementary goods
 - Substitute goods
2. What do you think is the relationship between scarcity, choice, and opportunity cost?
3. Why did Mutoni advise Kagabo to replace some of the goods?
4. What impact do you think it would have if Kagabo had sets priorities when shopping?

5. Using vivid examples, explain the importance of creating a scale of preference for Kagabo's family.
6. In your opinion, did Ms. Kagabo study economics?
7. Do you really have to study Economics to know that resources are scarce? Justify your answer.
8. If you were Kagabo, what would you do when Mutoni unpacks and packs your things?

5.1. Meaning, origin, and branches of economics

Learning activity 5.1.



- i) Define the term economics.
- ii) Discuss the origins and branches of economics

5.1.1. Meaning and origin of Economics

Etymologically the word “**economics**” is derived from the Greek word “**oikos**” meaning **household** and “**nomos**” meaning **rules** and the two words were combined into **oikonomos** to literally mean “**rules of household management**”.

Several economists have defined Economics differently. Those definitions vary depending on what aspect the Economist emphasizes. Some of them emphasize **wealth or resources** while others emphasize either welfare or scarcity.

- According to **Jean Baptiste Say**, Economics is the science of production, distribution, and consumption of wealth.
- **Adam Smith** defined Economics as the study of the causes of wealth of nations and nature of wealth and the means through which we can increase production.
- Economics is the study of mankind in ordinary business life. (**Alfred Marshall**)
- -According to **Lionel Robbins**, Economics is a science which studies human behaviour as a relationship between ends and scarce means which have alternative uses.

Robbins' definition emphasizes scarcity as a foundation of Economics, otherwise without scarcity, there would be no Economics.

Even though many definitions of economics have been given, all modern economists agree with Lionel Robbins' definition that implies that Economics is concerned with efficient allocation of resources so as to attain maximum satisfaction from the limited resources.

In brief, **economics** is defined as a social science that studies how scarce resources are allocated in order to satisfy the human competing needs.

5.1.2. Branches of Economics

Economics is divided into two broad branches:

- **Microeconomics-**
- **Macroeconomics.**

i) Microeconomics

Microeconomics refers to that branch of economics which studies individual units such as a consumer, household, firm, industry, and price of a product. Microeconomics examines how the scarce resources are to be allocated among people efficiently.

It covers: Product pricing, Consumer behaviour, Factor pricing, Firm's behaviour, Industry location.

ii) Macroeconomics

Macroeconomics is a branch of economics that studies the overall behaviour of all individuals in the economy. With macroeconomics we determine a nation's overall performance, aggregate demand and supply, national income, international trade, inflation, unemployment.

Macroeconomics covers:

- National income
- General price level
- Employment level
- Level of saving and investment
- Balance of trade and Balance of payment

▪ Difference between micro and macroeconomics

Microeconomics	Vs	Macroeconomics
Microeconomics deals with individual unit and effect of decisions regarding the allocation of scarce resources.	Meaning	Macroeconomics deals with aggregate or large units. i.e., the structure, behavior and decision making in an economy as a whole.
Greek term “mikro” which means small	Derived from	Greek term “makro” which means large
It applies to operations or internal issues	Application	It applies to environment or external issues
Single economic variables such as demand, price, consumer	Concerned with	Aggregates of economy, such as national income, aggregate saving and aggregate output
Narrow (how the price of a particular commodity will affect the quantity of demand and quantity of supplied.)	Scope	Wide (unemployment, monetary fiscal policies, international trade.)
Price determination and allocation of resources	Central problem	Determination of level of income and employment
It ascertains price of a product and other factors of production	Importance	Maintains stability in the general price level and it is helpful in solving various problems of economy (inflation, deflation, unemployment, and poverty.



Application Activity 5.1.

Use suitable economic term(s) to fill the blanks. Choose from the list provided in brackets.

(Microeconomics, Macroeconomics, Scarce resources, Economics)

- i) is a social science concerned with the production, distribution, and consumption of goods and services.
- ii) Economics can generally be broken down into, which concentrates on the behavior of the economy as a whole, and, which focuses on individual people and businesses.
- iii) Economics is the study of how people allocate for production, distribution, and consumption, both individually and collectively.
- iv) Monetary and fiscal policies, international trade is part of the scope of.....

5.2. Importance of Economics

Learning activity 5.2.



Based on the knowledge acquired from the previous lesson, describe the importance of Economics in everyday life.



Fig 5.1: Economics plays a great role in everyday life

- **Dealing with a shortage of raw materials:** Economics provides a mechanism for looking at possible consequences as we run short of raw materials such as wheat, sugarcane.
- **Distribution of resources in society:** To what extent should we redistribute income in society? It helps to reduce the income gap between the rich and the poor.
- **To what extent should the government intervene in the economy?** A critical divide in economics is the extent to which the government should intervene in the economy. Free market economists, like Hayek and Friedman, argue for limited government intervention and free markets. Other economists, like Stieglitz or Krugman, argue government intervention can overcome inequality and the under provision of public goods. For example, should the government provide free health care or is it more efficient to encourage private health care?

- **The principle of opportunity cost:** Opportunity cost is the alternative forgone. To properly evaluate OC, the benefits and costs of every option must be weighed against the others. It helps individuals and organizations to make profitable decisions in business.
- **Knowledge and understanding.** One of the principal jobs for economists is to understand what is happening in the economy and investigate causes of poverty, unemployment and low economic growth. For example, in a political debate such as the advantages of joining the EAC. Economic studies can try and evaluate the costs and benefits of free trade and free movement of labour. Economic studies can try to examine the economic effects of immigration. This can help people decide about political issues.
- **Forecasts:** Economic forecasts are more difficult than understanding the current situation. However, although forecasts are not always reliable, they can help give decision-makers an idea of possible outcomes.
- **Dealing with an economic crisis:** In the 1930s, the Wall Street Crash precipitated a significant rise in unemployment. There was a debate on how to respond. Many western governments increased taxes, tariffs, and benefits. This response caused John M. Keynes to develop a new branch of economics – focused on dealing with a persistent recession.
- **Evaluation:** Economics is not a definitive science like Mathematics. Because of many unknown variables, it is impossible to be definitive about outcomes, but a good economist will be aware that the result depends on different variables, and there are different potential outcomes. This should help avoid an overly ideological approach. For example, a government may have the philosophy ‘free markets are always best’, but an economist would be aware of a more nuanced view that in some markets, like health care, transport, government intervention can overcome market failure and improve welfare. But, at the same time, it doesn’t mean state intervention is always best.
- **Intellectual value:** The study of economics increases a person’s intellectual value. It helps to realize that s/he depends on others to meet her/his daily needs. The thought of dependency develops the cooperative attitude in society. People think in a balanced way; it further improves an individual’s ability to make decisions.
- **Practical purpose:** An individual becomes a better and more efficient consumer, manufacturer, and trader with improved decision-making ability. Economics helps a consumer to control the expenditure in view of his income. Such control brings maximum satisfaction to the consumer. It helps producers to choose a perfect option from the

available resources and optimize the use of the available resources to generate profits. An economy is also very important for business. A good operations manager would need to know how to conduct production analysis so that products can be manufactured at the lowest possible cost and with the highest efficiency. In order to maximize profit, companies must analyze consumer demand and adjust product prices appropriately.

Example: Prices were high for watches when they were on-trend but had dropped when the demand slowly decreased.

Economics helps the sellers and traders to determine the correct price for their goods.

- **Government bodies:** Economics is essential for a government to generate revenue for building, maintaining, and developing a nation's economy. Economics helps governments to design appropriate monetary and fiscal policies as well as tax policies. It is a very supportive factor for the government to make the right decision to ensure stable economic growth with low inflation and the highest possible level of employment.

Example: With the help of fiscal policy, the government can put its spending and taxes in order to stabilize the economy.

In summary, economics is the study of social behavior that guides the allocation of scarce resources to satisfy the unlimited needs and desires of individual members of a given society. Economics seeks to understand how these individuals interact within the social structure to answer key questions about the production and exchange of goods and services. This is particularly important in Developing Countries (DCs).

In DCs where there are scarce resources, income inequality, low life expectancy, inflation, high population pressures, unemployment, etc.; the aim of teaching economics is to give students a grasp on issues and problems poor countries are faced with so that they can be able to formulate appropriate economic policies designed to achieve rapid economic growth and development.



Application Activity 5.2.

Developing countries are faced with scarce resources, income inequality and high unemployment levels. As an entrepreneurship student how can you help the nation to reduce these economic problems in everyday life?

5.3. Basic economic concepts

Learning activity 5.3.



Scan the environment in which your family is located, then respond to the following questions:

1. What do you understand by the following economic terms:
 - a) Economic environment
 - b) Economic activity
 - c) Price
 - d) Wealth
 - e) Demand and supply
2. Identify any three economic agents.
3. Identify any economic activities undertaken in your area.

5.3.1. Economic environment

This refers to various economic activities affecting the business of a nation, that is to say all economic factors that influence the consumer's behavior and institutions such as employment, inflation, interest rate, income ...

5.3.2. Economic activity

Economic activity for an economy is the outcome of the various decisions taken by consumers(households), firms at home and abroad and government.

For instance, we use the term economic activities in order to refer to the activities that involve the production, distribution and consumption of goods and services at all levels within the economy

5.3.3. Economic agents

Economic agents are decision making units in an economy. They are generally classified as follows:

- i. Household:** This refers to people who live together and who take, or are subject to others taking for them joint financial decisions e.g., A family. They are the owners of factors of production and users (consumers) of goods and services. Household members are not necessarily related. Also, people who stay together but do not take joint consumption decisions may be classified as different households.

ii. Firms (Businesses): A firm is a unit that employs factors of production to produce goods and services to sell to households, other firms, central authorities and foreign sectors (exports).

iii. Central authorities (the government): this includes public agencies, bodies and organizations belonging to or owing their existence to the government. They have legal or political power to control firms and households

e.g.: The police, the central bank, the civil service etc. stabilize, regulate, and control firms and households.

iv. Foreign sector: the foreign sector is made up of transactions that take place with other entities outside the country. These include:

- Foreign firms that export to the local economy.
- Domestic firms and individuals exporting to other countries
- International financial institutions such as the World Bank, International Monetary Funds.
- International aid agencies.

The above categorization of economic agents is generalized. For example, in Africa, most farms are both businesses (because they produce commodities from factors of production) and household units (because they consume commodities). Also, when a government invests, it acts as a firm.

5.3.4. Wealth

Wealth refers to the stock of assets and personal skills (human capital) held by an individual, a firm, an organization or a country, at any particular period of time.

- **Characteristics of wealth**

i) Utility: The owner of wealth gets satisfaction from using it.

ii) Money value: Wealth can be expressed in monetary terms.

iii) Scarcity: Wealth is rare.

iv) Transfer: Wealth can change its ownership

5.3.5. Resources

This refers to all factors used to produce goods and services. They include land, labour and entrepreneur, capital and technology.

5.3.6. Commodities

These are produced by factors of production to be sold so that they can be consumed by human beings to satisfy their needs or wants. The persons that carry out the activity of creating or making the commodities are called the **producers** and the activity or the process of making those commodities is called production.

The person who uses the commodities to satisfy his/her needs/ wants is called **consumer**.

The act of using commodities to satisfy human needs/wants is called **consumption**.

5.3.7. Demand and supply

- **Demand** is the amount of goods or services that a consumer is willing and able to purchase at various price levels per period (per day, per week, etc.).
- **Supply** refers to the amount of commodity which the producers are willing to offer to the market for sale at a given price over a specified period.

5.3.8. Economic growth and Economic development

- Economic growth is the persistent quantitative increase in the volume of goods services produced in the country in a period:
- Economic development is the process involving quantitative and qualitative change in an economy leading to increase in real per capita income, better standard of living and economic transformation over a long period.

5.3.9. Price

Price is the monetary value of goods and services per period.

In broad sense, we talk about price to mean what we must give to get what we want but in a monetary economy where we use money to buy whatever we want. Therefore, we must make a difference between *absolute price* and *relative price*

Absolute price is the value of something expressed in units of a currency.

Relative price is the price of a commodity in terms of other commodities. Relative value is a ratio of two prices; for example, “The price of sweet potatoes is half that of Irish potatoes” while absolute price is the price of a good or service expressed in monetary unit.

- **Classification of price**

- **Market price:** A market price is the ruling price for a given commodity in the market at a given time.
- **Normal price (Equilibrium price):** This is a price at which a quantity supplied is equal to quantity demanded.
- **Reserve price:** This is a price below which a seller is not willing to sell his product or the least possible acceptable price, that is to say, the lowest price the seller can accept for the commodity.

- **Methods of price determination in the market**

In the market, prices may be determined by the following methods:

- Bargaining/Haggling:** This is where a prospective buyer and seller approach each other and decide a price between two stated limits. The seller keeps on reducing the price and the buyer keeps on increasing the amount he is willing to pay. The process of bargaining continues until the buyer and the seller agree on the same price.
- Fixing by treaties:** Here, buyers and sellers come together to fix the price of a commodity. The price agreed upon can later be revised by amending the treaty. For example: the price of coffee used to be fixed by the International Coffee Agreement
- Sales auctioning:** This takes place when there is one seller and many buyers. Buyers compete for the commodity by offering higher prices. This commodity is taken by one who pays the highest price. The government can fix prices at which goods are sold and bought either above equilibrium price (price floor or minimum price) or below the equilibrium price (price ceiling or maximum price).
- Offering at fixed prices:** Prices are fixed by the seller and there is no bargaining.
- Collusion:** Concerning collusion, firms may come into an arrangement and fix the price of a commodity to avoid underselling each other.

vi) Resale price maintenance: Setting of prices by manufacturers for retailers to the consumer. For example, airtime cards, newspapers etc.

vii) Forces of demand and supply: In a free economy, prices are determined by the force of demand and supply. With graphical illustration, the price is determined at the point where demand and supply curves meet.

5.3.10. Economic Goods and Needs /Wants

Goods are tangible things which satisfy human needs/wants e.g.: food, clothing, vehicles, and tables. The goods can be classified into different categories according to:

i) Their stage of production

- **Raw materials:** these are the goods kept by a manufacturing firm to be utilized in the production process.
- **Semi-finished products/goods in process or intermediate goods** are the goods which are used in the process of production such as raw materials.
- **Final goods:** These are goods which are ready for use by consumers.

ii) Their destination

- **Capital goods (producer goods):** these are goods that have been produced for use in the production of other goods. That is why they are also called producer goods.
- **Consumer goods:** these are commodities purchased by households to satisfy their needs or wants. They may be durable or non-durable.

iii) Their origin

- **Material good:** These are goods you can touch and see (tangible goods)

For example: clothes, car, TV

- **Immaterial goods:** These are intangible goods i.e., invisible goods (services). For example: All kinds of services such as education, transport, medical treatment, etc.

iv) Their duration

- **Durable goods:** goods that last for a very long period. For example:

a car

- **Non-durable goods:** goods that last a short period (perishable goods). For example: Fresh tomatoes, Bread
- **Semi-durable goods** are tangible goods that are normally used in one or short period. Example: food

v) Their relationship

- **Substitutes goods:** These are goods which can be used alternatively, for example: Peas and beans.



Figure 5.2: Peas can replace beans and satisfy the same needs

- **Complement goods:** These are the types of goods that are used together. To get the full utility of one good, the other complementary good must be used along with it. For example: a car and petrol are two complementary goods. The goods may be also categorized in the following ways:



Figure 5.3: Complementary goods like a notebook and pen are used together

i) Economic goods and free goods

- **Economic goods** are tangible things which satisfy human needs/wants. These arise out of scarcity and choice and can only be obtained at cost.
- **Free goods** are the goods which exist in abundant amounts such that one's desire can be satisfied at zero price.

▪ Characteristics of economic goods

- They provide satisfaction to the consumer.
- They must be relatively scarce.
- They must be marketable.
- They have opportunity cost
- They must have ownership and be able to change ownership

▪ Characteristics of free goods

- They are gifts of nature
- They exist in natural abundance
- They possess utility
- They are consumed at zero price
- They must have value

ii) Public goods and Private goods

- **Private goods or services** are goods enjoyed exclusively by a single individual. In other words, they are commodities whose consumption by an individual does reduce the supply available to others. These goods that belong to private individuals. For example, private cars, personal houses, etc.
- **Public goods:** they are commodities whose consumption does not reduce its availability to others in society. They are owned by the government on behalf of citizens and enjoyed collectively.

Examples include public roads, bridges, streetlights etc.



Free good

- Good with no opportunity cost, e.g. water, air.



Economic good

- A good with some benefit to society and an opportunity cost. It can include both private and public goods.



Private good

- Rivalry, and excludability, e.g. coca-cola



Public good

- Non-rivalry, non-excludable. e.g. street lights, justice system

Figure 5.4: Classification of goods

iii) Mixed goods and Quasi-public goods

- **Mixed goods** are commodities which have both private and public content.

e.g., a television (a private property) has some public good content because neighbors and friends may also be invited to watch.

- **Quasi-public goods:** These are goods whose consumption is open to all limited or restricted by certain conditions like merit, cost or circumstances i.e., they are goods whose consumption depends upon the ability to meet the condition or standards for their consumption and when they are consumed by individuals, the whole society benefits. E.g. Education.

iv) Merit goods and Demerit goods

- **Merit goods** are commodities for which the social benefits of their consumption to the community, exceed the private benefits to the consumer. They can be in the private hands, but they are controlled by the government because of their social benefit.

E.g.: Education, Public health, etc.

- **Demerit goods:** These are goods/commodities which are viewed as socially harmful.

e.g.: alcoholic drinking, tobacco etc.

The government can discourage their consumption by imposing taxes on them or introducing a law banning their consumption.

v) Services: These are intangible things which satisfy immaterial needs/wants. They include:

- Personal services: these are provided personally by doctors, teachers, musicians etc.
- Commercial services: these are related to trade and aids to trade. They are provided by institutions like advertising agencies, insurances, banks etc.

Needs and wants

An economic need is any desire for goods and/or services for human beings to survive. The attempt to satisfy them forms the basis of all economic activities (production, exchange, distribution and consumption).

- **Wants:** These are the desires for goods and /or services for human beings. You wish to satisfy them but even if you do not get satisfaction, your life is not at stake. There are two categories of wants.
 - **Material wants.** Are those that can be satisfied by consumption of goods e.g., car, TV, watch etc.
 - **Immaterial wants.** Are those that can be satisfied by services, e.g.: transport, tourism, entertainment, telecommunication etc. Wants can also be classified as private and public wants.
 - Private wants are the desires of individual persons
 - Public wants are collective desires of society which are satisfied by public goods like roads etc.

Characteristics of needs

The needs are characterized by the following features.

- i) Needs are variable: Human needs are dynamic and change with time, place, climate and individuals.
- ii) Needs are unlimited in number: A satisfaction of one need creates another need. No human being is satisfied with all kinds of needs.
- iii) Needs may be ordered according to a scale of preference.
- iv) Needs are substitutable: Some needs are mutually exclusive according to the law of needs substitution.

- v) Needs are complements: Some needs are interrelated or jointly expressed so that a presence of one creates another.
- vi) Needs are also capable of being satisfied once the consumer has got what he/she needed

Abraham H. Maslow, an American, has developed a theory of motivation on the basis of human needs and he classified needs into a sequential priority from the lower to higher level. According to him the needs are classified into five types or categories:

- i) **Biological/Physiological needs/basic needs:** These are necessary needs to human life, and they include Food, drinks, air, sex, sleep, clothing, shelter, sleep, etc.
- ii) **Safety needs/security needs:** After satisfying the basic needs, safety needs are felt next, they involve economic security and protection from physical danger and provision of a safe and secure environment. In other words, need for security consists of physical safety or protection against murder, fire, accident etc. and economic security against unemployment, theft, old age, disability etc.
- iii) Economic security is provided through pension plans, job security, insurance plans, safe and healthy working conditions.
- iv) **Psychological / Love/Social needs:** These are concerned with an individual's need for love, friendship and affection or belongingness. They involve a need for recognition and acceptance by other people (relationship and sense of belonging)
- v) **Esteem/ Ego needs:** Ego or esteem needs are of two types
 - **Self-esteem:** This implies needs for self-respect, self-confidence, feeling of personal worth and independence.
 - **Esteem of other:** This refers to needs for recognition, status, power, prestige, achievement etc. The organization can help in satisfying such needs through job title, praise, promotion etc.
- vi) **Self-actualization:** This need is also called for self-fulfillment or self-realization. It is concerned with an individual's personal development and creativity, i.e. the ability to achieve one's full potential to meet the needs of the community.



Figure 5.5: Maslow's hierarchy of needs

Exercise about needs and wants

On a monthly basis, Mr. Munana has a list of items that he must satisfy with his monthly earnings. From his income, he must pay rent, food, school fees for his children, medication, and transport to and from work.

He also wishes to buy a smartphone, go out for a picnic with his family, buy jewelries for his wife and plait his daughter's hair.

Required:

- Based on the above scenario, identify Mr. Munana's needs and
- wants.
- Which of the two is basic and which is not? Support your answer.
- Suppose you are the one, which ones (from (a) above) would you satisfy first? Justify your answer.

5.3.11. Economic systems

Economic system or socio-economic organization refers to the organization of ownership and allocation of resources in an economy.

The major types of economic systems are as follows:

- **Free enterprise economy/Capitalist economy:** This is also called unplanned or a competitive economy or capitalism. The French called it Laissez faire which means leave us alone implying no government intervention.

The theory of free enterprise economy was first explained by Adam Smith in 1776 in his book, the **nature and causes of wealthy Nations**". In such an economy, most of the resources are owned by the private sector (companies and individuals) which is free to take all the economic decisions like how to produce, when to produce, for whom to produce, etc. with no government intervention. A free enterprise economy is characterized by the following features:

- i) There is private ownership of property and factors of production
- ii) There is no government intervention in economic decisions. This implies that the major economic decisions such as what, when where and how to produce are made by market forces of demand and supply, through price mechanism
- iii) There is profit motivation in the production process. People engaged in the production process do so with the main aim of getting profit out of the business.
- iv) There is a lot of competition in the economy. This is because production is profit oriented
- v) There is freedom of choice and enterprise in the economy, since the government has limited control
- vi) There is the presence of social class (The rich) own factors of production. The low social classes (The poor) are the majority. They are the workers who do not own factors of production.
- vii) The market forces of demand and supply determine prices.

Advantages of a free enterprise economy

- i) In a free enterprise economy, there is competition thus improving efficiency in production of goods of better-quality production

- ii) Free enterprise economy promotes consumer sovereignty. Consumers influence the production process.
- iii) It encourages people to work hard for better living and resource accumulation
- iv) There is increased output since producers produce and supply more goods and services to earn more profits.
- v) Efficiency of firms in a free enterprise economy increase the level of employment because of increased employment
- vi) There is optimum allocation of resources. Resources are allocated where they are highly demanded. As a result, inefficiency firms are driven out of the industry.
- vii) It reduces the burden of government participation in resource allocation.

Disadvantages of a free enterprise economy

- i) It creates income inequalities in society. This is because the few who own the means of production will become richer as majority becomes poor
 - ii) Free enterprise economy tends to encourage capital intensive technology. This leads to technological unemployment
 - iii) It leads to creation of monopoly power because of inefficiency firms being driven out of production, due to competition
 - iv) It leads to misallocation of resources. It may encourage production of luxurious products that are demanded by the rich.
 - v) Production in a free enterprise economy is profit motivated which leads to exploitation of consumers in the form of high prices.
 - vi) Due to absence of government intervention, there is a high degree of duplication of goods and services.
- **Centrally planned /Command / Planned economy/Socialist Economy:** This is an economic system where resources are owned, allocated and distributed by the central planning authority (government) on behalf of the citizens. The government, on behalf of the citizens, takes all economic decisions.

In such an economy, most of the resources (except labour) are owned by the state on behalf of its citizens. Economic decisions on what to produce,

when, how, for whom etc. are taken by the state (government or central authorities). The extreme case of socialism is communism, the society of plenty and equality. A planned economy is characterized by the following features:

- i) There is public ownership of all productive resources such as land.
- ii) A central planning authority carries out all decisions on production resource allocation and distribution.
- iii) There is no freedom of individuals to operate their own enterprises.
- iv) The major economic activities in the economy aim at offering services to the citizens
- v) The state owns and operates the means of production in the economy.

Advantages of a planned economy

- It is easy to implement government policies, as the government is in direct control of production.
- It reduces income inequalities. A planned economy eliminated private ownership of property and completion.
- It can lead to efficiency in production. This is because production is directed by the state in order to achieve social objectives.
- It promotes social welfare. The objective of production is not profit maximization but achieving the best for the community.
- It promotes economic stability. All economic decisions are carried out by the central planning
- Consumers are protected from exploitation. Essential services are cheaply provided by the state.
- Disadvantages of a planned economy
- Planned economy is characterized by production of poor-quality products. This is due to absence of competition from the private sector and failure to respond to consumers' demand. A planning authority set out production targets.
- There is a lack of motivation and individual initiative. This leads to limited innovation in the production process.
- Central planning under planned economy results in bureaucracy. This leads to delays in decision making, thereby wasting time and promoting inefficiency.

- There is a lack of consumer sovereignty in a planned economy. The right of a consumer to determine the process of resource allocation does not exist in a planned economy. Freedom of choice is also limited.
- it increases administrative costs on the part of the government. Government agencies will be actively involved in allocation and distribution, all of which increases costs to the government.

This system tends to be characterized by mismanagement of resources. This is because corruption and nepotism are always rampant.

In reality there is no pure capitalist economy or pure socialist economy. Briefly speaking, all economies are mixed. The given classification to either capitalist economy or socialist economy depends on the degree of government intervention in making economic decisions. France and United State of America are capitalist economies because of low degree of government intervention, China is a socialist economy because high degree of government intervention

- **Mixed economic system:** This is an economic system in which both the state and private sector own resources and participate in resource allocation. Both the government and the private sector participate in making economic decisions.
 - A mixed economic system is characterized by the following features:
 - There is co-existence of the private sector and the public sector. Thus, both the government and the private sector own resources.
 - There is an existence of both the planning authority and price mechanism in resource allocation.
 - There is equal existence of social welfare objectives and profit maximization objectives. In the public sectors, production aims at the wellbeing of the society. In the private sector, production aims at profit maximization.
 - In a mixed economy, the government sets guidelines for the private to flow as they engage in the production process.
 - There is freedom for enterprise, with some minimal level of government interference.

Advantages of a mixed economy

A mixed economy offers more employment opportunities from both the government and private sector

- A mixed economy promotes fair distribution of resources due to government intervention in allocation resources
- It promotes regional balance in development since government intervention reduces the influence of price mechanism in resource allocation.
- There is control of monopoly tendencies in the economy by the anti-monopoly policies set by the government
- It promotes stability in price because of the price control measures that the government puts in place in a mixed economy.
- There is increased investment in mixed economies because the private sector is promoted
- There is proper allocation of resources due to the existence of the central planning authority. This body ensures that resources are allocated in the most efficient manner.
- Under a mixed economy, the government provides public goods and services, which would not be provided by the private sector alone.



Application Activity 5.3

1. Categorize the following products into goods and services, with supporting reasons: Cars, education, healthcare, houses, communication, chairs, beds, refrigerators, flasks, textbook, pens, tourism, entertainment, banking, research.
2. Examine the contribution of each economic agent towards the development of the economy.
3. Identify, with vivid examples, the economic system to which your country belongs.



Skills Lab 5

Using typical examples, defend the various methods of fixing commodity prices in your local markets.

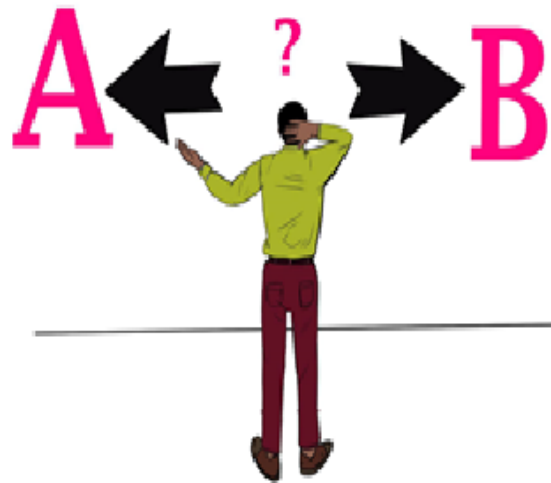



End of unit 5 assessment

1. a) Economics was defined by many economists differently, which one do you think is most appropriate and why.
b) Explain why you would put more strength in studying Economics.
2. a) Distinguish between wealth and welfare. Show the relationship between the two.
b) How does individual and business wealth affect society wealth?
3. a) Explain the role of the various economic agents in the development process of any economy.
b) Describe how the various economic agents are organized to allocate resources in an economy.

UNIT 6

FUNDAMENTAL PRINCIPLES OF ECONOMICS



 **Key unit competence:** To be able to apply fundamental economic principles in daily business life



Introductory activity

Human beings hardly get satisfied in life. Those who are unemployed wish one day to be employed. The employed on their part, wish to get a promotion and a salary increase. Those with small vehicles desire to own bigger vehicles like Toyota Prado. Those owning bigger vehicles wish they could own jets. People living in rural areas want to move to urban areas, while those in urban areas want to own land in rural areas. Countries too desire to own some assets but they cannot access them.

- Identify other scenarios showing that human beings, families or governments are never satisfied.
- Why is this always the case?
- Suggest any solution(s) to the above scenarios.

6.1. Meaning and relationship of fundamental principles of Economics

Learning activity 6.1



Case study: Read the short conversation provided below and use it to answer the questions below:

John: Good morning my friend?

Muhire: Good morning to you.

John: You look moody today. What is the problem?

Muhire: I have FRW 40,00 only. This morning, I went to the market to buy 25 Kgs of rice, Mayonnaise, the school uniform for my son Rugwiro, and some scholastic materials for his sister Keza. Unfortunately, I found that there was a deficit of FRW 15,000

John: Ooh, sorry my friend. Resources have never been sufficient. You should prioritize your needs and buy what is fitting in your financial means. For example, you can just buy 15 kgs of rice, pay for the school uniform for Rugwiro, and buy some scholastic materials for Keza. Mayonnaise shall be bought late alone!

Muhire: John! That's great advice.

John: Listen! On top of that, you can just buy avocados to replace U.S. Mayonnaise. Avocados are cheap, and good for human health compared to industrial Mayonnaise. That is how I deal with such situations when I have insufficient money to buy all I need.

Muhire: Now, I can see why you are always happy. Thank you so much. Now I will always make choices of what to buy at a time with scarce financial resources.

Questions:

1. Using the conversation above and the knowledge acquired in senior one (Unit 4: Concept of needs, wants, goods and services), explain the following:
 - a) Scarcity
 - b) Choice
 - c) Opportunity cost
2. Using your own example, discuss the relationship between scarcity, choice, and opportunity cost.

6.1.1. Meaning of fundamental principles of Economics

Human wants are unlimited and the resources to satisfy them are limited. As a result, the fundamental principles of economics explain this concept. These principles include scarcity, choice and opportunity cost. They further show the fundamental problems of human beings in their bid to try and use the scarce resources to satisfy the unlimited wants.

a. Scarcity

This refers to the limited supply or insufficiency of resources in satisfying the needs of an individual, family, or state, in relation to the unlimited wants. Due to the problem of scarcity, one must make rational choices by satisfying the most pressing wants first and then the least pressing ones last.

As a result, there is a need to prioritize by making a list of one's wants in order of satisfying. In the list, the most pressing needs are put at the top to be satisfied first, and then the less pressing ones are put last on that list. This list is known as the scale of preference.

b. Choice

Choice refers to the act of making a right decision at the right time to use limited or scarce resources to satisfy the unlimited wants. For instance, a student who has a limited amount of money can opt to buy a textbook to use in the classroom, rather than buying sports shoes to be wearing over the weekends.

c. Opportunity cost

Opportunity cost arises out of scarcity and choice. When choice is made, it means that some wants, and needs are left unsatisfied. They are foregone. The immediate alternatives foregone when choice is made is called **opportunity cost**. Opportunity cost is what you miss when you make a choice.

In nutshell, scarcity leads to choice, and choice creates opportunity cost.

6.1.2. Production Possibility Frontier (PPF) curve

A production possibility frontier (PPF) is a locus of points showing the possible combinations of two commodities that can be produced when all the resources are fully utilized. It is also called the **transformation curve** or the **opportunity cost curve**.

a. Assumptions of the PPF curve

- It assumes that only two commodities are produced
- It assumes that the level of technology is fixed and constant
- It assumes that all resources are fully utilized
- It assumes that similar resources will be used to produce both two goods.

b. Importance of the PPF

- The PPF shows whether there is economic growth or decline in the country. An outward shift indicates economic growth.
- The PPF shows the rate of unemployment by showing the rate at which resources are employed or utilized. Points along the PPF show full employment and utilization of resources. Points inside PPF show the unemployment and underutilization of resources.
- The PPF shows the combination of goods and services that can be produced in an economy
- It indicates technological advancement within an economy. When the level of production increases, the PPF shifts outwards. This indicates technological advancement.

The hypothetical production possibility schedule

Combination	Quantity of X	Quantity of Y
A	0	200
B	50	190
C	90	150
E	95	120
F	100	0

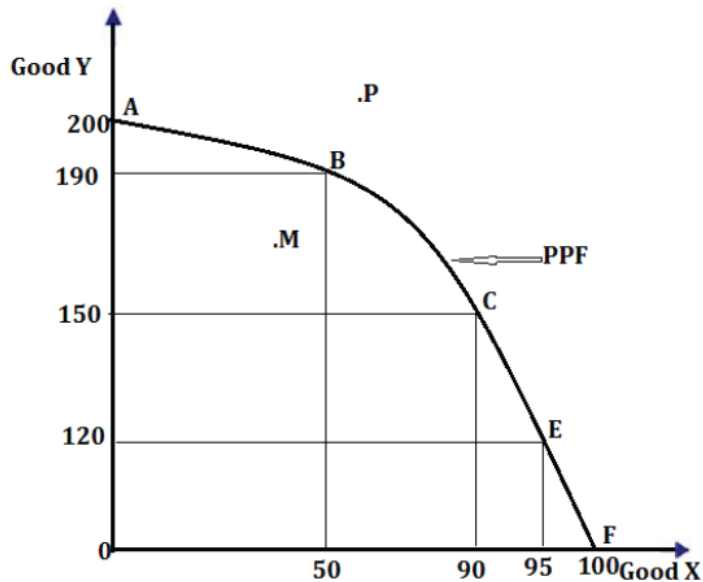


Fig 6.1: A PPF curve

In the above illustration, A and F are the possibilities in which the producer can produce either 200 units of Good Y only or 100 units of Good X only with given resources. However, the assumption is that both are produced. There are therefore various combinations A, B C, E and F that can be produced.

On combination A, only good Y can be produced and nothing of X; at B, 190 units of Y and 50 units of X; At point C, 150 units of Y and 90 units of X; at E, 120 units of Y and 95 units of X; while at F, 0 units of Y and 100 units of X are produced.

The PPF shows that when more units of Good X are produced, less units of Good Y are produced. This implies that the producer withdraws some resources from the production of Good Y and uses them in producing more units of Good X. This transforms resources producing Good Y into production of Good X. It is for this reason that the curve is also called a **transformation curve**.

Point M inside the PPF, indicates that the level of output is attainable but undesirable. This is because rationality requires that one prefers more to less. Point P outside the PPF, is not attainable using the available resources. However, it may be attained should the available resources be increased.

6.1.2. Relationship between scarcity, choice and opportunity cost

The PPF indicates what is attainable and what is not attainable given the level of resources. Due to scarcity of resources, a producer cannot produce the maximum level of output for the two goods at once. The producer makes a choice to either produce more of Good X and less of Good Y and vice-versa. If the producer produces more of Good X he foregoes units of Good Y (opportunity cost) as shown by the PPF.

a. Shifts in the PPF

The PPF may shift inwards or outwards. A shift of the PPF inwards indicates economic decline while a shift outward indicates economic growth.

b. a shift of the PPF curve outwards and inwards

Example

The table below shows a cooperative producing alternative combinations of potatoes and beans in tonnes per period.

January- March		April- June		July-September	
Potatoes	Beans	Potatoes	Beans	Potatoes	Beans
5	0	10	0	15	0
4	10	8	20	12	30
3	18	6	36	9	54
2	24	4	48	6	72
1	28	2	56	3	84
0	30	0	60	0	90

The information in the table is presented graphically. We measure tonnes of beans on the Y axis and potatoes on the X axis.

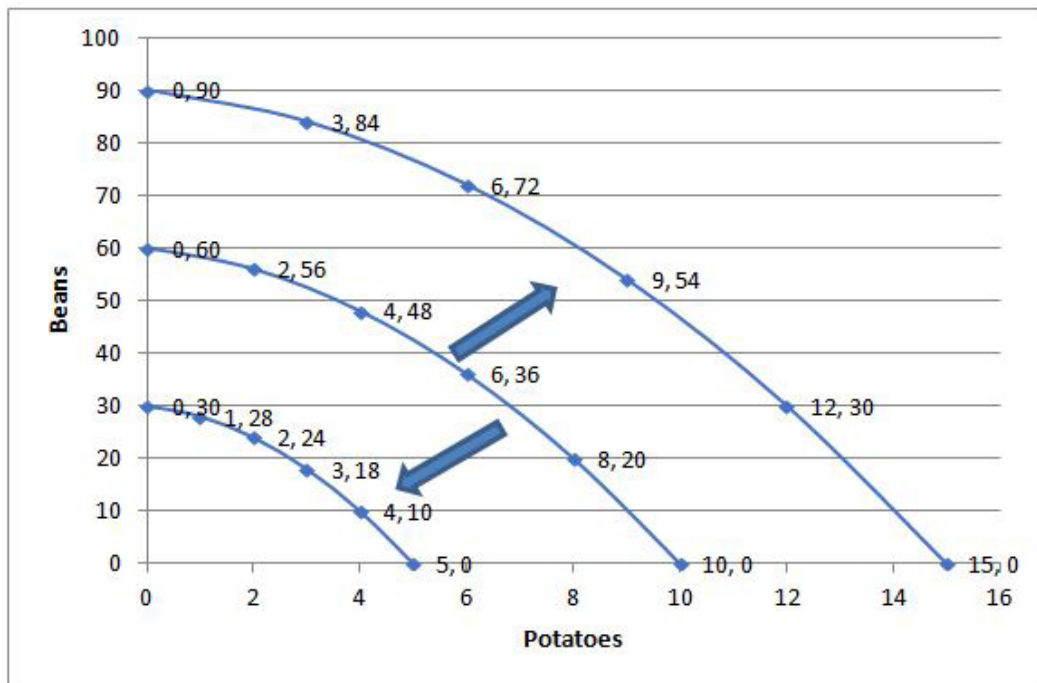


Fig 6.2: outward & inward Shift in the PPFcurve

Let us assume all the resources are used to produce just two goods, potatoes, and beans. Various possible combinations that could be produced in each month are shown in the above table. For instance, the cooperative in the months of January-march, by using all its resources to produce, could produce 5 tonnes of potatoes but no beans. Alternatively, in the months of April-June by producing, say 48 tonnes of beans it could release enough resources to produce 4 tonnes of potatoes. At the other extreme in the months of July-September it could produce 90 tonnes of beans without any resources being used to produce potatoes. An outward shift from Y60, X10 to Y90, X15 indicates **economic growth**. This may be due to any of the following reasons:

- Discovery of new natural resources.
- Advancement in technology that leads to production of more goods and services
- Expansion of markets that encourage production of more goods and services.

- Improvement in the skills of labour that results into efficiency in production
- Increased investment as a result of improved entrepreneurship skills

The fact that to produce more of one good involves producing less of the other is illustrated by the downward sloping nature of the curve. An inward shift from Y60 X10 to Y30 X5 indicates an **economic decline**. This may be due to any of the following reasons

- Lack of new natural resources.
- Decline in the invention and use of technology that leads to production of poor quality and fewer goods and services.
- Decline in the markets which discourages production of more goods and services.
- Decline in the availability of trained manpower, through retrenchment of workers. This results into less output and inefficiency in production.
- Decreased investment because of poor entrepreneurship skills.



Application Activity 6.1

Keza Ltd produces two varieties of shoes: Sandals (Y) and Boots (X). It can produce the following quantities using the same level of resources

Combination	Quantity of boots (X)	Quantity of sandals (Y)
A	0	200
B	75	175
C	125	130
D	150	70
E	160	0

Questions:

- Discuss what the firm can do to increase production of Boots (X).
- Derive the Production Possibility Frontier (PPF) by plotting the quantities of Y on the y-axis and the quantities of X on the x-axis. Later, join the points.

6.2. Fundamental economic questions

Learning activity 6.2.



Case study

Inyange Industries Ltd is a firm that deals in production of milk, ghee, juice, and bottled water. In starting the firm, proprietors made several choices concerning its location, the tools, and human resources to employ, the time to engage in production, and the kind of goods to produce. They also identified the consumers of their products.

Identify and discuss the various economic questions answered by Inyange Industries in the above case study.

In allocating resources in the production of goods and services, countries and production firms face a number of fundamental economic questions. These fundamental economic questions include:

a. What to produce?

Here the firm needs to decide on the nature of the goods to produce. The firm may decide to produce capital goods or consumer goods.

b. How to produce?

The producer must decide on the methods and techniques to be used in the production process. The producer may decide to use capital intensive techniques of production or labor-intensive techniques of production. The technique of production minimizes costs while at the same time maximizes the level of output.

c. When to produce?

The producer is required to decide whether to produce now or to produce in future. The producer is normally guided by the demand for the producer in the market. The best time for production is when the demand for the goods or services is the highest.

d. Where to produce?

The producer has to determine the location of his or her firm or industry. The location will depend on availability of the market, the source of raw materials, security and transport and communication networks. All in all, a thorough assessment of the impact of that firm to the environment must be carried out and evaluated.

e. For whom to produce?

The producer considers the target consumers that will be using the goods to be produced. The produce may be for the young, the rich, the poor, and the rural people or for the urban people.



Application Activity 6.2

Think of a possible business you intend to start after your secondary education, and answer the following economic questions:

- i) What will you produce?
- ii) How will you produce it/them?
- iii) When will you produce it? Why?
- iv) Where will you locate your business? Why?
- v) Who will be your target consumers?
- vi) Why is it important to ask economic questions before an entrepreneur starts a business or production?



Skills Lab 6

Visit your business club, use some data extracted from the books of the business club you are a member of, to do the following:

- Explain the relationship among scarcity, choice, and opportunity cost.
- Illustrate the PPF curve for the business club.



End of Unit 6 assessment:

1. What are the fundamental economic principles?
2. Mutoni has one acre of fertile land on which she can grow tomatoes and cabbages. She divided the land.

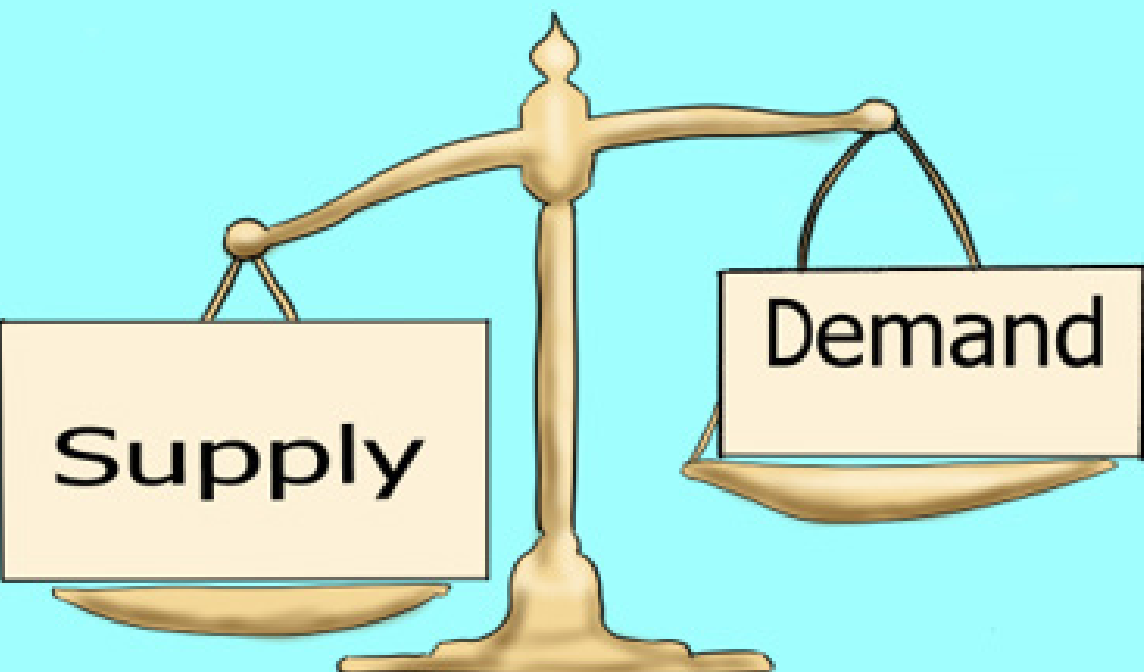
Year	Cabbages (Kg)	Tomatoes (Kg)
2018	0	125
2019	160	85
2020	400	0

Questions:

- i) Plot the information on the graph. Plot quantity of tomatoes on the x-axis and cabbages on the y-axis.
 - ii) What is the maximum quantity of cabbages that Mutoni can harvest when she uses all the land for growing cabbages?
 - iii) What is the maximum quantity of tomatoes that Mutoni can harvest when she uses all the land for growing tomatoes?
 - iv) Identify any other three points on the curve and name them a, b and c
 - v) Estimate the output combinations of cabbages and tomatoes at the point a, b and c.
1. In not more than 200 words, discuss the major economic questions that an entrepreneur has to answer as he or she prepares to engage in production.

UNIT 7

THEORY OF DEMAND AND SUPPLY





Key unit competence: To be able to analyse demand and supply Conditions in the market to make right economic and entrepreneurial decisions



Introductory activity

Case study

During scarcity of some commodities when prices are high, the government intervenes in fixing the prices so that the consumer cannot suffer from those highest prices. However, this doesn't happen all the time when the government has adopted the mixed economy. Additionally, another intervention happens when the government needs to protect producers from closing their doors due to excess supply which results in lower prices. Under this circumstance, the government can either fix the prices you cannot go below or subsidize some goods so that the prices could be affordable.

In the past month of March to April 2022, the number of trucks carrying fuel from the Mombasa port in the Republic of Kenya into Rwanda reduced. It was said that the cause of this fuel crisis was simply the Russia-Ukraine war. At pump stations countrywide, Fuel was very expensive since it was scarce. If the government had not acted quickly to address the situation, pump fuel prices would have shoot up tremendously.

Required:

1. Based on the case given above, Discuss the effect of scarcity of fuel on:
 - i) The pump price of fuel.
 - ii) The price of commodities in the markets countrywide.
 - iii) The amount of goods and services that people can be able to purchase.
2. Analyse the last paragraph in the passage above and explain the ways in which the government used 'to address the situation'
3. Identify the different commodities used in your daily life.
4. Suggest the current market prices for each commodity identified.
5. How would you react if the prices of the commodities listed above doubled?
6. Discuss and explain how the above prices are determined in a market.

7.1. Theory of demand

7.1.1. Law of Demand, Demand schedule and Demand curve

Learning activity 7.1.1



The following is the demand for sugar by Albert, Bernard, Cecile, and David at different price levels in different periods (Months) in the market of Gicumbi:

Period (Months)	Price (Frws)	Quantity demanded by			
		Albert	Bernard	Cecille	David
1	1200	24	26	20	24
2	1600	18	20	14	18
3	2000	14	12	10	14
4	2400	8	6	4	8
5	2800	2	2	0	2

From the given data answer the following questions:

- What is your observation about the change in prices and quantity demanded?
- Draw a separate table for each consumer
- On each separate table, design its demand curve to show how the given consumer responds to changes in price.
- Using the table drawn for each consumer, derive the curve that shows how all consumers in Gicumbi market respond to changes in market prices.
- Knowing that a curve drawn for each consumer is called “ an individual demand curve, suggest an appropriate name for a curve that shows how all consumers in a market respond to change in price.

i) Meaning of key terms

- **Demand** is the amount of goods or services that a consumer is willing and able to purchase at various price levels per period (per day, per week, etc.).
- **Effective demand/ Quantity actually demanded** refers to the amount of commodity actually available and purchased at various price levels in a given period,

- **Ineffective demand/Latent demand** refers to the desire that is not backed by ability to buy something.
- **Quantity Demanded** refers to the amount of commodity the buyers are willing and able to buy at various price levels at particular time.

ii) Demand function

It is a statement of the technical relationship between quantity demanded of a commodity and those determinants of demand.

$$Q_{dx} = f(P_x, P_{n-1}, Y, T, S, G, \dots)$$

Where: Q_{dx} = Quantity demanded of commodity x

P_x = Price of commodity x

P_{n-1} = Price of another commodity

T = Tastes and preferences

S = Season

G = Government policy

a. Law of Demand

The law of demand states that other factors remain constant (*ceteris paribus*), the higher the price of a commodity, the lower the quantity demanded for that commodity and the lower the price the higher quantity demanded of that commodity.

It is commonly known that when the price changes, the demand for commodity also changes. “*Ceteris paribus*, When the price of a commodity increases, quantity demanded reduces “.

Ceteris Paribus: This concept is a Latin phrase or concept meaning “other factors remaining constant”. Most of the time we use it to show that the statement, law, theory or analysis stands if we assume all those factors do not interfere.

Example: The quantity demanded of a commodity will increase when its price falls, ***ceteris paribus***.

This means:” the quantity demanded of a commodity will increase when its price falls, assuming other factors are constant “quantity demanded will decrease when its price increases or rises.

b. Demand schedule

This refers to a table that shows the various quantities of commodities that are demanded at different price levels in given period.

Demand schedule can be compiled for an individual or for a group of individuals

Demand schedule is classified into:

- Individual demand schedule: this refers to a table that shows the relationship between price and quantity demanded of a commodity for an individual. As the price increases, the quantity demanded reduces and vice versa, other factors remaining constant.

Example:

Demand schedule for Mugisha		Demand schedule for Gakire		Demand schedule for Rukundo	
Price of sugar (Frw)	Quantity demanded (Kgs)	Price of sugar (Frw)	Quantity demanded (Kgs)	Price of sugar (Frw)	Quantity demanded (Kgs)
400	6	400	11	400	7
450	5	450	9	450	6
500	4	500	7	500	5

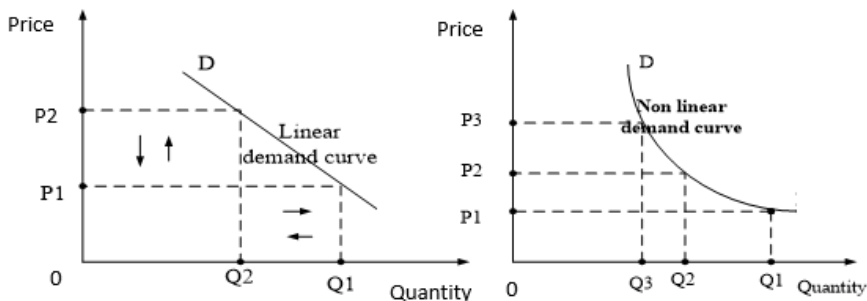
- Market demand schedule: is a table that shows the total quantities demanded by all consumers in the market at different price levels in given period.

Market Demand Schedule	
Price of sugar (Frw)	Quantity demanded (Kgs)
400	24
450	20
500	16

c. Demand Curve

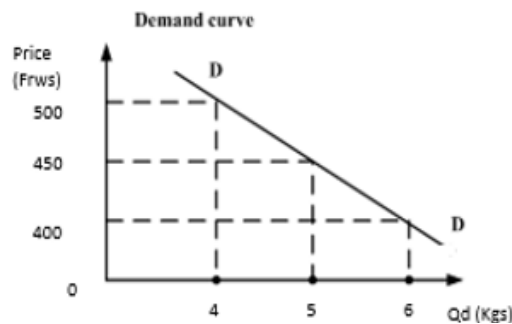
This is a graphical representation of the relationship between the price of a commodity and the quantity demanded of that commodity. It is the locus of points showing quantity demanded of a commodity at various price levels per period. To draw it, we plot price of commodity on the Y-axis and the quantity demanded on the X-axis. The normal demand curve slopes downwards from left to right.

The demand curve may be linear or non-linear:

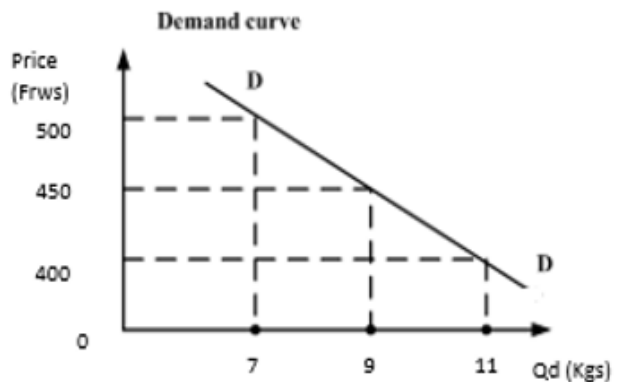


Illustrations: Demand schedule and demand curves

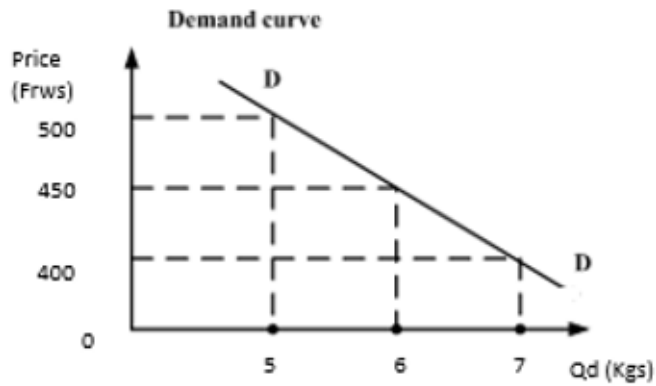
Demand schedule for Mugisha	
Price of sugar (Frw)	Quantity demanded (Kgs)
400	6
450	5
500	4



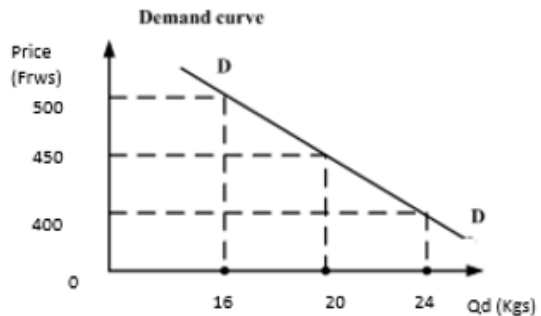
Demand schedule for Gakire	
Price of sugar (Frw)	Quantity demanded (Kgs)
400	11
450	9
500	7



Demand schedule for Rukundo	
Price of sugar (Frw)	Quantity demanded (Kgs)
400	7
450	6
500	5



Market Demand Schedule	
Price of sugar (Frw)	Quantity demanded (Kgs)
400	24
450	20
500	16



d. Real income effect

An increase in the price of a commodity decreases the buyer's real income as the purchasing power of money income reduces, and a price decrease leads to an increase in real income.

Example:

Kalisa's Income (Frws)	Price of primus (Frws)	Qd of soda (Unit= bottle)
4000	1000	4
4000	2000	2
4000		8

e. Substitution effects

As price increases, demand falls as consumers shift their demand to relatively cheaper substitutes

Example:

Peas		Beans	
Price (Frws)	Qd (Kgs)	Price (Frws)	Qd (Kgs)
600 Fr	120	600 Fr	120 kg
700 Fr	80	600Fr	160 kg
Price increases	Qty Demanded falls	P constant	Qty Demanded increases

When price of one commodity increases quantity demanded of that commodity reduces, and for its substitute's commodity the price remains constant, the quantity demanded of the substitute increases.



Application activity 7.1.1

Assume that the Mulindi Market is made up of only four consumers namely Rukundo Family, Kayiranga Family, Mutesi Family and Gatesi Family who buy maize flour as indicated in the table below:

	Name	FRW 400 per Kg	FRW 500 per Kg	FRW 800 per Kg
Quantity demanded by	Rukundo	34	30	24
	Kayiranga	40	30	28
	Mutesi	30	24	20
	Gatesi	40	30	28

Required :

- a) Construct the household demand schedule and market demand schedule using the information given in the above table.
- b) Using the demand schedules in a) above, Draw the household demand curve and a market demand curve.

7.1.2. Determinants of demand

Learning activity 7.1.2



The following are the demand schedules of Shema and Kabalisa for clothes

Demand schedule for Kabalisa	
Price of clothes (Frw)	Quantity demanded
12000	5
10,000	8
8,000	11
6,000	14
4,000	17

Demand schedule for Shema	
Price of clothes (Frw)	Quantity demanded
12000	14
10,000	16
8,000	18
6,000	20
4,000	22

Analyze the demand schedules above and answer the questions that follow.

- i) Explain why the clothing items purchased increased when prices decreased and vice versa.
- ii) Why do you think Shema bought many clothes at the same price as Kabalisa

The factors that influence demand include but are not limited to the following:

i) **The price of the Commodity/ good**

Other factors remaining constant, when the price of a commodity falls, consumers buy more of it and vice-versa.

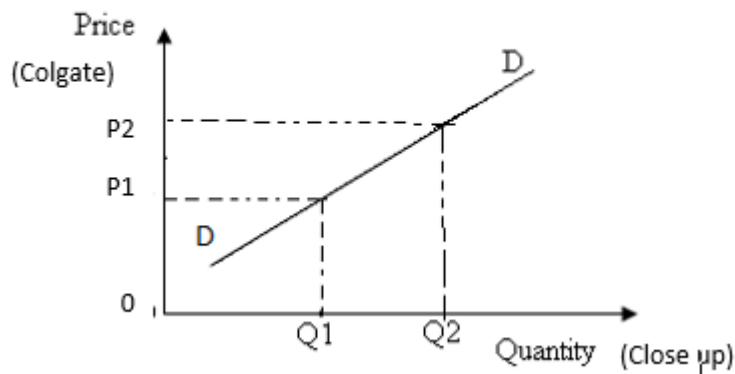
ii) Prices of other Commodities

The price of one commodity may affect quantity demanded of another commodity. The amount of a commodity demanded can be affected by changes in price levels of related commodities. Basing on their relationship we have two types of commodities:

- **Substitute commodities:** Substitutes are goods that serve the same purpose. When the price of one commodity increases, the demand for other increases and vice versa.

For example, when the price of Colgate increases, so does the demand for close up.

The cross demand curve of substitutes



The Colgate a substitute of close up. We assume the price of close up to remain constant.

The increase in price of Colgate (substitute of close up) by P1P2 means that Colgate is more expensive than close up. The users (buyers) demand more of close up (Q1Q2) which is relatively cheaper and serves the same purpose.

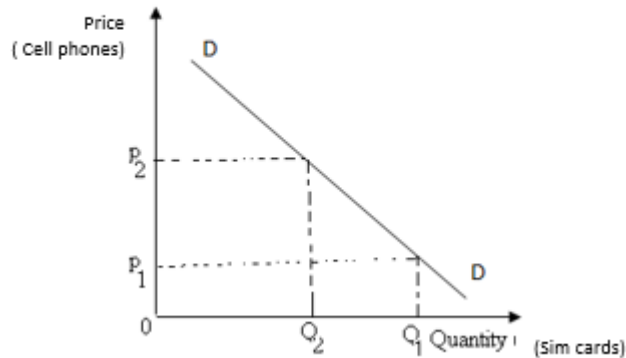
- **Complementary commodities:** these are goods that are used together to satisfy a need/want.

e.g., Toothbrush and toothpaste, paper and pen, shoe and shoe polish, paraffin and lamp, phone and sim-card, guns and bullets, cameras and films, cars, and fuel, etc.

With these commodities, one is almost useless without the other. So, when the price of one goes down, people buy more of it, and as they buy more of it, the demand for its complement increases.

E.g., When the price of cell phones reduces many people buy phones, and this increases the demand for sim cards. Or when the price of cars increases, the demand for cars reduces leading to a corresponding decrease in the demand for fuel.

The demand curve of complements



iii) Consumer's income

A change in consumer's income leads to a change in quantity demanded.

- **For normal goods**

An increase in consumer income leads to an increase in the quantity demanded of a normal good, while a decrease in consumer income leads to a small quantity demanded, *ceteris paribus*. Normal goods have a positive income elasticity of demand e.g., Sugar, Rice.

- **For inferior goods**

The higher the income, the lower the quantity demanded, and the lower the income, the higher the quantity demanded, *ceteris paribus*. Inferior goods have a negative income elasticity of demand.

- **For necessity goods**

Even if a consumer's income increases, beyond a certain level the quantity demanded can no longer increase. Income elasticity of demand for normal good is zero. e.g. Salt

Income – Demand curve of Normal goods, Necessity goods and Inferior goods



iv) Government policy: such as taxation or subsidization affect the quantity demanded. For example, when taxes are increased, the quantity demanded decreases, and when taxes are decreased, the quantity demanded increases, *ceteris paribus*.

v) Price Expectation: When consumers expect the price of a particular good to increase in the future, they tend to buy too much of that good, which increases the quantity demanded. If they expect the price of a commodity to go down in the future, they buy less of that commodity now and reduce the quantity demanded.

vi) Seasonal Factors: When the time of the year is favorable for a commodity, the quantity demanded increases, e.g. The demand for umbrellas increases during the rainy season, the demand for Christmas cards increases during the Christmas season, etc. When the season is not favorable, the demand for this commodity decreases.

vii) Tastes and preferences: If the tastes and preferences for certain goods are favorable, the demand for that commodity will be high, and if they are unfavorable, the demand will be low.

viii) Income distribution in an economy: When incomes are evenly distributed in an economy, demand for households in the economy is high, and when they are unequally distributed, demand is low.

- ix) Population size:** A larger population size has a higher purchasing power than a small one and thus leads to high demand and vice versa.
- x) Fashion:** When goods are in fashion, they are in high demand, unlike when they are obsolete or out of fashion.
- xi) Habit:** Some commodities are consumed due to the habit for example if it is a habit for someone to consume beer, he or she will buy more of it and vice versa.
- xii) Credit availability:** When credit is available at low interest rates, people can access it and borrow for consumption, thereby increasing the quantities demanded and vice versa.
- xiii) Money Supply:** When there is no inflation, increase in money supply leads to increase of quantity demanded and decreasing the money supply decreases the quantity demanded, other factors remain constant.
- xiv) Degree of advertising:** A high degree of advertising attracts more customers and thus increases their quantity requirements and vice versa. This is because advertising greatly influences people's purchasing decisions.
- xv) Social, Cultural and Political Factors:** Demand for most goods tends to increase during festive seasons such as Christmas, Easter, Eid, Independence. However, some social culture and political factors may result in lower demand for a commodity. For example, some cultures and religions prohibit their people from consuming some commodities, resulting in less demand for them.
- xvi) Composition of population in terms of sex:** If there is an increase in number of females, the demand for dresses and other females' attire would increase and vice versa.
- xvii) Education:** This affects people's tastes and preferences. Where there is a difference in people's level of education, their levels of consumption of certain commodities differ. For example, highly educated people demand more for newspapers than uneducated people.
- xviii) Income levels of neighbors:** Consumers tend to consume the same goods as their neighbours. So, if neighbours have high income and a poor household would consume more goods to keep up with the rich neighbors.

xix) Age structure: When the composition of a certain population is dominated by a certain age group, demand is influenced accordingly. For instance, if most of the population are young people, demand for entertainment increases and vice versa, other factors remain constant. If there is increase in number of children, quantity demanded of toys, children's clothing would increase.

xx) Demand level over the past period: Consumers tend to maintain the same level of demand. Thus, the higher the demand was in the past, the greater the quantity demanded in the present period. If income was low in the previous period, the quantity demanded would be low because of little or no savings to spend in the present.



Application Activity 7.1.2

The price of household goods such as kitchen utensils in Kigali markets remained constant in a certain period, but the quantity demanded doubled.

Discuss the factors that may have caused this increase in quantity demanded of the household goods.

7.2. Types of demand & Abnormal Demand Curves



Learning activity 7.2

Analyse the following sets of commodities and answer the questions that follow:

Set X: Butter and Margarine; Tea & Coffee; Colgate & White dent; Private schools and public schools.

Set Y: Cars and fuel; Shoes and Polish; pen and ink; Mobile Phones and Sim Cards; Computer Hardware and Computer Software; Toothbrush and Toothpaste.

Set Z: Land for farming or building houses; an iPhone used as camera, for internet access and making phone calls; Water for cooking, bathing, washing, mopping, drinking.

Set W: Computer and Bicycle; Mattress and Shirt; Pen and Plate; Water and Airtime

- a) After analyzing the above sets, which economic term can you give to each set of commodities (Set X, Set Y, Set Z and Set W)?
- b) Explain the relationship between commodities in each Set X, Y, Z and W.
- c) Explain how changes in price affect demand of commodities in each set.

7.2.1 Types of demand

i) Joint / Complementary demand

This is the demand for commodities that are consumed together for greater satisfaction, such that an increase in demand for one automatically leads to an increase in demand for the other commodity and vice versa. e.g., Cars and petrol, phone and SIM card, camera and films, toothpaste, and toothbrush.

ii) Competitive demand: This refers to the demand for goods that serve the same purpose (substitutes) such that an increase in demand for one lead to a decrease in demand for the other, e.g., Colgate and Close up, Beans and Peas,

iii) Derived demand: This is the demand for a commodity not for its own sake, but for the purpose for which it is used, i.e. the demand for that commodity is the direct result of the demand for a commodity that it is used to produce. e.g.:

- Demand for factors of production such as land, labor capital as a result of the demand for goods that can be produced with these factors of production.
- The government needs many economists; the economics teachers have to be recruited.

iv) Composite demand This is the demand for a commodity that serves multiple purposes/uses such that its total demand is the sum of the quantity demand for multiple uses, e.g. Wood, Electricity, Water. For instance, the amount of water needed depends on the water needed for washing, cleaning, and drinking, mopping, ...

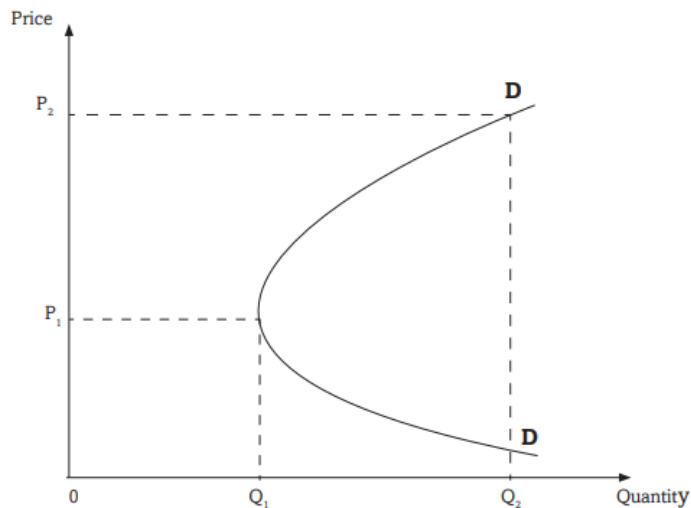
v) independent demand: This is the demand for goods that is not affected by the demand for other goods. For example, demand for shoes is unrelated to demand for cell phone.

7.2.2. Abnormal demand curves

Abnormal curves are the curves that do not obey the law of demand.

Circumstances in which abnormal demand curves arise:

- i) **Goods of ostentation** These are categories of goods demanded by those who want to emphasize their social and economic status by showing off what they consume. Such goods only serve their purpose if they are expensive and demand increases. the price increases, so does the demand. They are luxurious goods. The quantity demanded for these goods rises as the price rises.



A smaller quantity OQ_1 of the luxury good is bought at price OP_1 . With a higher price OP_2 , more quantity OQ_2 is demanded. The demand curve for goods of ostentation is abnormal at higher prices.

ii) Price expectation

If the prices of commodities are expected to increase further in the future, the consumer will buy more of the commodities even if the current price of the goods increases. In the future, consumers will want to buy the same goods at significantly higher prices. Even though prices are expected to fall further in the coming days, consumers buy less in the current period and wait for prices to fall.

iii) Consumer's ignorance effect on the market conditions

If consumers do not know the price, quality, packaging and labeling of the goods and other market conditions, the demand curve may be abnormal. An increase in the price of a commodity can be understood as an increase

in quality that encourages the consumer to buy more of it. A consumer who is unaware of the existence of substitute goods may be forced to buy a good at a high price regardless of whether there is a cheap substitute.

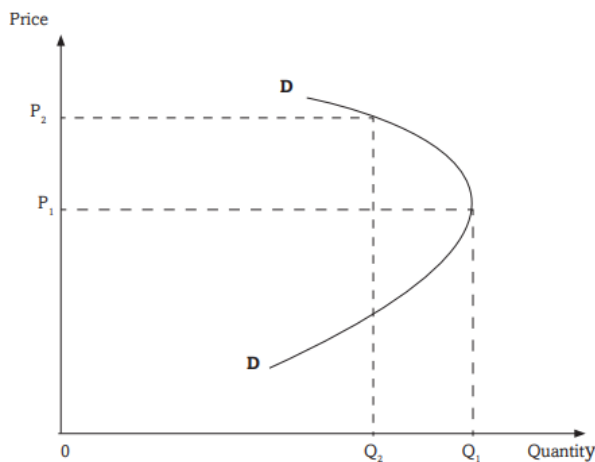
iv) Depression effect: this is the time of low prices, low incomes, low purchasing power and low economic activity. During this period of low prices, the quantity demanded is also low.

v) Necessity goods

The demand for such commodities is perfectly inelastic. An example of such goods is medicine. Its demand remains high despite the increase in its price. For instance, a patient shall be willing and ready to pay any price for the subscribed medicine if he or she has the ability to pay.

vi) Case of Giffen goods

If consumers do not know the price, quality, packaging and labeling of the goods and other market conditions, the demand curve may be abnormal. An increase in the price of a commodity can be understood as an increase in quality that encourages the consumer to buy more of it. A consumer who is unaware of the existence of substitute goods may be forced to buy a good at a high price regardless of whether there is a cheap substitute.



At the price OP_1 the consumer buys the quantity OQ_1 . When the price increases to OP_2 , the quantity demanded decreases to OQ_2 . This is because as the price goes down, consumers buy less of the Giffen merchandise to be left with a little more income to purchase a different merchandise they previously could not afford. The demand curve for Giffen goods is abnormal at lower prices.



Application Activity 7.2

Analyse the factors that influence people's purchasing decisions in a market.

7.3. Change in quantity demanded Vs Change in demand

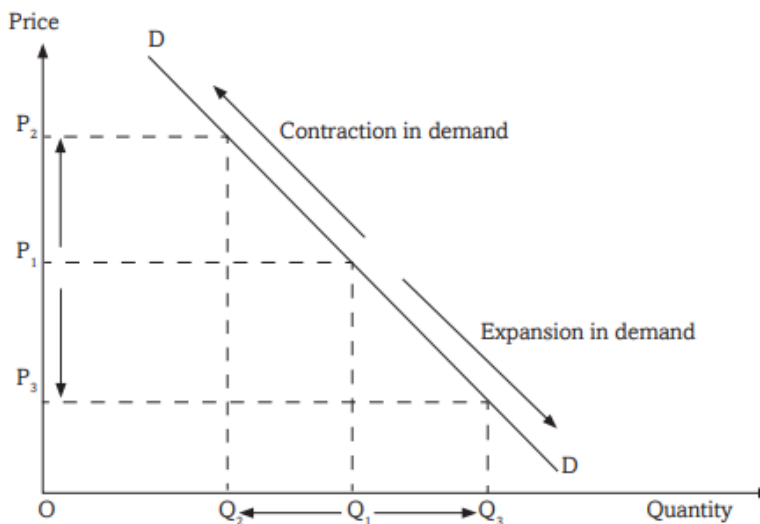


Learning activity 7.3

Use the demand function to identify the factors that may influence a change in demand

a. Change in quantity demanded

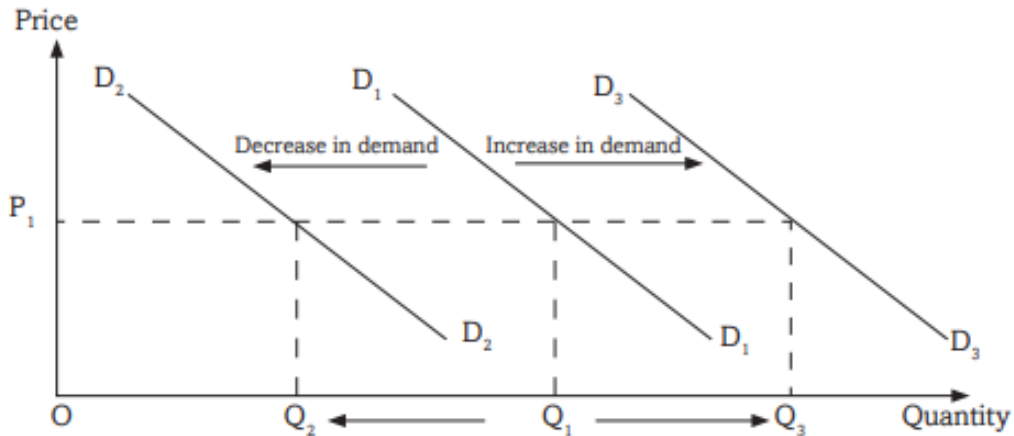
This refers to the increase or decrease in the quantity of a commodity purchased in the market due to changes in price, all things being equal "Ceteris paribus". This is illustrated by moving along the same demand curve.



A price change from OP_1 to OP_2 leads to a reduction in quantity demanded from OQ_1 to OQ_2 . The opposite is also true. Likewise, a price change from OP_1 to OP_3 leads to an increase in quantity demanded from OQ_1 to OQ_3 . All of this shows movement along the demand curve.

b) Change in Demand

Refers to an increase or decrease in demand that is caused by a change in other factors, other than price. These factors include changes in income, prices of other commodities, tastes and preferences. The change in demand is illustrated by a shift in the demand curve



At price OP_1 , the quantity demanded is OQ_1 . Price remains constant but quantity demanded either falls to OQ_2 and the demand curve also shifts to D_2 or rises to OQ_3 and the demand curve shifts to D_3 . A change in demand can be an increase in demand. In such a case, the demand curve shifts to the right. It can also be a fall in demand, where the demand curve shifts to the left.

$$Qdx = f(\underbrace{P_x}_{\text{Change in Price}}, \underbrace{P_{n-1}, Y, T, S, G, \dots}_{\text{Change in demand}})$$

Change in Quantity demanded



Application Activity 7.3

1. Using graphical representation, differentiate between changes in demand and changes in quantity demanded.
2. Examine the factors that may influence the change in quantity demanded

7.4. Theory of supply

7.4.1. Law of Supply, Supply Schedule, and Supply curve

Learning activity 7.4.1



The following are the supply schedules for Ishimwe, Keza, Higiuro and Dukundane for sugar at different price levels during different periods (Months) in the Huye market.

Period (Months)	Price (Frws)	Quantity supplied by			
		Ishimwe	Keza	Higiuro	Dukundane
1	1200	4	4	0	6
2	2800	30	32	20	34

Answers the following questions using the data provided in the above table :

- What is your observation about the change in prices and quantity supplied?
- Draw a separate table for each supplier
- On each separate table, design its supply curve to show how the given supplier responds to changes in price.
- Using the table drawn for each supplier, derive the curve that shows how all suppliers in Huye market respond to changes in market prices.
- Given that a curve drawn for each supplier is called « an individual supply curve, suggest an appropriate name for a curve that shows how all suppliers in a market respond to change in price.

i) Definitions of key terms

- **Supply** refers to the quantity of commodity that producers are willing to offer for sale to the market over a given period at a given price.
- **Quantity supplied:** This refers to the quantity of a commodity that producers are willing and able to bring to market at different prices per period. The amount delivered is a desired flow. It measures how much the grower wants to sell and not how much

they actually sell. Note that the quantity supplied may differ from the quantity produced, as some of the goods produced may not be delivered to the market.

ii) Supply function

Supply function shows the technical relationship between quantity supplied and the main determinants of quantity supplied.

$$Q_{sx} = f(P_x, P_y, S, G, F, \dots)$$

Where: Q_{dx} = Quantity supplied of commodity X

P_x = Price of commodity X

P_y = Price of other commodities

T = Tastes and preferences

S = Seasons

G = Business goal

F = Factors of production

\dots = Other determinants of quantity supplied

a. Law of Supply

This law states that, “ceteris paribus”, the higher the price, the higher the quantity supplied and vice versa. There is a positive relationship between price of a commodity and quantity supplied of that commodity. Ceteris paribus when the prices are increasing, the producers supply more, and when the prices are falling, they supply less.

b. Supply Schedule

A delivery schedule is a table that shows different quantities of a commodity that a producer can supply at different prices per period.

Example:

Price per unit (FRW)	Quantity supplied per period (Kg)
20	30
40	35
60	45

A supply schedule may be individual supply schedule (for a single producer or seller) or a market supply schedule.

- **Individual supply schedule** is a table showing the quantities supplied by a single seller/producer at different price levels.

Supply schedule for Habarugira	
Price of sugar (Frw)	Quantity Supplied (Kgs)
800	4
1200	6

Supply schedule for Habanabakize	
Price of sugar (Frw)	Quantity Supplied (Kgs)
800	6
1200	10

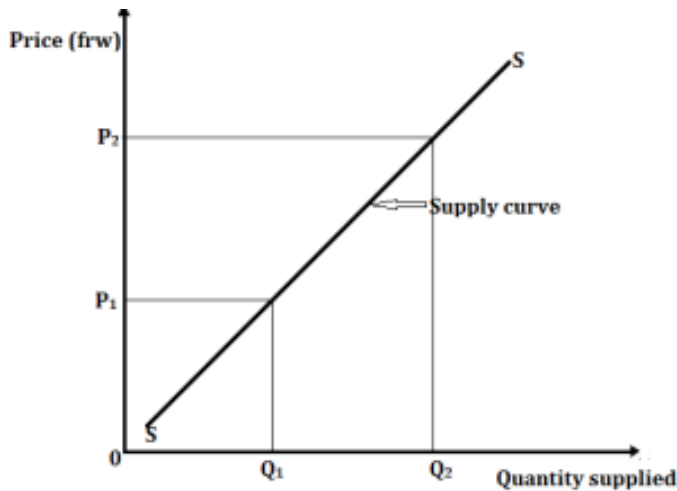
- **Market supply schedule is a table showing the** sum of all individual producer/seller quantities in the market for a given commodity at different prices levels in a given period. various quantities of a commodity that all the producers/sellers are willing to sell at various levels of price, during a given time.

Market Supply Schedule	
Price of sugar (Frw)	Quantity Supplied (Kgs)
800	10
1200	16

c. Supply curves

The supply curve is a locus of points that shows the quantity of a product brought to the market at different prices per period. Normally, the supply curve goes up from left to right, showing that the higher the price, the higher the quantity supplied, other factors remaining constant.

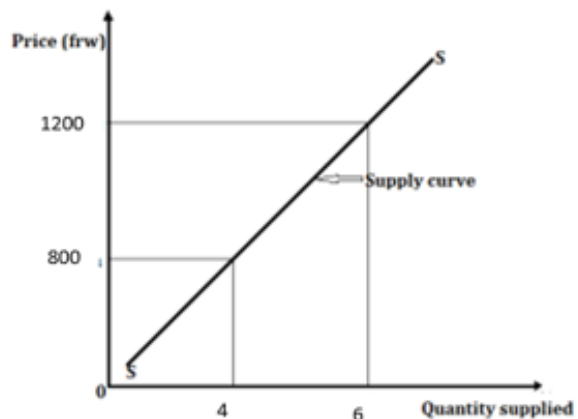
Individual supply curve



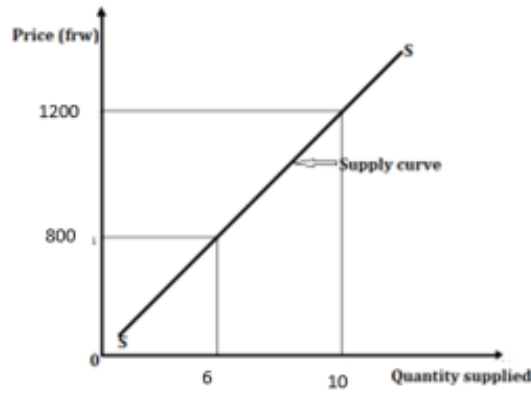
The supply curve is sloping, showing that as the price increases from OP_1 to OP_2 , the quantity supplied also increases from OQ_1 to OQ_2 . This clarifies what the law states. The supply curve may not go through the origin since suppliers usually have a floor (reserve) price below which they will not deliver or sell. For example, the minimum price in the curve above is P_1 . The quantity therefore remains at zero until this minimum price is reached.

Individual supply curves:

Supply schedule for Habarugira	
Price of sugar (Frw)	Quantity Supplied (Kgs)
800	4
1200	6

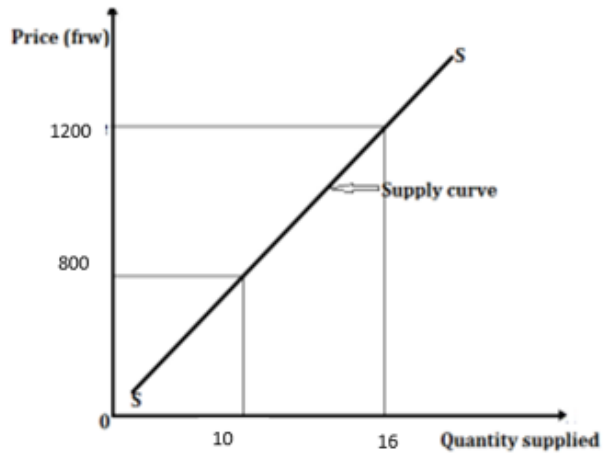


Supply schedule for Habanabakize	
Price of sugar (Frw)	Quantity Supplied (Kgs)
800	6
1200	10



Market supply curve

Market Supply schedule	
Price of sugar (Frw)	Quantity Supplied (Kgs)
800	10
1200	16



Application Activity 7.4.1

The following are the supply schedules of Uwase and Kalisa for sugar

Supply schedule for Kalisa	
Price of sugar (Frw)	Quantity supplied (Kgs)
1000	35
1500	60
2000	70

Supply schedule for Uwase	
Price of sugar (Frw)	Quantity supplied (Kgs)
1000	50
1500	80
2000	100

Analyse the supply schedules above and answer the questions that follow.

Explain why the quantity of sugar sold increased when prices increased and vice versa.

7.4.2. Determinants of Supply

Learning activity 7.4.2

The following are the Supply schedules of selling sweet potatoes for Umulisa and Kabatesi

Supply schedule for Umulisa	
Price of sweet potatoes (Frw)	Quantity Supplied (Kgs)
200	100
250	200
300	250

Supply schedule for Kabatesi	
Price of sweet potatoes (Frw)	Quantity Supplied (Kgs)
200	50
250	80
300	110

The following are the Supply schedules of selling sweet potatoes for Umulisa and Kabatesi

Analyse the Supply schedules above and answer the questions that follow

- i) Explain why the quantity sold increased when prices increased and vice versa.
- ii) Apart from price changes, what do you think would make Umulisa and Kabatesi did not sell the same units of sweet potatoes?

i) The price of the commodity itself:

Other factors remaining constant, the higher the price, the higher the quantity supplied of a commodity and the lower the price, the lower the quantity supplied of that commodity.

ii) The price of other commodities.

If the prices of competing goods increase, it becomes more profitable to produce those competing goods, which are more profitable. When the prices of competing goods fall, the quantity of a goods supplied increases because it becomes more profitable to produce the goods whose price is relatively higher *ceteris paribus*.

iii) Number of Firms or Producers: The more producers involved in the production of a given commodity, the more of that commodity will be supplied, and if there are few producers, the quantity of that commodity supplied will be small.

iv)Goals a firm: If the goal of the firm is to maximize sales, more will be supplied and if it is to maximize profit, less will be supplied.

v) Cost of production: The lower the cost of production, the higher the quantity supplied and vice versa.

vi)The level of technology: The more advanced the technology, the higher the quantity supplied and the less advanced the technology, the smaller the quantity supplied.

vii) Demand for the commodity: There is a direct relationship between the demand for a commodity and its supply. i.e., an increase in demand for a commodity makes it more profitable as this increases its price. Thus, an increase in demand encourages producers to produce more output to meet the available demand. On the other

hand, a drop in demand for a commodity hampers its production and supply.

- viii) Government policy:** When the government imposes high taxes on producers, production and supply decrease, and when the government subsidizes producers, production and supply increase.
- ix) Seasonal Factors:** When the season is favorable for a particular commodity, the supply will be high, and when the season is not favorable, the quantity supplied will be low.
- x) Degree of freedom of entry of new firms into production:** Some industries have entry barriers in the form of start-up costs, patents, technology, price limitation by the already existing company. When entry of new firms into the industry is free, supply increases, while restricted entry of new firms keeps supply down.
- xi) Time:** Supply is high in the long term and low in the short term. It is very easy for producers to supply more of a commodity over a long period of time, and they can only produce less of that commodity in a short period of time.
- xii) Population/market size:** The larger the population, the larger the market size, i.e., the higher the quantity offered and vice versa, other factors remain constant.
- xiii) Expectation of future price:** If sellers expect the price to rise in future period, they sell little in current period and the supply curve shifts to the left. If sellers anticipate the price will fall, they try to sell more in current period, the supply shifts to the right.
- xiv) Gestation period:** This is the length of time between when the decision is made to produce and supply a good and when the output is actually produced and supplied. A long gestation period reduces the supply in the current period. A short gestation period increases the supply in the current period.
- xv) Political climate:** The stability in the country will encourage investment, production and supply of goods and services, while instability and insecurity in the country will discourage investment, production and supply of goods and services.
- xvi) Climate and weather:** When the climate/weather is favorable for production, production and supply will be high, especially in the agricultural sector, and vice versa than when the climate is unfavorable. This climate includes natural factors such as drought, rain, wind, sunshine, etc.



Application Activity 7.4.2

Assume the prices of maize flour in your home locality remained constant over a period of time but the quantity supplied doubled.

Discuss the factors that may have contributed to the increase in quantity of maize flour supplied.

7.4.3. Types of Supply & Abnormal Supply Curves



Learning activity 7.4.3

Given commodities grouped in the following manner:

Group one Yoghurt and Cheese, Banana juice and Urwagwa (banana wine)

Group two Beef and hides (skins), diesel and petrol

- Economically, how would you name the above category of goods as grouped in Group one & Group-two?
- Explain the relationship between commodities in each group
- Explain how price changes affect the supply of commodities in each category of goods Group one and Group two).

a. Types of Supply

i) Competitive supply: This is the supply of two goods that use the same resources, so increasing the production and supply of one product decreases the resources available for the production and supply of another.

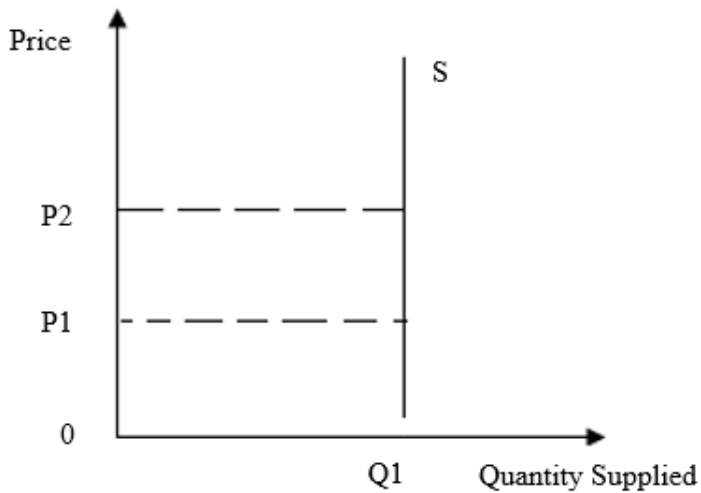
ii) Joint supply: This is the supply of two goods produced together such that an increase in the supply of one product results in an increase in the supply of another, e.g., the offer of beef and skins.

b. Abnormal supply curves

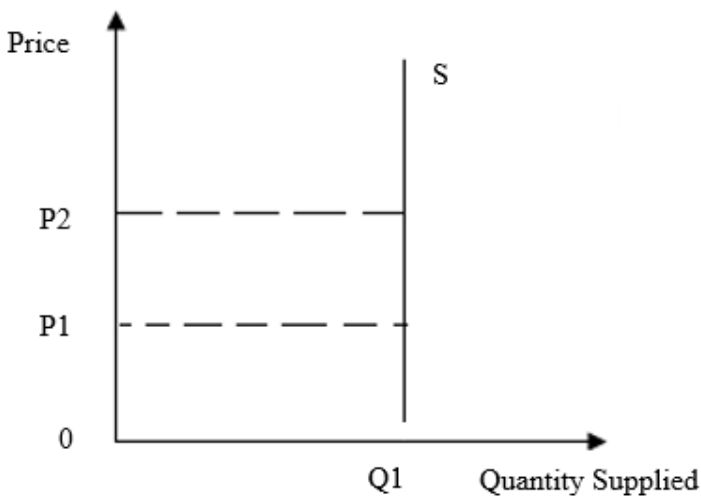
Abnormal supply curves/Regressive curves are the supply curves that violate the law of supply.

Such curves appear under the following conditions:

i) Fixed supply in the short run: If there is not enough time available to allow the producer to organize and increase production and supply, the quantity supplied can remain constant despite the increase in the price of the goods. For this case, the curve can look like as follows:

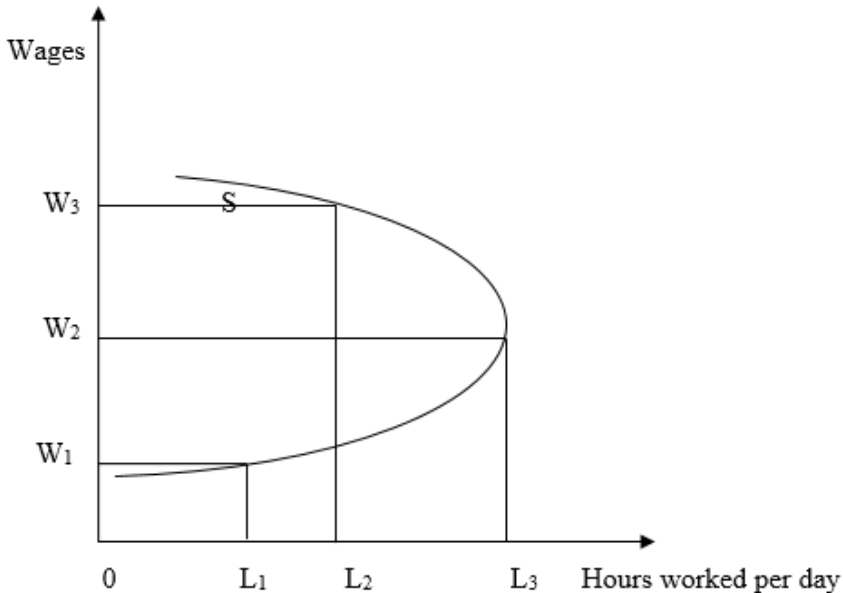


ii) The supply of land: Land as a factor of production refers to all resources above, on, and under the surface of the earth that are used in the production process. It has fixed supply i.e.; the size of land does not change. Its supply curve is perfectly inelastic as shown in the following curve:



iii) Backward-bending labour supply curve,

Backward-bending labour supply curve is a graphical illustration showing a situation in which as real wages increase beyond a certain level, people will substitute leisure for paid work time and so higher wages lead to a decrease in the labour supply. The supply curve behaves normally at low wages and becomes abnormal at higher wages.



The supply of labor increases from OL_1 to OL_2 when the wage is increased from OW_1 to OW_2 , beyond wage OW_2 , labor supply reduces to OL_3 when the wage is increased to OW_3 . This creates a backward bending supply curve of labor.

The supply curve of labor bends backwards when wages are increased because of the following reasons:

- Increase in wages stimulates **a strong preference for leisure** to work. At higher wages, workers tend to like more of leisure than work, so they work for fewer hours.
- **Presence of target workers.** When wages are increased, workers reach their target quickly and start working fewer hours after reaching their target.
- If there is an **insecurity** in the area where the workplace is located, this threatens the employees, who can reduce their working hours regardless of the wage increase.



Application Activity 7.4.3

Analyse the reasons why people supply goods to the market.

7.4.4. Change in Supply Vs Change in quantity supplied

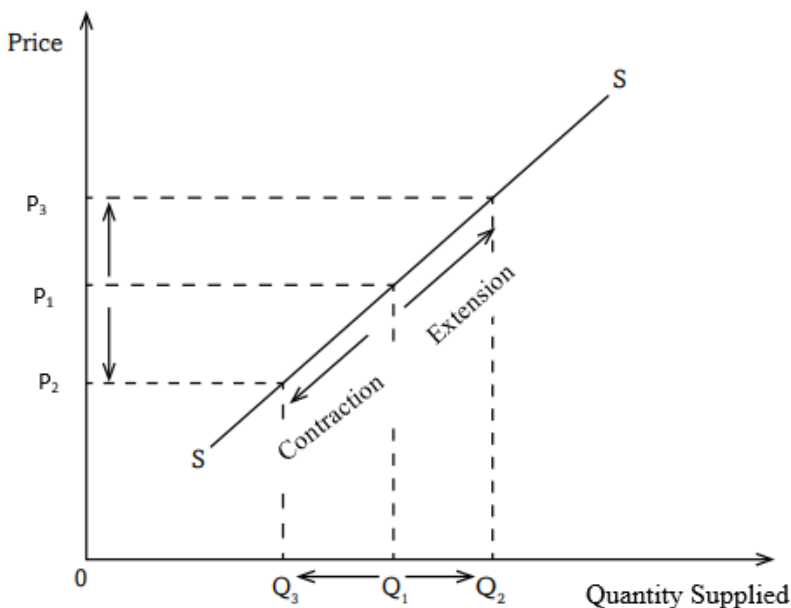


Learning activity 7.4.4

Given the supply function, what do you think is the difference between change in supply and change in quantity supplied.

a. Change in quantity supplied

This refers to the change in the quantity of goods available for sale on the market at any given time due to a change in the price of that commodity, other factors remaining constant. A change in quantity supplied is represented by movement along the same supply curve.



An increase in price from OP_1 to OP_3 leads to an increase in quantity supplied from OQ_1 to OQ_3 and decrease of price from OP_1 to OP_2 leads to a decrease in quantity supplied from OQ_1 to OQ_3 , ceteris paribus.

i) Increase in quantity supplied (Extension of supply curve)

This is an increase in the quantity of commodities available for sale over a given period. When the price of the commodities increases, ceteris paribus, increase in quantity supplied is illustrated by moving upwards along the same supply curve.

ii) Decrease in quantity supplied (Contraction of supply curve)

This is a reduction in the quantity of commodities available for sale over a period. When The price of commodities falls, other factors remain constant, increase in quantity supplied is illustrated by moving downwards along the same supply curve.

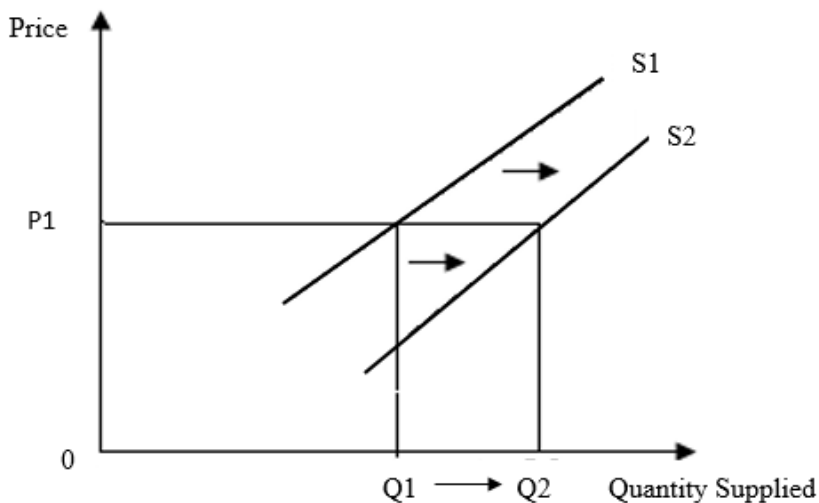
b. Change in Supply

This refers to an increase or decrease in the amount of a commodity supplied in the market at a particular time due to other determinants of supply at a constant price. This increase or a decrease of quantity supplied is illustrated by a shift movement of supply curve.

i) Increase in supply (Shift of supply curve to the right)

This refers to an increase in the amount of goods offered to the market for sale at a given time at constant price due to other favorable conditions of supply leading it to shift to the right.

Graphical Illustration



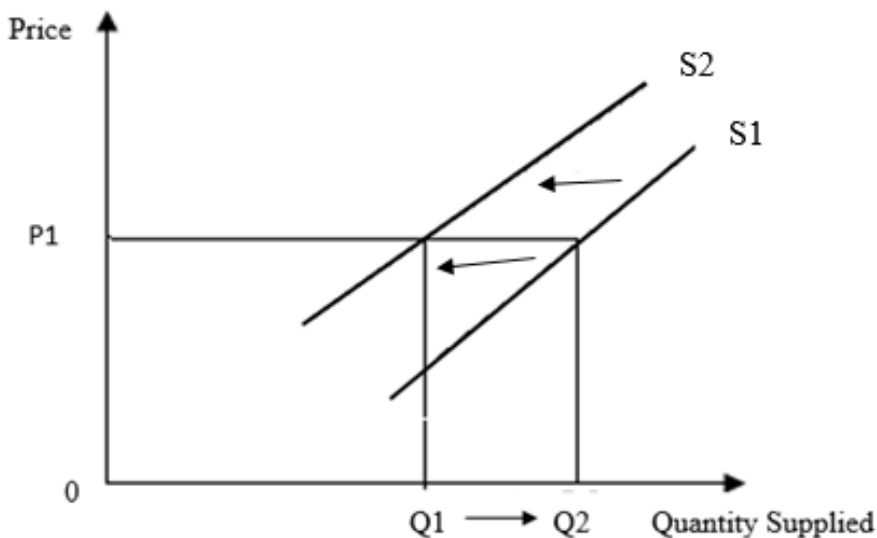
At constant price OP_1 , quantity supplied is OQ_1 . Due to changes in other factors that influence the supply, quantity supplied increases from OQ_1 to OQ_2 at constant price(OP_1).

An increase in supply of a commodity may be brought about by an increase in the number of producers, price of competing commodities, improvement in technology, entry of new firms into the industry, favorable natural factors, increase in demand for the commodity, change in goals of the firm, decrease in prices of factors of production, etc.

ii) Decrease in supply (shift of supply curve to the left)

This refers to a reduction in the amount of goods offered to the market for sale at a given time at constant price due to other unfavorable conditions of supply leading a shift of the supply curve to the left.

Graphical Illustration



A decrease in the supply of a commodity may be a result of a decrease in the number of producers, decline in technology, exit of some firms from the industry, increase in costs of production due to increase in taxes of producers, unfavorable natural factors, decline in demand for the commodity, change in goals of the firm, increase in prices of factors of production, increase in the price of a competing commodity, etc.



Application Activity 7.4.4

Using graphical illustrations, show the difference between change in supply and change in quantity supplied

7.5. Equilibrium price and quantity supplied

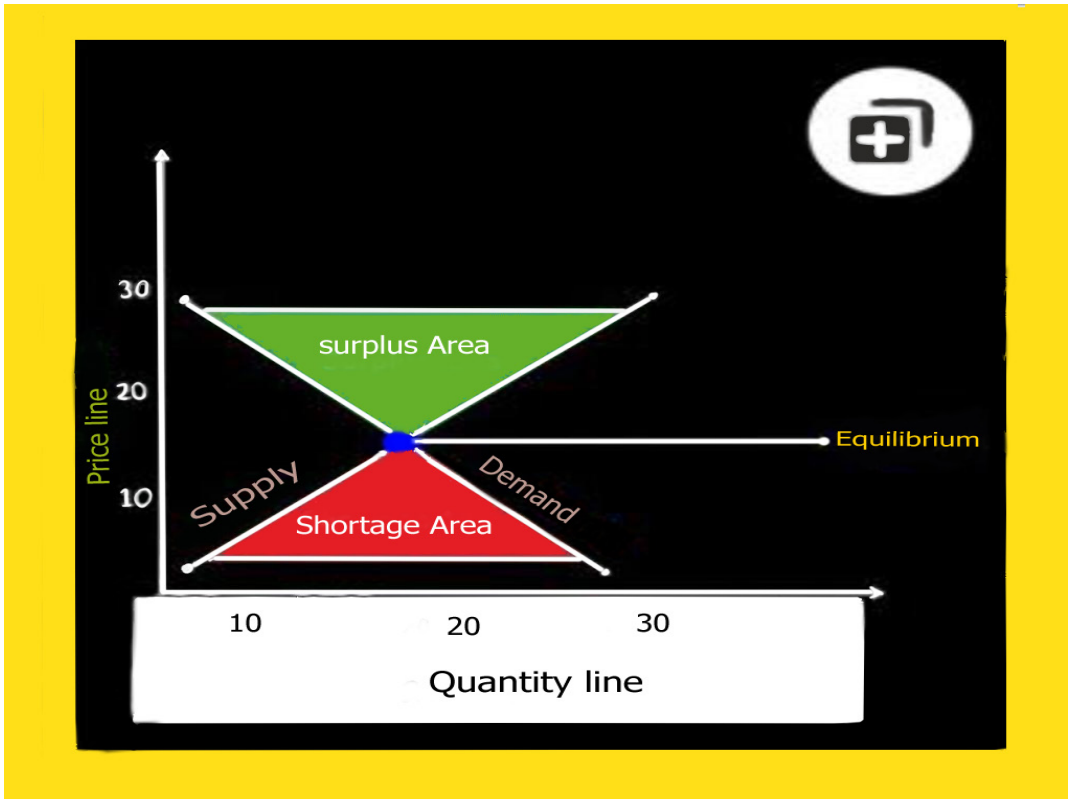


Figure 7.1: Equilibrium price and quantity

Learning activity 7.5.



1. Suppose that **object A** represents the number of kilograms brought by suppliers and **object B** represents the number of kilograms demanded by buyers of a particular commodity in a market, explain what would happen to the price of such a commodity.

2. What would you do to bring the two sides to balance ?

7.5.1. Definitions of key terms

Equilibrium refers to the situation of stability when the forces as they exist at particular time have no tendency to change. For example, equilibrium in the **market** is attained when the quantity demanded equals quantity supplied.

An economy is in general equilibrium when all sectors are stable, i.e., quantity of goods supplied equals quantity of goods demanded, money provided by savers equals money demanded by borrowers, labor supplied equals labor demanded, and foreign exchange earned equals foreign exchange spent.

The **equilibrium price** is the price that prevails in the market when the quantity supplied equals the quantity demanded. At this price, the quantity of goods placed on the market by the suppliers is fully purchased by the buyers i.e. there is no surplus or shortage of commodities in the market.

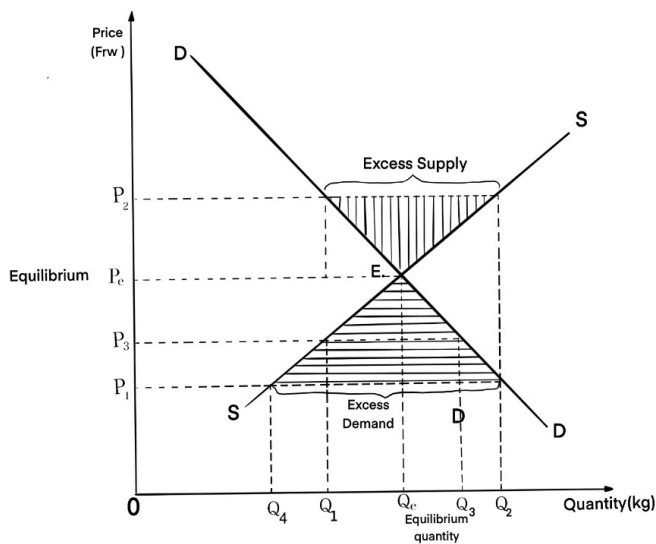
Equilibrium price and quantity occur when quantity demanded is equal to quantity supplied.

However, there could be a disequilibrium. Disequilibrium may be either a shortage (**excess demand**) or surplus (**excess supply**). When quantity demanded is greater than quantity supplied, then, there is a **shortage** of commodities in the market. A shortage of commodities in the market implies that buyers will compete for the available few commodities. This scenario leads to an excess demand. They will be ready to pay a high price. This excess demand will lead to price increase.

When the quantity supplied is greater than quantity demanded, there is a **surplus** of commodities in the market. In the figure below, quantity demanded is Q_1 while quantity supplied is Q_2 at price P_2 . Suppliers have a lot of commodities to sell. Buyers are ready to purchase less quantities compared to what the sellers have to offer. This scenario leads to an **excess supply**. This excess supply of commodities will force the price to go down. Suppliers will be ready to reduce the price of their commodities so that they can attract buyers.

In the long – run, once excess demand and excess supply have been dealt with, the market will remain in a state of equilibrium.

Graphical illustration



7.5.2. Calculation of equilibrium quantity and equilibrium price

Consider the following economic functions to determine equilibrium quantity and equilibrium price.

Demand function: $Q_d = 16 - 3P$ and

Supply function: $Q_s = 6 + 2P$

Solution:

Recall that **Equilibrium price and quantity** occur when quantity demanded is equal to quantity supplied ($Q_d = Q_s$), therefore:

$$16 - 3p = 6 + 2p$$

$$16 - 6 - 3p + 3p = 2p + 3p$$

$$10/5 = 5p/5$$

$$P = 2$$

At equilibrium, the price will be 2.

The price already calculated is substituted in either one of the equations to find equilibrium quantity. $Q_d = Q_s$

Recall: $Q_d = 16 - 3P$ and $Q_s = 6 + 2P$

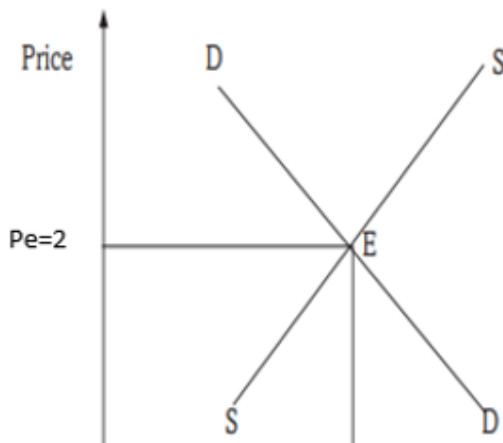
$$Q_d = 16 - 3(2) \text{ or } Q_s = 6 + 2(2)$$

$$Q_d = 16 - 6 \text{ or } Q_s = 6 + 4$$

$$Q_d = 10 \text{ or } Q_s = 10$$

That is to say $Q_e = 10$ and $P_e = 2$ Where Q_e = Equilibrium Quantity
and

P_e = Equilibrium price



Application Activity 7.5

When the price of sugar in Kimironko Market was FRW 2000, the quantity demanded was 190 kg and the quantity supplied was 130 kg. A few days later, the price increased by FRW 100, and the quantity demanded decreased by 6 kg, while the quantity supplied increased by 54 kg. again, the price rose up to FRW 2,200 and the quantity demanded decreased to 170 kg while the supply increased to 200 kg.

Based on the information given, determine the equilibrium price and quantity supplied using a graphical representation.



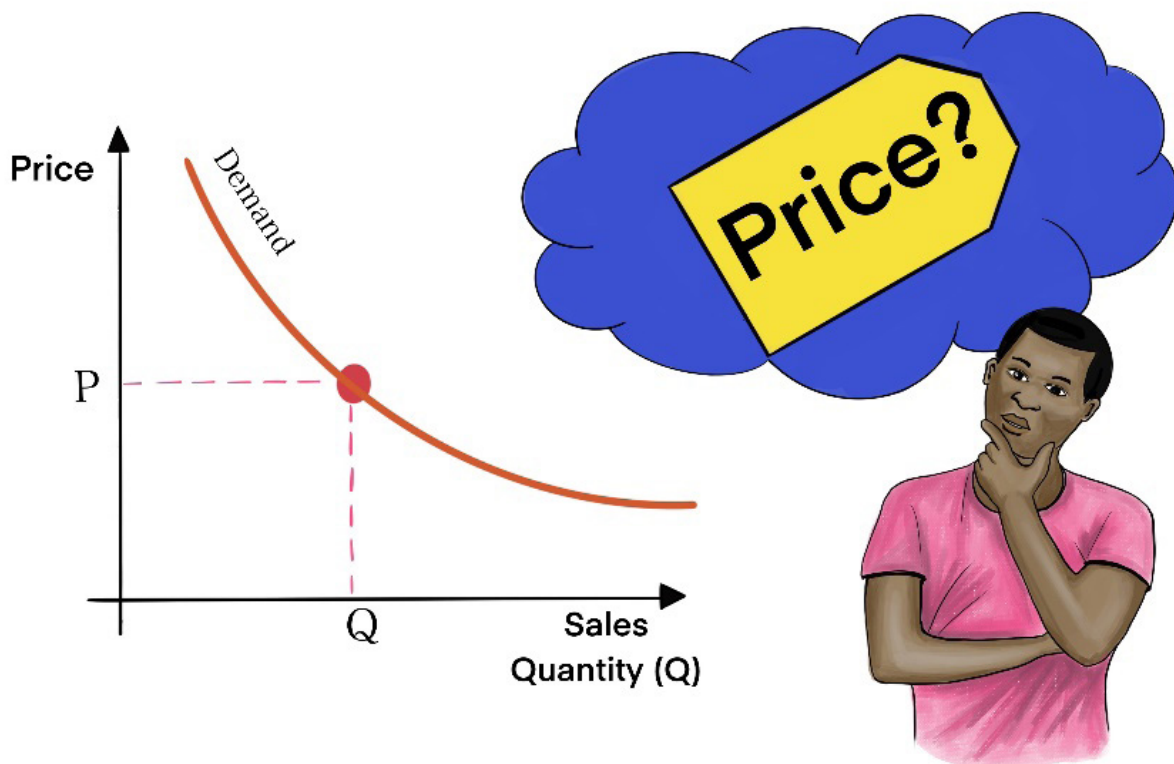
End of unit 7 assessment


1. Describe the different factors that determine your levels of demand for the commodities you normally purchase.
2. Analyze the factors that might make someone supply much or less in a market
3. Suppose that the demand for sugar is given by the following equation, $Q_d = 16 - 2P$; where Q_d is the amount of sugar that consumers want to buy (i.e., quantity demanded), and P is the price of sugar. Suppose the supply of sugar is $Q_s = 2 + 5P$; where Q_s is the amount of sugar that producers will supply (i.e., quantity supplied).and P is the price of sugar.

Determine the equilibrium quantity and price.

UNIT 8

ELASTICITY OF DEMAND AND SUPPLY



 **Key unit competence:** To be able to apply elasticity of demand and supply in making rational economic and entrepreneurial decisions



Introductory activity

Case study: Mutoni's shopping experience.

One day Mutoni went shopping, reaching the market, she found the price of rice had increased from Frw 1200 to Frw 1500. Since Mutoni's budget couldn't allow it, she changed her mind and instead of buying 20kg of rice, she decided to buy 10 kg due to the increase in price. On the other hand, she experienced an opposite price change. This time, since sugar's price had fallen from FRW1000 to FRW500, she occasionally bought 20 Kg instead of 5Kg.

Required:

1. Among the following phenomena, choose one which best describes what Mutoni experienced. Give reasons to justify your answer
 - a) Scarcity
 - b) Elasticity
 - c) Choice
2. Suppose the prices for sugar had risen too. What do you think Mutoni would do during her shopping?
3. Which of the two between the demand for rice and demand for sugar was elastic? Give reasons for your answer.

8.1. Introduction to elasticity

Learning activity 8.1



Using the internet or library, search on the term "elasticity" as used in Economics.

Generally, the term elasticity has different meanings. For instance, in physics, elasticity means the ability of a body to resist a distorting influence or deforming force and to return to its original size and shape when that influence or force is removed.

In Economics, elasticity is the degree of responsiveness of dependent variables to independent variables. Dependent variables may be quantity demanded or quantity supplied. Independent variables are factors which influence the above dependent variables. An independent variable is a factor that has an influence on another associated factor (that is called a dependent variable). Price of a commodity, income of the consumer and price of related commodities are examples of independent variables. These independent variables have a direct influence on dependent variables such as quantity demanded, or quantity supplied. For instance, when the price of beans is FRW1,000, Muhirwa can buy 15Kg with his FRW15,000 budget. You can imagine what can happen when the price increases to 1,500Frw. Now, Muhirwa's budget cannot allow to buy 15 Kg of beans, instead he can buy 10Kg of beans only. On the other hand, when the price of beans decreases from FRW1,000 to FRW500, Muhirwa will be able to buy 30Kg with his FRW15,000 budget.

The subject of economics has several concepts that need attention. These concepts explain different phenomena. Elasticity is one of such concepts in economics.

There are different types of elasticity. Each of these types explains the effect of changes on a specific variable. Elasticity of demand and elasticity of supply are the two main types of elasticity in economics. However, they are further classified into sub-categories as illustrated below:

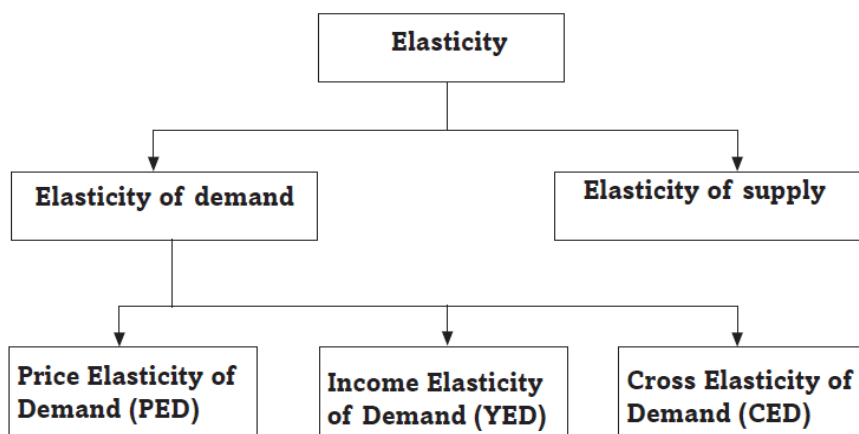


Figure 8.1: Different types of elasticity in Economics



Application Activity 8.1

Suppose Muhire experienced the following while he was shopping at the nearby market. Carrot prices had changed from FRW1000 per kg to FRW1500 per kg, consequently buyers decided to buy less carrot quantities. Imagine that instead of 15 kg, only 10 kg were bought!

Required:

Complete the following sentence with the appropriate economic term from the list provided in brackets (income elasticity of demand, price elasticity of supply, price hiking, price change, elasticity)

The change in quantity demanded of carrots from 15kg to 10kg as a response to change in the price of carrots from 1,000Frw to 1,500Frw is.....

8.2. Types of elasticity



Learning activity 8.2

1. Using the library or internet as well as the knowledge acquired from the previous lesson, discuss the following types of elasticity:
 - Elasticity of demand,
 - Elasticity of supply
2. Read the following situations and answer the questions thereafter:
 - i) Muhoza, a student at G.S Umurava went to a bookstore near her school to purchase books. When she arrived, she discovered that the price of a book had increased from FRW 6,000 to FRW9,000. She bought 2 books instead of 3 books she had planned to buy.
 - ii) Company A manufactures a certain brand of juice. The market price for each packet of juice increased from Frw 500 to Frw 600. In return, the company increased its supply weekly from 1,200 to 1,600 packets.

Questions:

Precise which situation represents elasticity of demand or elasticity of supply between the two. (2. (i) and 2. (ii) and why?

8.2.1. Elasticity of demand

Elasticity of demand is a measure of the degree of responsiveness of quantity demanded of a commodity to changes in factors that affect demand. When factors that influence quantity demanded such as price of the commodity, income of the consumer, or price of related commodities change, the quantity demanded of a commodity responds. However, the main concern is the percentage of this response. Elasticity of demand thus measures the percentage of such response. Elasticity of demand has 3 main types. i.e., price elasticity of demand, income elasticity of demand, and cross elasticity of demand.

a. Price elasticity of demand (PED)

Price elasticity of demand refers to a measure of the degree of the responsiveness of quantity demanded of a commodity to changes in its own price. When the price of a commodity increases or decreases, its quantity demanded reacts to a certain extent. Quantity demanded may reduce, increase, or even remain constant. Price elasticity of demand therefore measures the extent of this reaction.

Price elasticity of demand is measured as a percentage change in quantity demanded to the percentage change in price.

Elasticity is like a rubber band, when it pulls in one direction, they simply pull in the other. If the price of a commodity increases, the quantity demanded decreases. If the price decreases, the quantity demanded increases.

Consider the table below:

	Period 1	Period 2	% change	Computation
Price of sugar (Frw)	1,000	1,500	(Increase of 50%)	$(1,500 - 1,000) / 1,000 \times 100$
Quantity demanded of sugar in Kg	10 Kg	8 Kg	(Decrease of 20%)	$((8 - 10) / 10) \times 100$

This means that an increase in price of 50% leads to a decrease of 20% in quantity demanded.

Calculating the elasticity of demand with respect to price is equal to the percentage change in demand over the percentage change in price (Formula: PED = % change in price)

Elasticity computation

Price elasticity of demand, $PED = -20/50 = -0.4 < 0$. so, here the answer is less than 0

When the elasticity is negative, normally that is logical. This is to mean that change in price generates a constrained change in demand. If the price of a commodity increases, the quantity demanded of a commodity decreases and vice-versa.

Consider the following table:

	Period 1	Period 2	% Change	Computation
Price of sugar in Frw	1,000	600	-40% (decrease of 40%)	$((600 - 1,000)/1,000) \times 100$
Quantity demanded of sugar in Kg	10 Kg	15Kg	50% (increase of 50%)	$((15 - 10)/10) \times 100$

This means that a decrease in price of 40% leads to an increase of 50% in quantity demanded. The price elasticity of demand, $PED = 50/-40 = 1.25 < 0$. Here, you can see that the answer is less than 0

You should note that negative elasticity is normal. For most of the commodities, when the price of a commodity decreases, and when the price decreases, the quantity demanded increases. But also, in some cases, the elasticity is positive or even zero.

Consider the table below:

	Period 1	Period 2	% Change	Computation
Price of sugar in Frw	1,000	1,500	50% (increase of 50%)	$((1,500 - 1000)/1,000) \times 100$
Quantity demanded of sugar in Kg	10Kg	10Kg	0% (the quantity demanded of sugar doesn't change)	

If you calculate the price elasticity of demand: $PED = 0/-50 = 0$. Here, you find that the price elasticity of demand is inelastic i.e. a change in price does not cause any change in the quantity demanded. This phenomenon

can occur when there is no substitute commodity, a commodity that can replace this commodity whose price has increased. For instance, if the price of salt increases, its quantity demanded remains constant.

The elasticity can be positive; this concerns luxury commodities. People who want to maintain a high social status will increase their demand as the price increases. This is called the snob effect, the social positioning effect.

Consider the table below.

	Period 1	Period 2	% Change	Computation
Price of Land cruiser V8 (Frw)	80,000,000	120,000,000	50% (increase of 50%)	$\frac{((120,000,000 - 80,000,000)/80,000,000) \times 100}{}$
Quantity demanded of Land cruiser (Units)	10	12	20% (increase of 20%)	$\frac{((12-10)/10) \times 100}{}$

If you calculate the price elasticity of demand, $PED = 20/50 = 0.4 > 0$

This is the situation when there is a group of buyers who want to position themselves, belong to a high social class.

How will we interpret the elasticity?

If the elasticity is between -1 and 1, we can say that the elasticity is low, we can even say that it is inelastic when it approaches zero.

$PED = \epsilon [-1,1]$ elasticity is low, see inelastic ≈ 0 . Here, a small change in price causes a small change in quantity demanded. There is no influence between a change in price and change in quantity demanded. When elasticity is equal to zero, this is to say that the change in price does not cause any change in quantity demanded. On the other hand, if the answer exceeds -1, -2, -3, -. and/or 1,2,3... we say that the elasticity is strong.

Mathematically, this can be illustrated as follows:

$$PED = (-) \frac{\text{Percentage change in quantity demanded of the commodity}}{\text{Percentage change in price of the commodity}} = (-)$$

Where, $\frac{\Delta Q}{\Delta P} = \frac{Q_2 - Q_1}{P_2 - P_1}$

Where, ΔQ is change in quantity demanded of the commodity,

ΔP is change in price of the commodity

Q is the original quantity demanded of the same commodity

P is the original price of the commodity

Δ stands for change in. The word change here means an increase or a decrease.

Example: Given the price of beef increased from FRW 2000 to FRW2500 per kg and as a result, quantity demanded reduced from 4 kg to 2 kg. Calculate the price elasticity of demand for beef.

Solution:

$$PED = (-) \frac{\% \text{ change in quantity demanded}}{\% \text{ change in price}}$$

$$= (-) \frac{(Q_2 - Q_1)}{(P_2 - P_1)} \times \frac{P_1}{Q_1} = \frac{(2 - 4)}{(2500 - 2000)} \times \frac{2000}{4}$$

$$= (-) \frac{-4000}{2000} = 2, \text{ This means that the price elasticity of demand is 2}$$

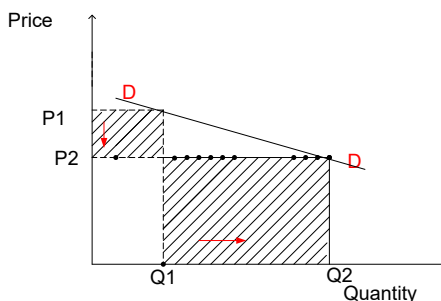
Note:

- Elasticity does not have units,
- To make the answer positive, a negative sign is multiplied in the formula of price elasticity. This is done to make easy interpretation of price elasticity of demand.

b. Categories and interpretation of elasticity of demand

i) Elastic demand: demand is elastic when a small change in price causes a proportionately bigger change in quantity demanded.

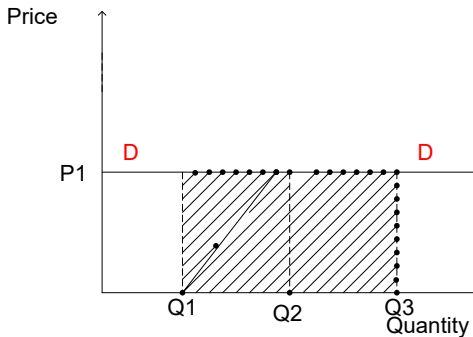
Elasticity demand curve:



This is when price elasticity of demand is greater than one but less than infinity ($1 < Ed < \infty$). In such case, percentage change in quantity demanded is greater than percentage change in price. This figure shows an elastic demand curve (**DD**). Change in price by P_1, P_2 leads to a proportionately greater change in quantity demanded (Q_1, Q_2).

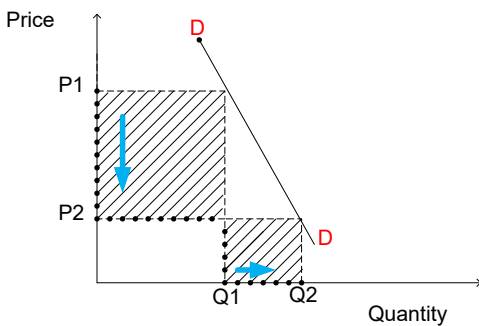
ii) Perfectly elastic demand: demand is perfectly elastic when price is constant, and quantity demanded changes infinitely.

Perfectly elastic demand curve:



This is when price elasticity of demand equals to infinity meaning that buyers are prepared to buy all they can at or below the same price and none at all even at slightly higher price. This is illustrated in the following figure. At or below P_1 nothing is purchased at all.

iii) Inelastic demand: demand is inelastic when a big change in price causes a proportionately small change in quantity demanded.

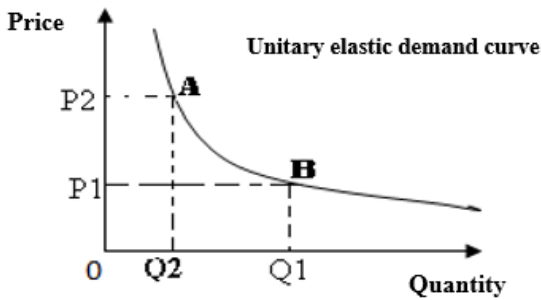


This is when price elasticity of demand is greater than zero but less than one $0 < E_d < 1$.

We may also note it as $(0 < n < 1)$. It means that quantity demanded changes by smaller percentage than does the price. This is illustrated in the following figure. A big percentage change in price (P_1, P_2) leads to a small percentage change in quantity demanded (Q_1, Q_2)

Note that $\Delta Q < \Delta P$ it is inelastic demand.

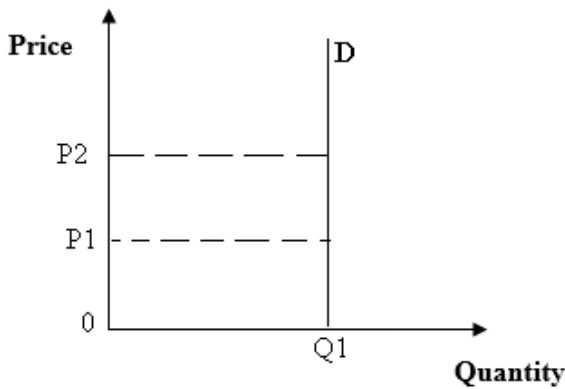
iv) Unitary elastic demand: demand is unitary elastic when the percentage change in price causes the same percentage change in quantity demanded.



This is when price elasticity of demand is equal to one. This gives rise to a rectangular hyperbola demand curve. Note that the area below the demand curve is uniform.

E.g. $OP_2AQ_2 = OP_1BQ_1$

v) Perfect inelastic demand: demand is said to be perfectly inelastic when a change in price doesn't affect the quantity demanded.



This is when price elasticity of demand is zero. It means that quantity demanded does not respond to change in price at all. This is illustrated in figure below. Change in price from OP_1 to OP_2 leaves quantity demanded (OQ_1) unaffected. E.g. demand for cigarettes.

vi) Relationship between price elasticity of demand and total revenue

Price elasticity of demand		Price	Total revenue
1. $E_d > 1$	Elastic	Increase	Decrease
		Decrease	Increase
2. $E_d < 1$	Inelastic	Increase	Increase
		Decrease	Decrease
3. $E_d = 1$	Unitary elastic	Increase	Not change
		Decrease	Not change

▲ Total revenue is equal to the price of a good times the quantity of the goods sold.

$$TR = Q \times P$$

c. Income elasticity of demand

Income elasticity of demand measures the relationship between the consumer's income and the demand for a certain commodity. It may be positive or negative, or even non-responsive for a certain product. The consumer's income and product's demand are directly linked to each other. It is the measure of the degree of responsiveness of quantity demanded of a commodity due to a change in consumer's incomes

$$EY = \frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in consumer's incomes}}$$

$$= \frac{\frac{\Delta Q \times 100}{Q}}{\frac{\Delta My \times 100}{My}} = \frac{\Delta Q}{\Delta MY} \times \frac{My}{Q} \text{ or simply } \frac{\Delta Q}{\Delta Y} \times \frac{Y}{Q}$$

Where: ΔQ is the change in quantity demanded

ΔMy : Is the change in the consumer's money income

My : Is the original money income

Q : Is the original quantity demanded of the commodity.

$$\text{Or } EY = \frac{Q_2 - Q_1}{Y_2 - Y_1} \times \frac{Y_1}{Q_1}$$

Where: Q_2 = New level of demand

Q_1 = Original level of demand

Y_2 = New level of income of the consumer

Y_1 = Original level of income of the consumer.

Example: Given the following market schedule

Income (Y) (Frw)	Quantity demanded of Pens (Pieces)
1,200	60
1,000	50

Compute the income elasticity

Solution:

$$EY = \frac{\Delta Q}{\Delta Y} \times \frac{Y}{Q} = \frac{60 - 50}{1,200 - 1,000} \times \frac{1,000}{50} = \frac{10}{200} \times \frac{1000}{50} = 2$$

Exercise on YED

Given the following information, you are required to calculate the income elasticity of demand.

Income (Frw)	Demand (kg)
9,000	14
12,000	10

Interpretation of income elasticity of demand

d. Income elastic demand

This is when income elasticity of demand is greater than one meaning that quantity demanded changes proportionately more than change in incomes, ceteris paribus. i.e. slight increase in consumer's money income leads to a very large increase in quantity demanded whereas a slight fall in consumers' money income leads to a large reduction in quantity demanded.

Example 1:

Demand schedule

Income (Y) (Frw)	Quantity demanded of beans (Kgs)
42,000	160
40,000	80

$$EY = \frac{160 - 80}{42,000 - 40,000} \times \frac{40,000}{80} = \frac{80}{2,000} \times \frac{40,000}{80} = 20$$

Example 2:

Demand Schedule

Y(Frw)	Quantity demanded of Pens
3,500	20
40,000	40

$$EY = \frac{20 - 40}{35,000 - 40,000} \times \frac{40,000}{40} = \frac{-20}{-5,000} \times \frac{40,000}{40} = 4$$

e. Income inelastic demand

This is when income elasticity of demand is less than one but greater than zero ($0 < EY < 1$). This means that percentage change in income leads to proportionately less percentage change in quantity demanded.

Example:

Y (Frw)	Quantity demanded (Kg)
10,000	28
50,000	30

$$E_y = \frac{28 - 30}{10,000 - 50,000} \times \frac{50,000}{30} = \frac{-2}{-40,000} \times \frac{50,000}{30} = 0.08$$

- f. When income elasticity of demand is negative, it means that the commodity is inferior. That is to say, as income increases people buy commodities in less quantity.

Example:

The demand schedule

Income (Y) (Frw)	Quantity demanded (Kgs)
4,000	40
5,000	30

$$EY = \frac{30 - 40}{5,000 - 4,000} \times \frac{4,000}{40} = \frac{-10}{1,000} \times \frac{4,000}{40} = -1$$

g. When it is **zero**, it means that the commodity is a **necessity**. This means that, as incomes increase, quantity demanded remains constant e.g., salt.

Example:

The demand schedule

Y (Frw)	Quantity demanded (Kg)
7,000	2
5,000	2

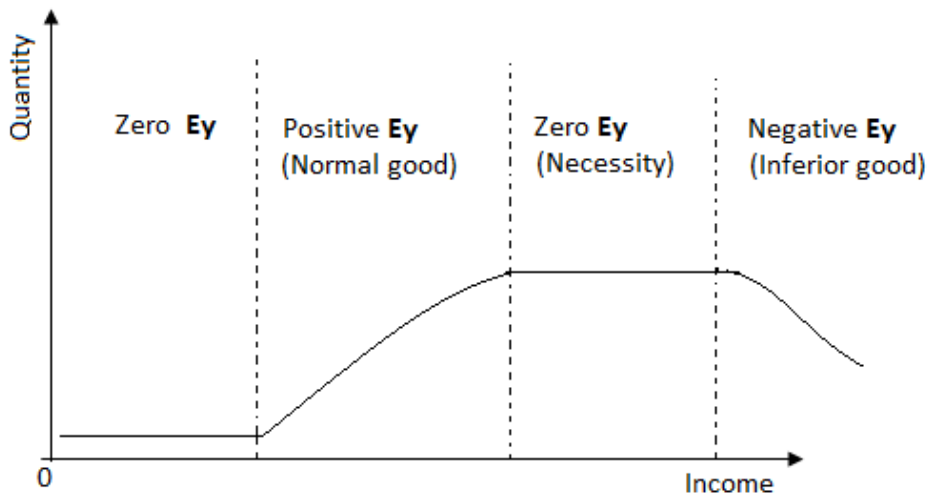
$$EY = \frac{2 - 2}{5,000 - 7,000} \times \frac{5,000}{2} = 0$$

When it is positive, it means that the commodity is a **normal good** i.e., as incomes increase, quantity demanded increases and vice-versa.

Note:

Income elasticity of demand may be different for the same commodity at different income levels. This is illustrated graphically in the figure below.

Income elasticity of a commodity at different income levels



From this figure, it should be noted that the commodity can be a normal good, necessity or inferior good depending on the income levels of the households. The consumer may buy more of the commodity as his/her income increases (there it would be a normal good). Later he/she buys the same amount even if his/ her income increases (the commodity becomes

a necessity). Finally, he /she may start buying less of the commodity and to consume more expensive commodities as his/her income increases (the commodity becomes an inferior good).

1. Cross elasticity of demand

Cross elasticity of demand is a measure of the degree of responsiveness of the quantity demanded of a commodity to changes in prices of other commodities. The cross elasticity of demand measures the relationship between changes in the demand for a commodity and the price of its other related goods.

$$CED = \frac{\text{Percentage change in quantity demanded of commodity X}}{\text{Percentage change in price of commodity Y}}$$

$$= \frac{\Delta Q_x}{\Delta P_y} \times \frac{P_y}{Q_x}$$

Where: **CED**: Cross elasticity of demand

ΔQ_x : is the change in quantity demanded of commodity (X)

ΔP_y : is the change in the price of other commodities (Y)

P_y : is the original price of commodity (Y)

Q_x : is original quantity demanded of the commodity (X)

Calculation and interpretation of cross elasticity of demand

1. When cross elasticity of demand is **positive**, the commodity (X) and (Y) are **substitutes**. This means that the increase in the price of other commodities (Y) leads to an increase in quantity demanded of the commodity.

For example, when the price of peas increases, the quantity demanded of beans increases because consumers would substitute cheap beans for expensive peas.

Example:

Given the following market demand schedule of substitutes,

Price of Irish potatoes in Frw	Quantity demanded of sweet potatoes in kg
200	50
150	40

Cross Elasticity of demand

$$= \frac{Q_2 - Q_1}{P_2 - P_1} \times \frac{P_1}{Q_1} = \frac{40 - 50}{150 - 200} \times \frac{200}{50} = 0.8$$

The Cross elasticity is **positive**. This means that the commodities potatoes and sweet potatoes are **substitutes**. The increase in price of Irish potatoes leads to an increase in the quantity demanded of sweet potatoes.

- When cross elasticity of demand is **negative**, then commodities (X) and (Y) are **complements** (or joint products). This means that the increase in prices of other commodities (Y) leads to a decrease in quantity demanded of the commodity (X).

For example, if the price of cars increases, the quantity demanded of petrol decreases because of the fall in quantity demanded of cars.

Example:

The market demand schedule of complements

Price of cars (£)	Quantity demanded of petrol
8,000	30
10,000	20

$$\text{Cross Elasticity of demand} = \frac{Q_2 - Q_1}{P_2 - P_1} \times \frac{P_1}{Q_1} = \frac{20 - 30}{10,000 - 8,000} \times \frac{8,000}{30} = -1.33$$

- When the cross elasticity of demand is **zero**, then the two commodities are **not related at all** i.e., quantity demanded of the commodity X is not affected by change in prices of other commodities (Y).

Example:

The demand schedule of non-related commodities

Price of rice (Frw)	Quantity demanded of blocks
700	40
600	40

$$\text{Cross Elasticity of demand} = \frac{Q_2 - Q_1}{P_2 - P_1} \times \frac{P_1}{Q_1} = \frac{40 - 40}{600 - 700} \times \frac{700}{40} = 0$$

Here, it means that two commodities (block and rice) are not related at all. i.e. quantity demanded of rice is not affected by change in price of blocks and vice-versa.

Exercise

Use the following information to answer the questions thereafter.

Price of commodity W	Quantity demanded of commodity Z
1,000	20
8,000	30

Required:

- i) Calculate cross elasticity of demand of commodity W.
- ii) Interpret your finding precisely indicating whether the two commodities are not related, complements, or substitutes.

2. Determinants of price elasticity of demand

- **Availability of substitutes:** If a commodity has many substitutes, its demand will tend to be price-elastic, i.e., if its price increases, consumers immediately switch to substitutes. If a commodity has few or no substitutes, its demand will tend to be price inelastic, i.e., if its price increases, the quantity demanded remains more or less the same because consumers have no substitutes to switch to.
- **Degree of necessity:** The price elasticity of demand for necessities tends to be inelastic because they are indispensable. For example, even if the price of salt increases, the quantity demanded would remain nearly the same, since an increase in price cannot induce buyers to abandon the commodity. Luxury goods are dispensable and therefore have a high price elasticity of demand. When luxury goods prices rise, consumers abandon them because they are things one can survive without.
- **Price of complements:** When goods are complementary (i.e., they are used together), they have inelastic demand e.g., if the price of tea has not changed, a change in price of bread may not seriously affect the demand.
- **Incomes of consumers:** When there are many low-income earners, price elasticity of demand tends to be high. When the price increases, the poor leave the commodity or buy less of it. When there are many rich people, price elasticity of demand is very low because the rich can afford to buy the same quantity at any price.

- **Cost of the commodity:** When a commodity takes a small fraction of consumers income, its demand tends to be price inelastic. Example: a matchbox. When the commodity accounts for a large portion of consumer's income, its demand tends to be price-elastic as the price increase would be easily felt.
- **Habit in use of the commodity:** This makes the demand for the commodity price inelastic. Example demand for cigarettes or alcoholic drinks may not be easily affected by changes in their prices.
- **Price expectations:** Demand is inelastic if the price of a given commodity is expected to increase in future. This is because customers would want to buy now knowing that the price of that commodity would be higher in future. On the other hand, if the price of a commodity is expected to decrease in future, demand would be elastic because consumers would buy less today and expect to buy in future at a decreased price.
- **Durability of the commodity:** Durable commodities such as computers, cars, etc. have a fairly low-price elasticity of demand. Even if the price of such commodities falls, one may not buy another one (when he/she already has one). Demand for perishable products like milk is inelastic because when the price falls, consumers may not buy more because they cannot easily store such products for a long time. Products which are easy to store e.g., beans, grains etc., have a higher elasticity of demand i.e. when the price falls, consumers buy more and keep them in stores for future consumption.

3. Practical application of price elasticity of demand

- a) Producers:** Price elasticity of demand helps producers to make decisions on whether to increase or reduce the price.
- (Elastic demand: Total revenue would increase if the price is reduced because quantity demanded would increase when the price is reduced. (Note $TR = P \times Q$). However, increase in price leads to a reduction in total revenue since quantity demanded would fall with increase in price.
 - Inelastic demand: Total revenue would increase when the price is increased since quantity demanded would remain more or less the same. When the price is reduced, total revenue would fall because quantity demanded would not increase much.

- Unitary elastic demand: When the price is increased, quantity demanded reduces by the same percentage leaving the total revenue the same. When the price is reduced, quantity demanded increased by the same percentage, leaving total revenue the same.

b) Devaluation (legal reduction of value of currency in terms of other currencies): This refers to the legal reduction of the value of the country's currency in terms of other currencies aiming at earning more foreign exchange (by increasing exports and reducing imports). It is successful only when price elasticity of demand for imports and exports is high.

c) Taxation: Commodities with inelastic demand should be taxed more because it would not affect their consumption and production. Commodities with elastic demand should be taxed less so as not to affect their production and consumption. Taxation on imports would reduce the inflow only if their demand is price elastic.

d) Tax incidence: Elasticity of demand is helpful in determining how much of tax the consumer and the producer have to pay. When demand is inelastic, more of tax would be paid by the consumer because the seller would manage to shift the tax to the consumer in form of a high price. When the demand is elastic the producer (seller) would pay more of the tax because he/she would not succeed in shifting it on to the consumers (buyers) in form of high price.

e) It helps the government to determine commodities which it should control. If demand is inelastic the government may want to control the marketing of the commodity to protect consumers from being exploited by private firms.

8.2.2. Elasticity of supply

Elasticity of supply is a measure of the responsiveness of the quantity supplied to changes in determinants of quantity supplied. Elasticity of supply usually means price elasticity of supply. This is because apart from price, other determinants of quantity supplied are difficult to measure. In this unit, we are going to describe price elasticity of supply only.

$$E_s = \frac{\text{Percentage change in the quantity supplied}}{\text{Percentage in the price of the commodity}} = \frac{\frac{\Delta Q_s}{Q_s} \times 100}{\frac{\Delta P}{P} \times 100} = \frac{\Delta Q_s}{\Delta P} \times \frac{P}{Q_s}$$

Where: ΔQ_s = is the change in quantity supplied of the commodity

ΔP =is the change in the commodity's own price

P = is the original price of the commodity

Q_s = is the original quantity supplied of the commodity

$$\text{Or } Es = \frac{Q_2 - Q_1}{P_2 - P_1} \times \frac{P_1}{Q_1} \text{ or } \frac{\Delta Q}{\Delta P} \times \frac{P_1}{Q_1}$$

Where: Q_2 =New level/amount of quantity supplied

Q_1 =Original quantity supplied

P_2 =New price level

P_1 =Original price level

ΔQ =Change in quantity supplied

ΔP =Change in price i.e., $P_2 - P_1$

Example:

Calculate the price elasticity of supply when the price of the commodity falls from 60 Frw to 40 Frw and the quantity supplied falls from 8,000 units to 4,000 units.

$$Es = \frac{\text{Percentage change in the quantity supplied}}{\text{Percentage in the price of the commodity}} = \frac{Q_2 - Q_1}{P_2 - P_1} \times \frac{P_1}{Q_1}$$

Where: $Q_2 = 4,000$ $Q_1 = 8,000$ $P_2 = 40$ $P_1 = 60$

$$Es = \frac{4,000 - 8,000}{40 - 60} \times \frac{60}{8,000} = \frac{-4,000}{-20} \times \frac{60}{8,000} = \frac{3}{2} = 1.5$$

Exercise on PES

Given that the price of commodity Y reduced from FRW 600 to FRW 450 resulting in a decrease of its quantity supplied from 800kg to 200kg. Determine its price elasticity of supply.

a. Determinants of elasticity of supply

- **The cost and availability of factors of production:** when factors of production are scarce and expensive, supply cannot be easily increased even if the price of the commodity rises. Thus, it becomes inelastic. But when they are readily available and cheap, supply becomes elastic.

- **Nature of the commodity:** Perishables have inelastic supply such that when prices reduce, almost the same quantity will be supplied. This is because they cannot be stored to be supplied in future when prices are favorable. Durables have elastic supply. As a result, they can be stored, and supply varies depending on the price level.
- **Gestation period (maturity period):** This is the time lag between when the decision to supply a commodity is taken and when it is actually supplied. Commodities with a short maturity period have elastic supply. Their supply can be increased quickly and easily when prices increase. Those with long gestation periods have inelastic demand.
- **Time:** In the short run, supply becomes inelastic because it cannot be increased easily even if prices increase. In the long run, supply becomes elastic since time is enough to allow supply to increase with increase in prices.
- **Method of production used:** Advanced methods of production make supply elastic. This is because it is easier and quicker to produce and increase supply. Use of traditional, inefficient, and past methods of production slows down the rate of production, making supply inelastic.
- **Government policy:** Rigid, bureaucratic tendencies, unattractive policies or high tax rates backslides production, making supply inelastic. Subsidization of producers reduces costs of production and makes it easy to increase supply and so make it elastic.
- **Freedom of entry of new firms into the industry:** Freedom of entry of new firms into the industry makes supply elastic. Restricted entry makes supply inelastic.
- **Mobility of factors of production:** Mobility of production both occupational and geographical quickens and simplifies production. This makes supply elastic. Immobility of factors makes supply inelastic.
- **The amount of stock kept in store:** When producers are holding large stock of commodities in their stores, supply for such commodities will be elastic and vice versa, other factors remaining constant.
- **Full employment situation:** In a situation of full employment, the supply of most goods and services will be inelastic and vice versa.

- **Factors mobility:** When factors of production are easily relocated from one line of production to another, elasticity of supply is high. If resources are immobile, elasticity of supply is below because it would be difficult to shift resources to or from other tasks.

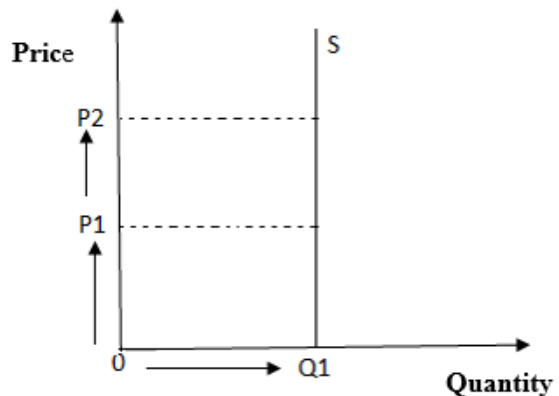
b. Categories and interpretation of elasticity of supply

Price elasticity of demand may be categorized as follows:

- Perfectly inelastic supply
- Inelastic supply
- Unitary elastic supply
- Elastic supply
- Perfectly elastic supply.

i. Perfectly inelastic supply ($ES=0$)

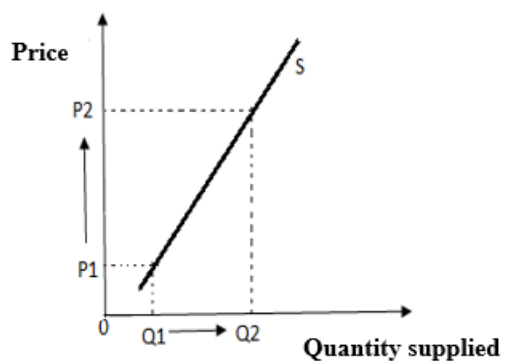
This is a situation where the quantity supplied does not change despite changes in the price. The supply curve is vertical (straight line.)



ii. Inelastic supply

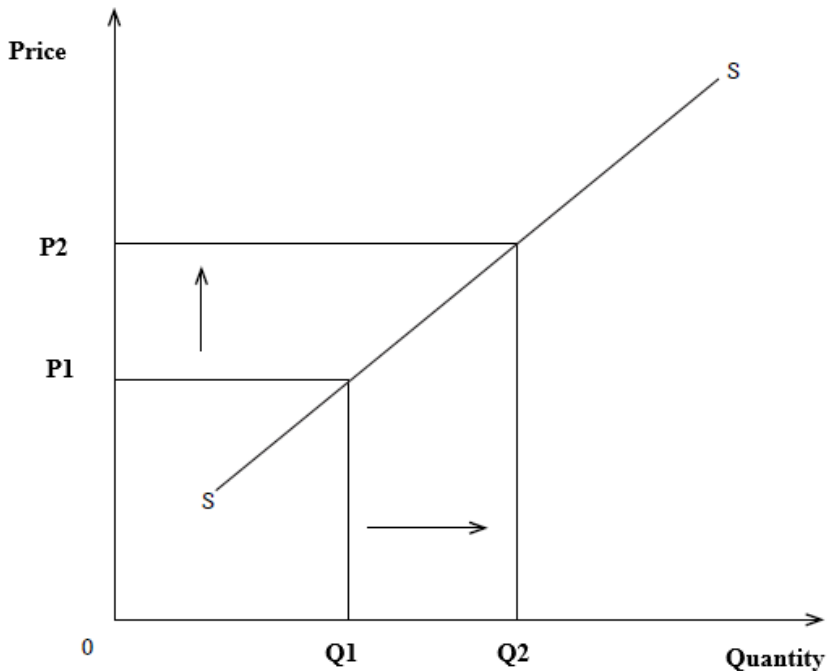
This is a situation where change in price brings about a less proportionate change in quantity supplied. i.e. a big change in price brings about a small change in quantity supplied.

A big change in price and a small change in the quantity supplied



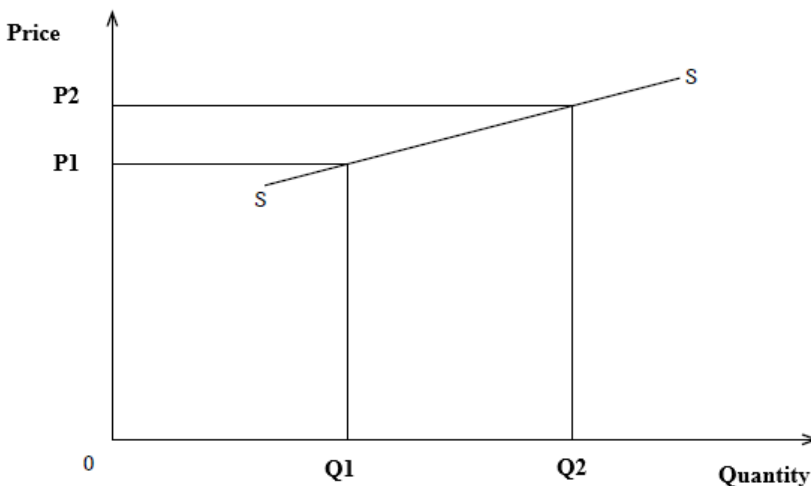
iii. Unitary elastic supply ($E_s=1$)

This is a situation when a change in price results into a proportionately equal change in quantity supply. Suppliers respond to changes in price. A change in price leads to a relatively equal change in quantity supplied.



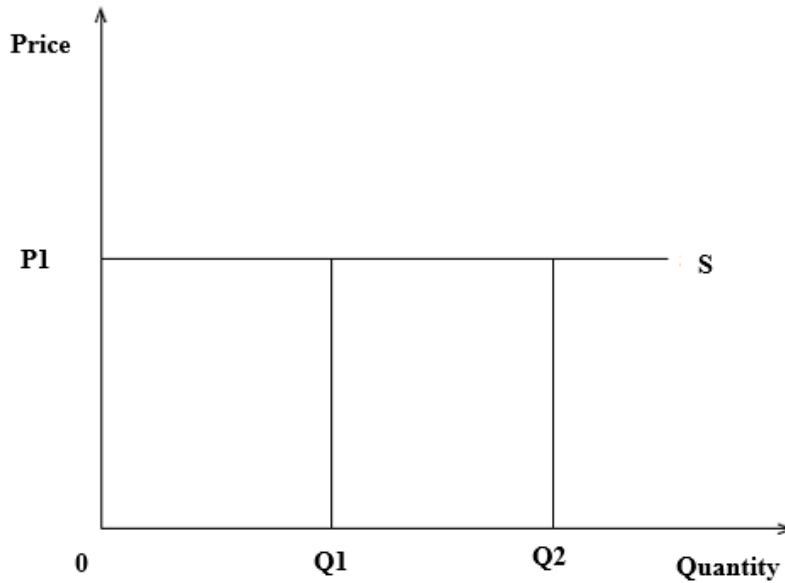
iv. Elastic supply

This is a situation where a change in price brings about a more than proportionate change in the quantity supplied i.e. a small change in price brings about a more than proportionately bigger change in the quantity supplied.



v. Perfectly elastic supply ($E_s = \infty$)

This is a situation when the price of a commodity is fixed or stays constant at all levels of supply i.e., at constant price, supply changes to various levels and the supply curve is horizontal.



Price remains constant at OP1, but quantity supplied changes from OQ1 to OQ2.



Application Activity 8.2

1. Given that the price of rice reduced from 600 Frw to 450Frw. As a result, the quantity demanded of rice increased from 120kgs to 200kgs. Determine its price elasticity of demand.
2. Jacob's income increased from FRW50,000 to FRW70,000, leading to a reduction in the quantity demanded of commodity X from 70 kg to 40kg,
 - i) Find the income elasticity of demand.
 - ii) What kind of commodity is X?
3. Given that the price of commodity Y increased from FRW 2,000 to FRW7,000 leading to a reduction in the quantity demanded of commodity X from 50 kg to 30 kg,
 - a) Find the cross elasticity of demand.
 - b) State the relationship between commodity Y and X.
4. The quantity demanded of commodity X increased from 400 litres to 750 litres as a result of a 20% increase in price of commodity Y. Determine the cross elasticity of demand and the relationship between commodity X and Y.
5. The price of commodity X increased from 100kgs to 300kgs as a result of a 20% increase in its quantity supplied. Determine its price elasticity of supply.



Skills Lab 8

Given that the price of the business club's liquid soap increased from FRW7,000 to FRW 12,000 leading to a reduction in the quantity demanded of UBWIZA shop located nearby the school from 50 kg to 30 kg,

- i) Find the cross elasticity of demand.
- ii) State the relationship between the business clubs' product and UBWIZA's product.



End of Unit 8 assessment:

1) Distinguish between elasticity of demand and elasticity of supply.

2)

Price of commodity Z (Frw)	Quantity demanded of commodity Z (Kg)
5,000	25
7,500	20

Using the figures from the table,

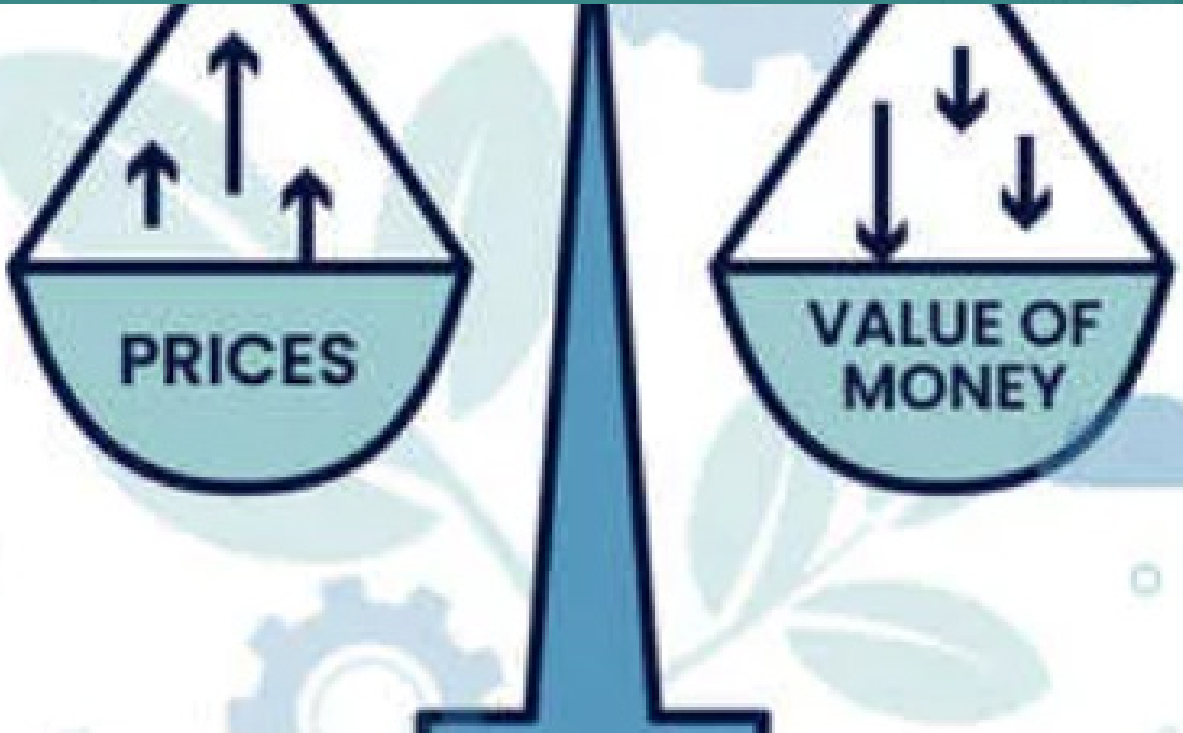
- (i) Calculate the price elasticity of demand for commodity Z
 - (ii) What category of price elasticity of demand does commodity Z have?
- 3) The quantity demanded of commodity Y reduced from 70 kg to 65 kg as a result of a 20% increase in the price of another commodity X from 2,000 Frw to 4,000 Frw.


Required:

- (a) Determine the cross elasticity of demand between commodities Y and X
- (b) State relationship between commodities Y and X
- (c) Give two examples of such commodities.
- 4) Explain the relevance of price elasticity of demand to government's taxation policy.
- 5) How important is the knowledge of price elasticity of demand to the producer?
- 6) Given that the price of a commodity reduced from FRW 3,000 to FRW 1500 leading to a decrease in its quantity supplied from 100kg to 50kg, determine the elasticity of supply for this commodity and give its category.
- 7) What is measured by the following?
 - (i) Elasticity of supply
 - (ii) Cross elasticity of demand
 - (iii) Price elasticity of demand

UNIT 9

PRICE MECHANISM



 **Key unit competence:** To be able to analyze the role of price mechanism in the allocation of resources



Introductory activity 9.

Assess the local market of agricultural products in your home town as well as the behaviors of suppliers and -consumers in the two different situations:

When there is an abundance of Irish potatoes are and when Irish potatoes are scarce.

Then respond to the following questions:

1. When there is plenty of Irish potatoes and
2. When Irish potatoes are scarce.

Then respond to the following questions:

- a) What price changes do you anticipate in both situations? when does the price rise and when does it fall?
- b) In which situation does the demand rise and when does it fall?
- c) What are the advantages and disadvantages of prices being fixed by the forces of demand and supply?
- d) If price fluctuation occurs regularly in your home place, what do you think would be the effects?
- e) After analyzing the above effects, what advise would you give the government to control price changes?

9.1. Meaning, advantages, and disadvantages of price mechanism

Learning activity 9.1



1. With tangible examples, explain how price can be determined by the forces of demand and supply.
2. If there is no government intervention in fixing of prices how are the prices determined?

9.1.1. Meaning of price mechanism

Price mechanism refers to the system whereby resources in an economy are allocated by prices. Under this system (also known as Price system) the prices are determined by forces of demand and supply; producers aim at profit maximization and consumers aim at utility maximization. Because producers decide what to produce basing on consumer's choices, there is what is called "*Consumer sovereignty*" and therefore, the government's intervention in the production decisions is null.

Price mechanism **works/ operates under free enterprise economy, where all goods and services carry price tags with them.** A whole set of prices prevail in such economy.

9.1.2. Advantages and Disadvantages of Price mechanism

i) Advantages of price mechanism

- Price mechanism promotes efficient allocation and use of resources. Due to competition and desire to maximize profits, resource owners allocate them more efficiently to avoid wastages.
- Under price mechanism, there is economic growth. Producers do research, invention and innovations which leads to increase in production and improvement in technology therefore resulting into economic growth.
- Efficiency in production: There is competition between producers. These will cut on costs to compete favorably in the market.
- There is speculation under price mechanism. Speculators ensure steady supply of commodities. Consumers are offered a chance to access commodities all the time.
- Price mechanism encourages acquisition and distribution of commodities from areas where supply is high to areas where there is little or no supply. This also ensures a ready supply of commodities to the consumers
- Price mechanism answers the following economic questions:
 - a) **What to produce:** Producers produce commodities that fetch high profits.
 - b) **How to produce:** The method of production used should be cost effective.
 - c) **For whom to produce:** Producers manufacture or produce commodities when they are assured of a ready market for the goods.
 - d) **When to produce:** Commodities are normally produced when needed.
- It encourages effective distribution and redistribution of resources. Resources are distributed to areas where they are rewarded favorably depending on their demand and prices. Land is used in areas where rent is high, labour goes to where wages are high and capital where interest is maximum.

- Price mechanism works automatically. It therefore does not require the government to put in a lot of resources for implementation. This makes it cheap to operate. It is the responsibility of the government and gives it a chance to concentrate on other areas.

ii) Disadvantages of price mechanism

- Price mechanism promotes income inequality. Resource owners earn more incomes than those without.
- The high cost and inefficient firms are pushed out of business by the most efficient ones. This kind of competition may result in a monopoly in the long run.
- The desire to maximize profits is high under price mechanisms. This profit-oriented motive can make producers supply us with substandard or counterfeit products or exploit consumers who have little information about the market.
- Since there is no government control in the price mechanism, there may be introduction of harmful and illegal products to the market.
- Too much competition may eliminate upcoming and small firms from the market. This may lead to under utilization of some resources.
- Unprofitable but essential commodities may disappear from the market. Private producers aim at making profits and not providing satisfaction or essential commodities. Private producers of much more benefits may overrun public benefits. Producers aim at satisfying their individual interests and not public interest.
- The price system cannot provide public goods some of which are not profit making. For instance, streetlights may not be provided by the private sector which aims at profit making.
- Price mechanism may bring about price fluctuations. Change in demand and supply result into price changes in the market. When demand exceeds supply, price increases. When supply exceeds demand, price lowers.



Application Activity 9

1. How does the price mechanism operate?
2. With real life examples from your community or country, analyse the advantages and disadvantages resulted from price mechanism

9.2. Solutions to shortcomings of price mechanism



Activity 9.2

Propose the solutions to address challenges of price mechanism.

The disadvantages of price mechanism can be rectified through the following means:

- **Taxation:** Differences in incomes created by price mechanism can be corrected through taxation. In this case, the rich may be taxed more than the poor. As a result, the negative outcomes of price mechanism may be reduced.
- **Price control:** Private producers in most cases cheat consumers by increasing prices. As a result, price control measures are put in place to curb this problem. This is done mainly by the government, through setting the minimum and maximum prices for the commodities. This prohibits producers with monopoly powers from increasing prices unnecessarily so as to maximize profits.
- **Economic planning:** The government carries out short term and long-term economic planning. This planning ensures provision of services and utilities that cannot be provided by private entrepreneurs. This also helps to bring about quick structural changes that price mechanism cannot enforce.
- **Formation of consumer associations:** This protects consumers against exploitation by the profit motivated private producers. It increases the negotiating capacity of consumers. Consumer associations also provide market information to consumers.
- **Government support:** The government may subsidize weak firms. This helps the upcoming or weak firms to grow, expand and compete

with other firms in the market. Competition improves the quality of products.

- **Using anti-monopoly/Anti-trust laws:** Such laws remove the basis of monopoly created through price system. These prevent firms from merging to become monopolies.
- **Nationalization:** The government may take over private firms as a way of controlling the private sector. This reduces private interest that could overrun the public interest in the price system.



Application Activity 9.2

1. Explain how nationalization can better settle the problems of price mechanism than privatization.
2. How can taxation play a great role in solving problems of price mechanism.

9.3. Price fluctuations



Activity 9.3

Visit the website of National Institute of Statistics of Rwanda (NIR) and gather information on the prices of different agricultural commodities in the 2 last years. Discuss and answer the following questions.

- a) Were there frequent changes in the prices of commodities?
- b) If yes, identify the reasons and solutions for such changes in prices.

9.3.1. Meaning of price fluctuation

Price fluctuation is the continuous alternate rise and fall in prices of commodities. This is mostly common in the agricultural sector. Usually during the planting seasons, prices for agricultural products are high. After harvest, prices reduce. Without government interventions, in periods when supply for agricultural products is high, prices are low. When supply reduces, prices increase. Therefore, the differences between supply and demand in the agricultural sector and failure to regulate supply basically

explain the constant price fluctuations. Price fluctuations are illustrated by use of cobweb models.

9.3.2. Causes of price fluctuations of agricultural products

As discussed in the previous paragraphs, the differences between supply and demand in the agricultural sector and failure to regulate supply basically explains the constant price fluctuations. These differences can be as a result of:

- i) **Perishable commodities:** Most agricultural products are perishable. They cannot be kept for long. Before harvest, supply is down. At this time, demand is greater than supply. This forces the prices to rise. After harvest, supply is high. It exceeds demand. This forces prices of commodities such as tomatoes, bananas, onions, and vegetables to fall, failure to which the goods may rot and fail to be sold.
- ii) **Long gestation periods:** There is usually a long-time lag between planting season and harvesting period. Immediately after planting, supply remains very low. Because of low supply, prices are high. When harvesting season sets in, supply increases. As supply keeps increasing, prices of agricultural products keep on reducing
- iii) **Difference between planned output and actual output.** Agricultural production mostly in developing economies largely depends on natural conditions or factors. These include the amount of rainfall received, effects of pests and diseases, and changes in weather conditions. These factors affect agricultural output either positively or negatively. As a result, farmers' expected output may vary from what is actually harvested, depending on how favorable or unfavorable these natural conditions were. When the natural factors are favorable, agricultural harvest may be higher than what was planned. This may lead to a decrease in the price, as there is more supply. On the other hand, when natural conditions become hostile, agricultural harvest reduces. Consequently, prices will rise due low supply in the market.
- iv) **Agriculture in developing economies is practiced by many, small scale producers.** Most producers use old methods of production. Regulating output to equate it with demand is difficult. This causes fluctuations in prices.
- v) **Agricultural producers in developing countries produce similar products.** They compete for the available market. Thus in case of surplus output, it may not be absorbed by the market which in turn forces selling prices to go down.

vi) Absence of effective commodity programs. Most developing economies lack programs that can be used to regulate supply and then stabilize prices.

vii) Agricultural products have low market in industrial production. This reduces the market for surplus output in developing countries. Discovery of new technologies in developed countries reduced the demand for agricultural products. Thus, excess agricultural output cannot be easily disposed off. This forces prices down.

viii) Agricultural products have inelastic demand. This is because most of them are food stuffs. For instance, even if the price for food reduces, the amount of food eaten by an individual almost remains constant. When there is excess supply, disposing it off becomes difficult. On the other hand, food is a necessity, irrespective of the price, people have to consume food. Thus, a reduction in supply forces the price to go up

9.3.3. Effects of price fluctuations

Price fluctuations in the agricultural sector lead to changes in farmer's incomes. This affects their activities in the long run. The effects include:

- **Planning becomes difficult.** This is because of fluctuation in farmer's incomes and government revenue. Implementation of government plans is affected.
- **Government revenue is affected.** In some developing countries like Rwanda, Agricultural production is a source of revenue to the government.
- **Agricultural production is discouraged.** Some producers are discouraged and may abandon agricultural production in favor of other sectors. This will result into fluctuations in employment in agricultural sector.
- **Modernization of agriculture becomes difficult.** This is because it becomes difficult to rely on agricultural revenue to improve agriculture.
- Price fluctuation affects **foreign exchange earnings** from agricultural exports. This may lead to Balance of Payment (BOP) deficits when prices of exports reduce.

9.3.4. Measures to control price fluctuation

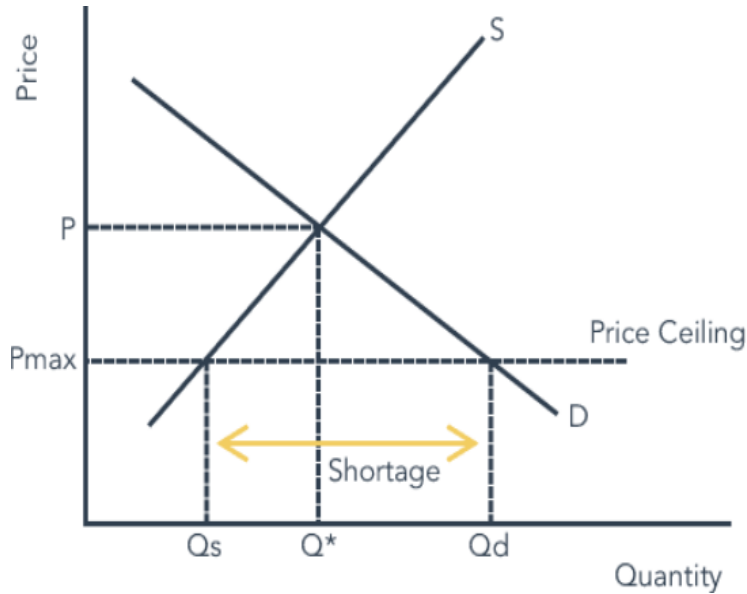
The following can be done to reduce price fluctuations in agricultural sector:

- 1. Improving storage systems:** Stable prices in the agricultural sector can be ensured by improving storage systems. This will help to regulate supply by storing the excess output during periods of bumper harvests. The excess will be used to stabilize prices in periods of scarcity. This practice of storing products accumulated during excess supply and distribute during the period of scarcity is also known as **Buffer Stocking**
- 2. Improve transport systems:** This facilitates the movement of commodities from areas of plenty to areas of scarcity, quickly and cheaply. This also helps to regulate supply.
- 3. Diversification of the agricultural sector:** This creates a variety of commodities supplied to the market. It also reduces competition among sellers especially in foreign markets.
- 4. Improvement in technology:** Technology reduces dependence on natural conditions. This increases the quality of output which makes it competitive.
- 5. Processing agricultural products:** This adds value to agricultural products and makes them competitive.
- 6. International commodity agreements:** These agreements can be used to stabilize prices on the international market. These help to stabilize prices of agricultural products by regulating production in the member countries.
- 7. Stabilisation process:** Prices can be stabilized through establishment of farmers' associations to regulate supply. These associations may help to fix quotas and regulate supply. Farmers would produce according to the fixed quotas.
- 8. Price control / Administrative price:** Price control refers to the methods that can be used to interfere with the forces of demand and supply in determining prices. Price mechanism is not allowed to influence prices in the market. It can also be called price administration.

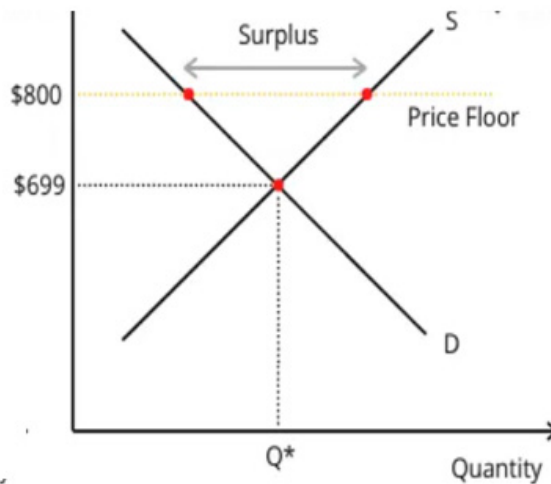
The following are the methods used to fix/ control prices:

- **Maximum price legislation (price ceiling):** This is the highest price fixed by the government below the equilibrium point above

which it is illegal to buy or sell the commodity. Sellers and buyers are required by law not to buy or sell above the fixed price. As it is fixed below the equilibrium, consumers are willing and ready to buy more commodities since the prices are affordable. On the other hand, however, sellers are discouraged by the low price. Quantity supplied reduces.



- Minimum price legislation (price floor):** This is the lowest price fixed by the government above the equilibrium point below which it is illegal to buy or sell commodities. For instance, a minimum wage for workers or minimum price set by the government for agricultural products to protect farmers from being cheated by the profit-oriented traders/ middlemen.



- **Resale price maintenance:** This is where the producer fixes the price of his products up to the retail level i.e. retailers sale at a constant price fixed by the producer.
For instance:
 - Prices of Newspapers.
 - Prices of Airtime cards.
 - Prices of Textbooks etc.
- **Rent control:** This is where the government intervenes to fix prices of housing facilities especially in urban areas where their demand is always high as a way of protecting consumers (tenants).
- **Rationing:** This is where the government takes control of the supply channel of a scarce commodity and distributes it to consumers equally at a constant price. It is aimed at ensuring supply of the scarce commodity to all consumers.
- **Use of international commodity agreements**

9.3.5. Effects of price control

Positive effects:

- Resale price maintenance stabilizes producer's incomes i.e. whether demand is greater or less than supply, producer prices and incomes remain the same.
- Maximum price controls monopoly power. Monopolists usually cheat buyers by charging high prices. Thus, maximum price legislation will control price increases by monopolists.
- Price controls maintain price stability. Prices are kept constant and this favours consumers. It keeps the real value of their incomes stable.
- Price control protects consumers from being exploited by profit motivated producers. In periods of scarcity, consumers are protected from high prices.
- Minimum wage increases the purchasing power of workers. This improves their general standard of living, aggregate demand and production in general.
- The minimum wage protects workers from exploitation by employers by paying them low wages. Producers usually aim at increasing their profits by reducing total costs.
- Price control protects producers from being under paid by profit motivated middlemen. Traders buy from producers like rural farmers at very low prices.

- Minimum wage maintains industrial peace. It avoids the occurrence of strikes by trade unions when demanding wage increments

Negative effects

- Maximum prices lead to black markets. Commodities are sold to willing buyers at higher prices behind counters. This is because of shortages in the markets.
- Minimum wage legislation may increase the supply of labour by reducing voluntary unemployment and so creates unemployment.
- Maximum prices increase demand creating shortages. When the price is fixed below the equilibrium, supply is discouraged but quantity demanded widens.
- Minimum prices like minimum wages increase the cost of production. This reduces the volume of production. Production becomes expensive through a high wage bill.



Application Activity 9.3

1. Discuss the causes of price fluctuation on agricultural products.
2. Fixing prices is one of the methods used to handle the problem of price fluctuation. Identify any other method can the government use to control prices.



Skills Lab 9

Visit the Sector Agricultural Officer (Agronomist) or any other agricultural officer or invite him as a guest speaker and discuss with him or her, on the causes & effects of price fluctuation to the community, the policies the government can use or has put in place to address the problem of price fluctuation in the agricultural sector in the country. Take notes and make brief presentations.



End of unit 9 assessment:

1. The government should control prices of essential goods, Justify.
2. Explain the factors that limit the success of international commodity agreements.

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