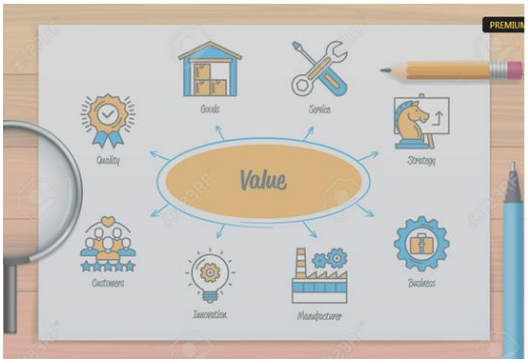
Crop Production

Level-IV

Based on March, 2022, Version-I

Occupational Standard



Module Title: Developing value chain analysis

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Introduction to the Module

This module covers the skill, knowledge and attitude required to understand value chain, Identify concepts of value chain ideas Develop the value chain and Upgraded value addition. In this learning guide there are four learning outcomes which are broken down in to four information sheets. These are listed as follows; Understand concepts of value chain, Upgrade value addition, Develop value chain and Identify Value chain analysis. In this learning guide, some learning activities and self-check exercises are included to make your study clear, attractive and precise. These are very important in deepening and enhancing your understanding of the learning outcomes in the module. If you skip doing those activities and exercises, your level of understanding will be limited and insufficient. As a result, you are strongly advised and encouraged to do it on time accordingly.

LG #48	LO #1 Concept of value chain

Instruction sheet 1

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Concept of value chain
- Scope of value chain
- Principle of value chain
- Characteristic of value chain
- Importance of value chain
- Concept of value addition

This guide will also assist you to attain the learning outcomes stated in the cover page.
Specifically, upon completion of this learning guide, you will be able to:

- Explain the concepts of value chain
- Describe the scopes of value chain
- Identify the principle of value chain
- Identify and describe the characteristic of value chain
- Elaborate the importance of value chain
- Describe the concept of value addition

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the information Sheets
4. Accomplish the Self-checks

Information Sheet 1

1.1. Concept of value chain

The concept of a value chain refers to a series of activities that organizations perform to deliver a product or service to customers while adding value at each stage. It is a strategic framework that helps businesses identify and evaluate the activities involved in creating value for their customers and achieving a competitive advantage in the marketplace.

- Value chain is full range of activities which to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services),delivery to final consumers, and final disposal after use." (Kaplinsky et al. 2010)
- Value chain full range of value-adding activities required to bring a product or service through the different phases of production, including (procurement of raw materials and other inputs, assembly, physical transformation, acquisition of required services such as transport or cooling, and ultimately respond to consumer demand (Kaplinsky and Morris 2002)., It is the process of continued addition of value that occurs while the product passes from one actor in the chain to the next, gradually increasing its degree of transformation. Value chains focus on value creation typically via innovation/upgrading in products or processes, as well as marketing and also on the allocation of the incremental value
- The concept of the value chain was first introduced by Michael Porter in his book "Competitive Advantage: Creating and Sustaining Superior Performance" published in 1985. Porter defined the value chain as a series of activities that organizations perform to deliver a valuable product or service to the market.

1.1.1. Basic model of Porters value chain

Porter's Value Chain is a concept developed by Michael Porter that describes a series of activities within a company that add value to its products or services. The value chain model helps identify the primary and support activities that contribute to a company's competitive advantage.

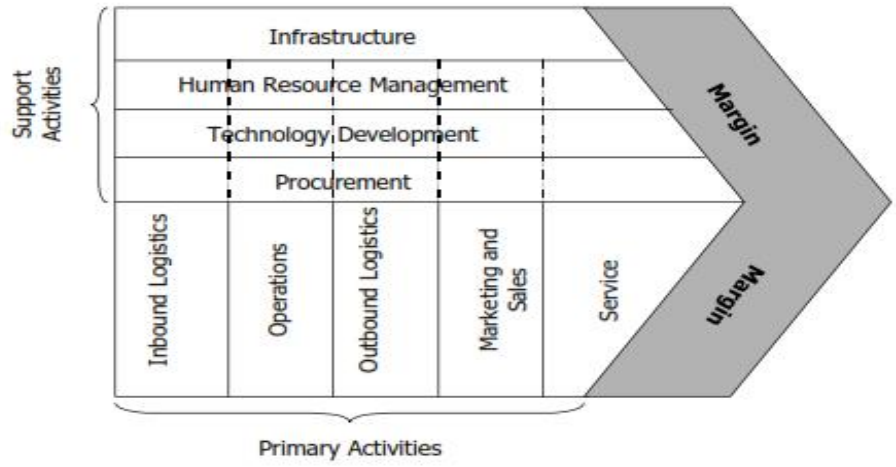


Figure1.1: basic model porter value chain

The Porter value chain, developed by Michael Porter, is a strategic framework that helps analyze and identify the primary activities and support activities within an organization, which collectively create value for customers and contribute to the organization's competitive advantage..

Porter's value chain consists of two main types of activities: primary activities and support activities.

A. Primary Activities

i. **Inbound Logistics**: These activities involve receiving, storing, and distributing inputs or raw materials for the production process. This includes processes such as sourcing, procurement, inventory management, and material handling.

ii. **Operations**: This encompasses the activities involved in converting inputs into the final product or service. It includes manufacturing, assembly, packaging, and testing.

iii. **Outbound Logistics**: These activities involve the storage, distribution, and delivery of the finished product to customers. It includes order processing, warehousing, transportation, and distribution.

iv. Service to customers. It includes advertising, sales promotions, pricing, channel selection, and customer relationship management.

v. **Service**: This involves activities that support customers after the sale of the product or service. It includes installation, repair, training, and customer support.

B. Support Activities

i. **Procurement**: This includes activities related to purchasing inputs such as raw materials, equipment, and supplies for the organization.
ii. **Technology Development**: These activities involve research and development, process automation, and technology infrastructure that support the value-creating activities.
iii. **Human Resource Management**: This includes activities related to managing and developing the organization's workforce, such as recruitment, training, performance management, and employee benefits.
iv. **Infrastructure**: These activities provide the necessary support for the entire value chain, including functions such as finance, accounting, legal, quality management, and organizational structure

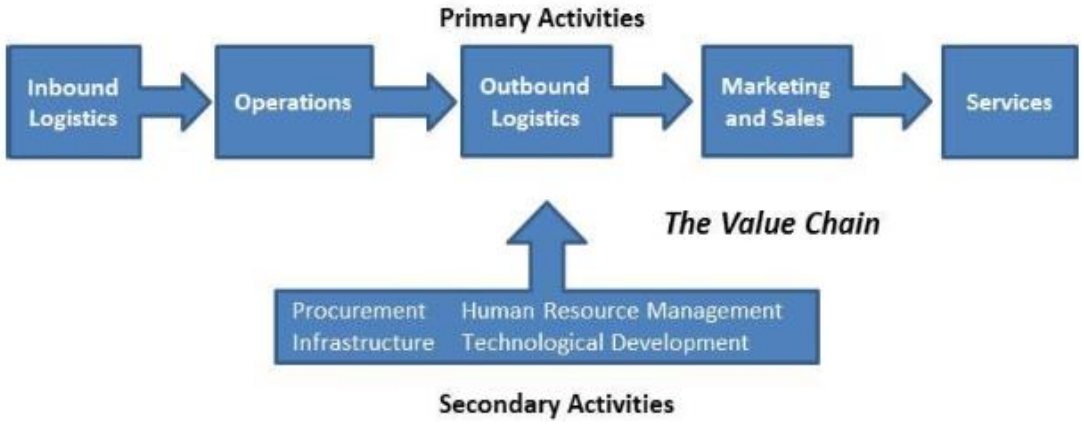


Figure 1.2: porter value chain

1.1.2. Value chain in agriculture

It is a set of actors, activities, and services that bring a basic agricultural product from the field to the final consumption (from gate to plate). Every stage of the chain usually adds value to the product (marketing it more valuable



It is the process of continued addition of value that occurs while the product passes from one actor in the chain to the next, gradually increasing its degree of transformation. Value chains focus on value creation typically via innovation/upgrading in products or processes, as well as marketing and also on the allocation of the incremental value

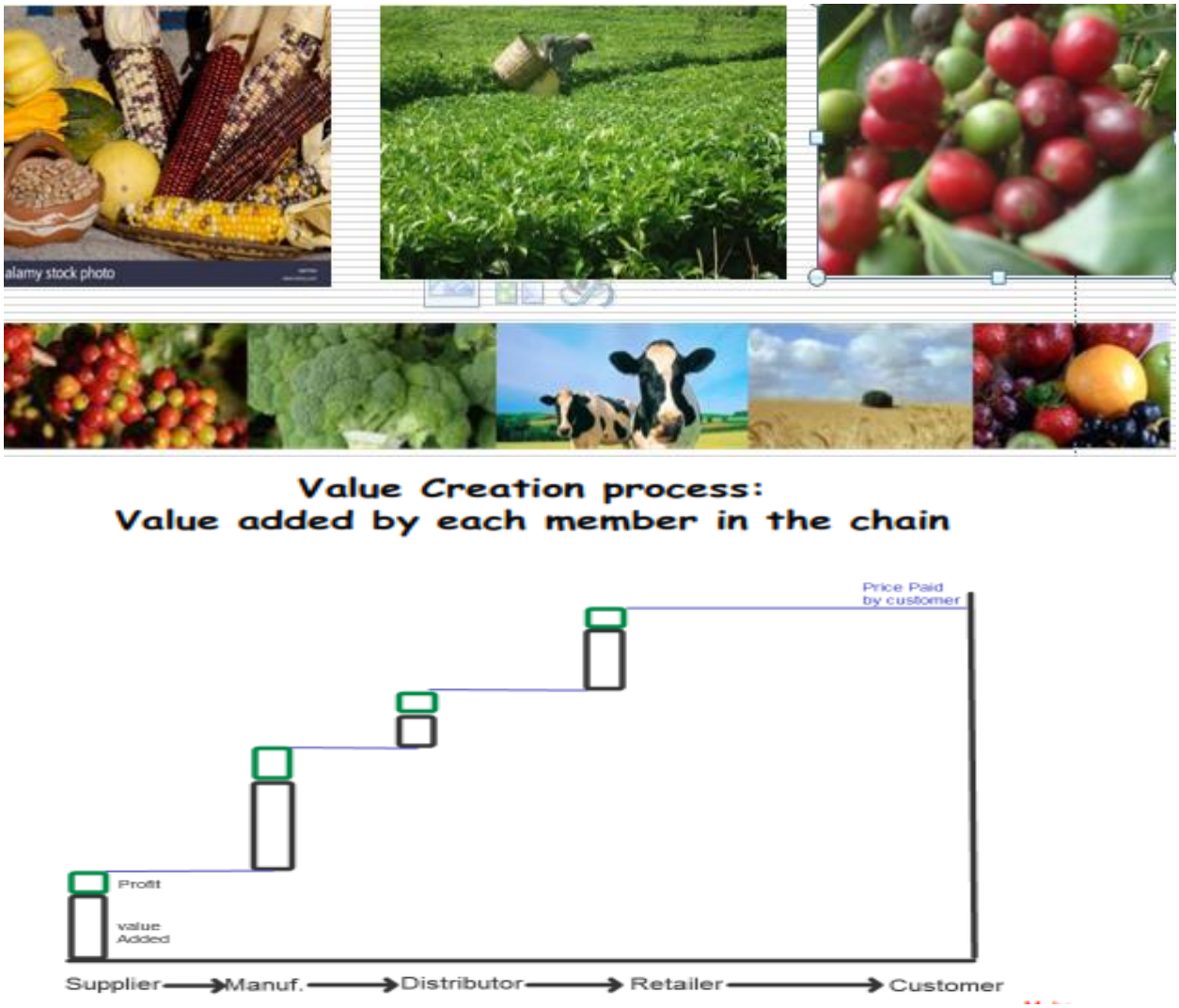


Figure 1.3 value creation

1.1.3. Type of Value Chain

i. Simple value chain

Value Chain can be simple, complex, local or global. The value chain describes the full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use. Considered

in its general form, it takes the shape as described in Figure 1.4. As can be seen from this, production per se is only one of a number of value added links. Moreover, there are ranges of activities within each link of the chain. Although often depicted as a vertical chain, intra-chain linkages are most often of a two-way nature – for example, specialized design agencies not only influence the nature of the production process and marketing, but are in turn influenced by the constraints in these downstream links in the chain.

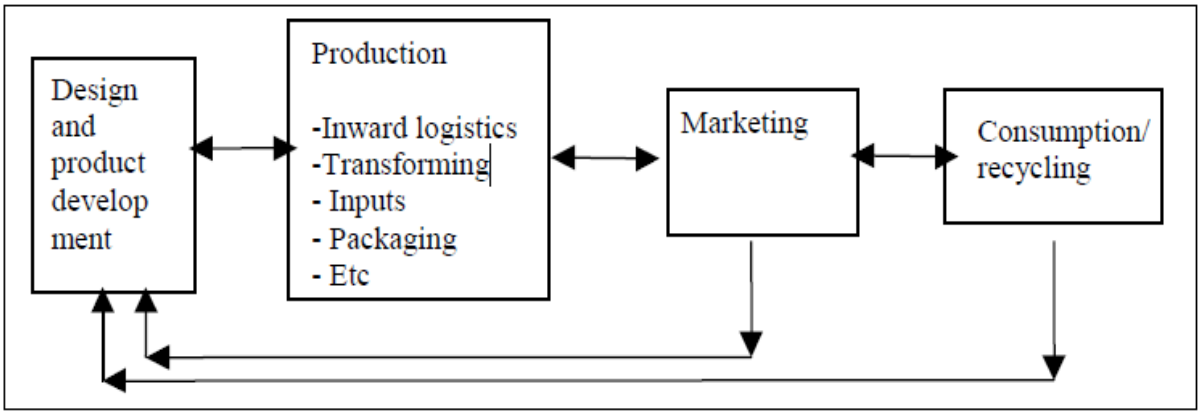


Figure1.4. simple value chain

ii. Extended value chain

In the real world, of course, value chains are much more complex than this. For one thing, there tend to be many more links in the chain. Take, for example, the case of the furniture industry (Figure 1.4). This involves the provision of seed inputs, chemicals, equipment and water for the forestry sector. Cut logs pass to the sawmill sector which gets its primary inputs from the machinery sector. From there, sawn timber moves to the furniture manufacturers who, in turn, obtain inputs from the machinery, adhesives and paint industries and also draw on design and branding skills from the service sector. Depending on which market is served, the furniture then passes through various intermediary stages until it reaches the final customer, who after use, consigns the furniture for recycling.

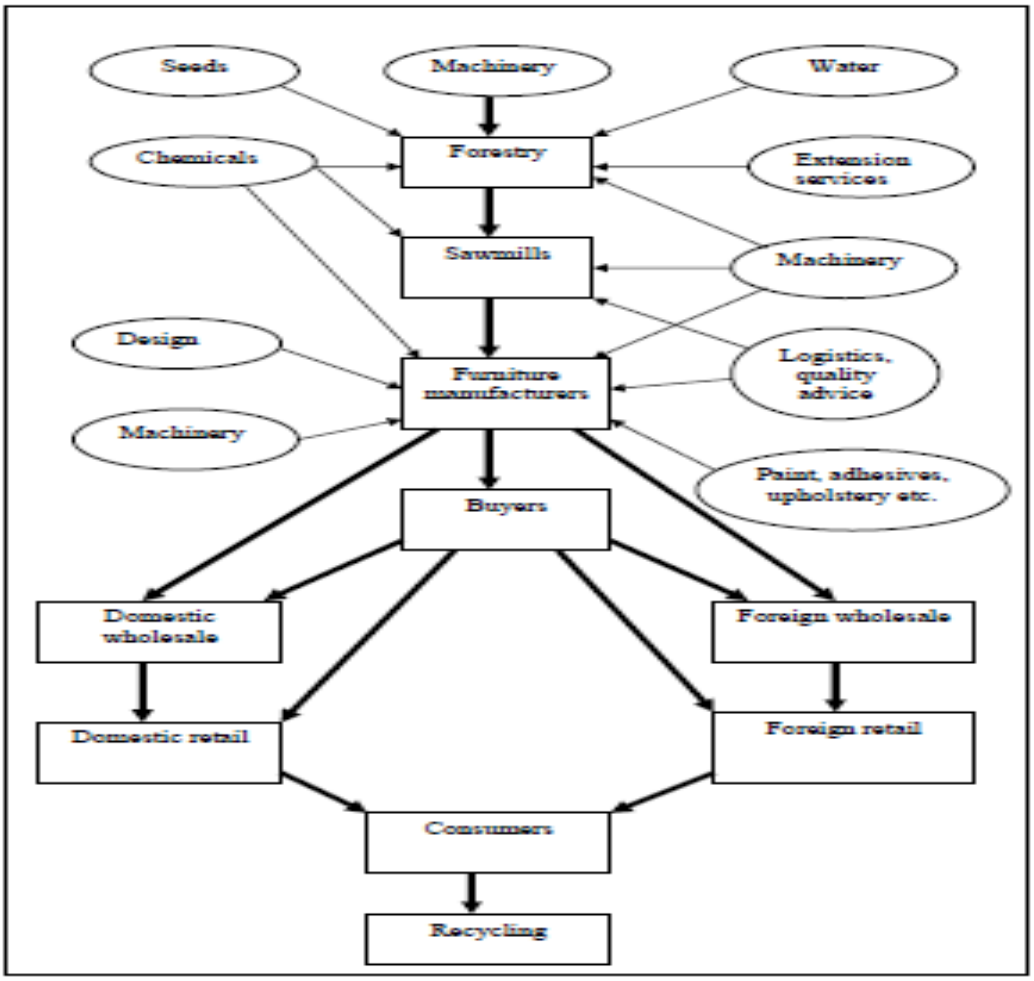


Figure1.5. extended value chain

iii. Local value chain

Value chain can be also local or global .A value chain refers to the series of activities that a company or industry undertakes to create and deliver a product or service to customers. It encompasses all the stages involved, from the acquisition of raw materials to the final sale and distribution of the product..A local value chain and a global value chain represent two different approaches to organizing and managing these activities. Let's explore each concept in more detail: In a local value chain, the activities are primarily concentrated within a specific geographic area, typically within a single country or region. The focus is on local production, sourcing, and distribution. Companies that utilize a local value chain tend to have limited operations and primarily cater to local or regional markets.

- **Advantages of a local value chain**

✓ Proximity to customers: Being physically closer to customers can enable faster response times, better understanding of local preferences, and stronger customer relationships.

✓ Lower transportation costs: By keeping production and distribution local, companies can reduce transportation expenses associated with moving goods across long distances.

✓ Local economic development: A local value chain can contribute to the growth and development of the local economy by creating jobs and supporting local suppliers.

- **Limitations of a local value chain**

✓ Limited scale and scope: Local value chains may lack the economies of scale and scope that can be achieved through global operations.

✓ Dependency on local market conditions: Relying solely on the local market can make a company vulnerable to local economic fluctuations or changes in consumer preferences.

✓ Limited access to resources: Depending on the region, access to certain resources or expertise may be restricted, limiting the competitiveness of the local value chain.

iv. Global Value Chain

In a global value chain, activities are spread across multiple countries or regions, with different stages of production occurring in locations that offer the most cost-effective or efficient conditions. Companies that utilize a global value chain typically have a broader market reach and engage in international trade.

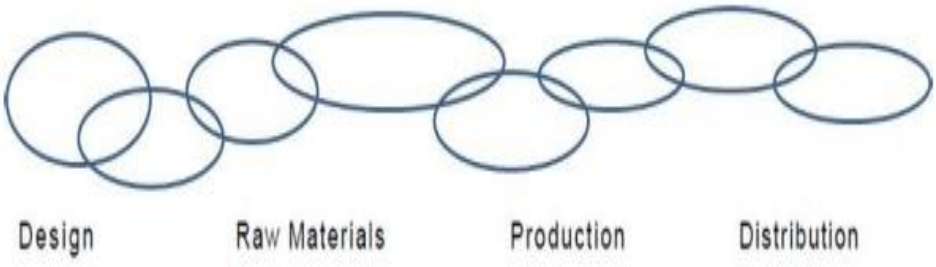


Figure1.6 global value chain

- **Advantages of a global value chain**

✓ Access to resources and expertise: Global value chains allow companies to tap into resources, skills, and technologies available in different parts of the world, potentially leading to increased competitiveness.

- ✓ Cost efficiencies: By locating different stages of production in regions with cost advantages (e.g., lower labor costs, access to cheaper raw materials), companies can achieve cost efficiencies and improve profitability.
- ✓ Market diversification: A global value chain enables companies to access and serve diverse markets, reducing dependence on a single market and potentially mitigating risks.

- **Limitations of a global value chain**
  - ✓ Complexity and coordination challenges: Managing operations across multiple countries or regions can be complex, requiring effective coordination, supply chain management, and compliance with different regulations.
  - ✓ Longer lead times and transportation costs: Global value chains involve longer distances and transportation times, which can lead to increased costs and longer lead times for delivering products to customers.
  - ✓ Vulnerability to global disruptions: Global value chains can be susceptible to disruptions such as geopolitical events, trade disputes, or natural disasters, which can impact the smooth flow of goods and services.

1.1.4. Value chain vs supply chain

Value Chain and Supply Chain are two related but distinct concepts in the field of business and operations management. While they share some similarities, they focus on different aspects of a company's operations and provide different perspectives on how value is created and delivered to customers.

A. Value Chain

The value chain refers to a series of activities that a company performs in order to create value for its customers. It encompasses all the primary and support activities involved in the design, production, marketing, and delivery of products or services. The primary activities include inbound logistics (receiving and storing raw materials), operations (transforming inputs into finished products), outbound logistics (warehousing and distribution), marketing and sales, and customer service. The support activities include procurement, technology development, human resource management, and firm infrastructure. The value chain framework helps companies identify areas where they can add value and differentiate themselves from competitors.

B. Supply Chain

The supply chain, on the other hand, focuses on the entire network of organizations, individuals, activities, resources, and technologies involved in the creation and delivery of a product or service to customers. It encompasses the flow of materials, information, and funds from suppliers to manufacturers to distributors and ultimately to end customers. The supply chain includes processes such as procurement, production planning, manufacturing, transportation, warehousing, inventory management, and customer order fulfillment. The goal of supply chain management is to ensure that the right products are available at the right time, in the right quantity, and at the right cost.

The following chart illustrates how a traditional supply chain differs from a value chain approach.

Table 1.1 differences between value chain and supply chain

	Supply Chain	Value Chain
• Communication(information sharing)	• Little or none	▪ Extensive
• Value focus	• Cost/price	• Value/quality
• Product	• Commodity	• Differentiated Product
• Relationship	• Supply push	• Demand pull
• Organizational structure	• Independent	• Interdependent
• Philosophy	• Self optimization	Chain optimization

1.2. Scope of value chain

The scope of a value chain refers to the range of activities and processes involved in creating and delivering a product or service to customers. It encompasses all the steps and functions required to transform raw materials into a finished product and make it available to end-users. The value chain concept was introduced by Michael Porter, a renowned economist and business strategist. The value chain is typically divided into two primary categories of activities: primary activities and support activities.

A. Primary activities: These are the core activities directly involved in the production, marketing, delivery, and after-sales support of a product or service. The primary activities in a value chain typically include:

i. **Inbound Logistics**: Activities related to receiving, storing, and distributing raw materials or inputs for production.

ii. **Operations**: The actual manufacturing or production processes that transform inputs into finished products.

iii. **Outbound Logistics**: Activities involved in storing and distributing the finished products to customers.

iv. **Marketing and Sales**: Activities related to promoting the product, generating sales, and managing customer relationships.

v. **Service**: Activities that support customers after the sale, such as installation, maintenance, repairs, and customer support

.**B. Support activities:** These activities provide the necessary support and infrastructure for the primary activities to function effectively. The support activities typically include:

I. **Procurement**: Sourcing and purchasing raw materials, equipment, and other resources required for production.

II. **Technology Development**: Research and development activities, technology acquisition, and innovation to enhance product or process efficiency.

III. Human Resource Management: Activities related to recruiting, training, managing, and developing the workforce.

IV. **Infrastructure**: Support systems such as finance, accounting, legal, information technology, and other administrative functions that facilitate the smooth operation of the value chain.

- **Some additional points to further elaborate on the scope of the value chain:**
  - ✓ **Extended value chain**: While the traditional value chain focuses on the activities within a single organization, modern business practices often involve an extended value chain that includes external partners, suppliers, distributors, and customers. This extended value chain recognizes that value creation is often a collaborative effort among multiple entities. For example, in the automotive industry, a car manufacturer's value chain includes suppliers of components, dealerships, and service centers.
  - ✓ **Global Value Chains**: With globalization, many value chains have become global in scope. Companies source inputs, manufacture components, and distribute products across different countries, taking advantage of cost efficiencies and specialized capabilities. Global value chains involve coordination and collaboration across borders, and they

require effective management of logistics, supply chain networks, and international trade regulations.

- ✓ **Service-Based Value Chains**: While the traditional value chain is often associated with manufacturing and physical products, the concept is equally applicable to service-based industries. In service-oriented businesses, the value chain focuses on activities such as customer acquisition, service delivery, problem resolution, and customer relationship management. For example, in the hospitality industry, the value chain encompasses activities from reservations and check-in to housekeeping and guest services.
- ✓ **Value Chain Analysis**: Analyzing the value chain is a strategic tool that helps businesses identify areas of competitive advantage and opportunities for improvement. By examining each activity within the value chain, organizations can assess how value is created, costs are incurred, and differentiation is achieved. This analysis can lead to better decision-making in areas such as process optimization, technology investments, supplier relationships, and customer experience enhancements.
- ✓ **Sustainable Value Chains**: In recent years, there has been a growing emphasis on sustainable value chains. This involves considering the environmental, social, and ethical impacts of the activities throughout the value chain. Companies are increasingly focused on responsible sourcing, reducing carbon footprint, promoting fair labor practices, and ensuring ethical supply chain management. Sustainable value chains not only align with societal expectations but also contribute to long-term business resilience and reputation. Understanding and managing the scope of the value chain is crucial for organizations to remain competitive, deliver value to customers, and adapt to changing market dynamics. It requires a holistic view of the entire value creation process, considering both internal and external factors, and leveraging strategic opportunities for efficiency, differentiation, and sustainability.

1.3. Principle of value chain approach in agriculture

An approach used in value chain analysis depends on the research question (Kaplinsky and Morris 2001). Four aspects of value chain analysis have been applied in agriculture:

- ***Value chain mapping****:* a value chain analysis systematically maps the actors participating in the production, distribution, processing, marketing and consumption of a particular product (or products). This mapping assesses the characteristics of actors, profit and cost structures,

flows of goods throughout the chain, employment characteristics, and the destination and volumes of domestic and foreign sales.

- **Identifying the distribution of benefits of actors in the chain**: Value-chain analysis can play a key role in identifying the distribution of benefits of actors in the chain. That is, through the analysis of margins and profits within the chain, it is possible to determine who benefits from participation in the chain and which actors could benefit from increased support or organization.
- **Examining the role of upgrading within the chain**: Value-chain analysis can be used to examine the role of upgrading within the chain. Upgrading can involve improvements in quality and product design or diversification in the product lines served, allowing producers to gain higher value. An analysis of the upgrading process includes an assessment of the profitability of actors within the value chain as well as information on limitations that are currently present
- **Role of governance in the value chain:** Governance in a value chain refers to the structure of relationships and coordination mechanisms that exist between actors in the value chain. Governance is important from a policy perspective by identifying the institutional arrangements that may need to be targeted to improve capabilities in the value chain, remedy distributional distortions, and increase value-added in the sector. Governance is a broad concept which basically ensures that interactions between chain participants are organized, rather than being simply random

1.4. Feature of effective value chain

An effective value chain refers to the series of activities that a company undertakes to create and deliver a product or service to its customers, while maximizing value and minimizing costs. It encompasses the entire process from the sourcing of raw materials or components to the final delivery of the product to the end consumer.

- **Feature of effective value chain involves**
  - ✓ Differentiate products
  - ✓ Continuously innovate (products, technologies, management, marketing, distribution)
  - ✓ Create higher value
  - ✓ Use a variety of organizational mechanisms to achieve efficiency

- ✓ Form alliances and achieve coordination
- ✓ Go beyond spot market transactions and include contracts, vertical integration, networks, supply chains
- ✓ Introduce practices to meet environmental and social responsibility concerns

1.5. Importance of Value chain

The value chain is a concept that describes the series of activities and processes that company undertakes to deliver a product or service to its customers. It encompasses all the activities involved in designing, producing, and marketing, delivering, and supporting a product or service.

- **The value chain is important for several reasons:**
  - ✓ Simple and better way to identify gaps and technologies.
  - ✓ Increases efficiency and systemic competitiveness of local enterprise.
  - ✓ Reduces production costs and improves profitability
  - ✓ Improves customer satisfaction by providing quality product and service
  - ✓ With the growing division of labour and the global dispersion of the production of components, systemic competitiveness has become increasingly important
  - ✓ Efficiency in production is only a necessary condition for successfully penetrating global markets
  - ✓ Entry into global markets which allows for sustained income growth that is, making the best of globalization -requires an understanding of dynamic factors within the whole value chain Source: (Goletti 2004a)

1.6. Concepts of value chain mapping

Value chain mapping is a strategic management tool used to analyze and understand the various activities and processes within an organization or industry that create value for customers. It involves identifying the primary and support activities that contribute to value creation and mapping out the relationships between these activities. The value chain consists of two main types of activities:

A. Primary Activities: These are the activities directly involved in the production, delivery, and support of a product or service. They typically include:

I. **Inbound Logistics**: Activities related to receiving, storing, and distributing inputs to the production process.

II. **Operations:** The core production activities that transform inputs into finished products or services.

III. **Outbound Logistics**: Activities involved in storing, distributing, and delivering the final product to customers.

IV. **Marketing and Sales**: Activities related to promoting and selling the product or service.

V. **Service:** Activities that support customers after the sale, such as installation, repair, and customer support.

B. Support Activities: These are the activities that enable and facilitate the primary activities. They include:

I. Procurement: Activities related to sourcing and acquiring the necessary inputs for the production process.

II. Technology Development: Activities related to research, development, and innovation that enhance the production process and product offerings.

III. Human Resource Management: Activities related to recruiting, training, and retaining employees.

IV. Infrastructure: Activities related to the overall management and support of the organization, such as finance, accounting, legal, and administrative functions.

1.6.1. Steps in Value Chain Mapping

Value chain mapping is a process that involves identifying and analyzing the various activities and processes within a business or industry, with the goal of understanding how value is created and delivered to customers.

- **Steps typically involved in value chain mapping:**

Step 1: Collect information through desk research.

Step 2: Define the various functions that occur in the value chain such as input supply, production, assembly, processing, wholesale, export, retail, etc. Separate the functions graphically in segments, e.g., starting with input supply on the left moving to retail on the right.

Step 3: Specify types of actors and allocate them under the different functions. Use types of actors rather than individual firms. Some actors can cover more than one function.

Step 4: Put in arrows representing the flow of products from one actor to the next.

Step 5: Specify end-markets and relocate actors and arrows accordingly. Define market channels, with end-markets at the end of the map.

Step 6: Include generic categories of support services: financial services, transport, packaging, etc. Arrows can show which actors benefit from these services. Information can also be included identifying the main providers of these services.

Step 7: Add data overlays when information is available, relevant and helpful for the chain analysis.

Overlays can be represented by N = Number of firms or V = Volume of product.

Step 8: Collect data from secondary sources, key informant interviews and/or surveys to verify the map.

Step 9 Draw a final map and write a narrative explanation of the conditions in the chain. The list of parameters above may provide an outline for this.

1.6.2. Value Chain Map for different agricultural products

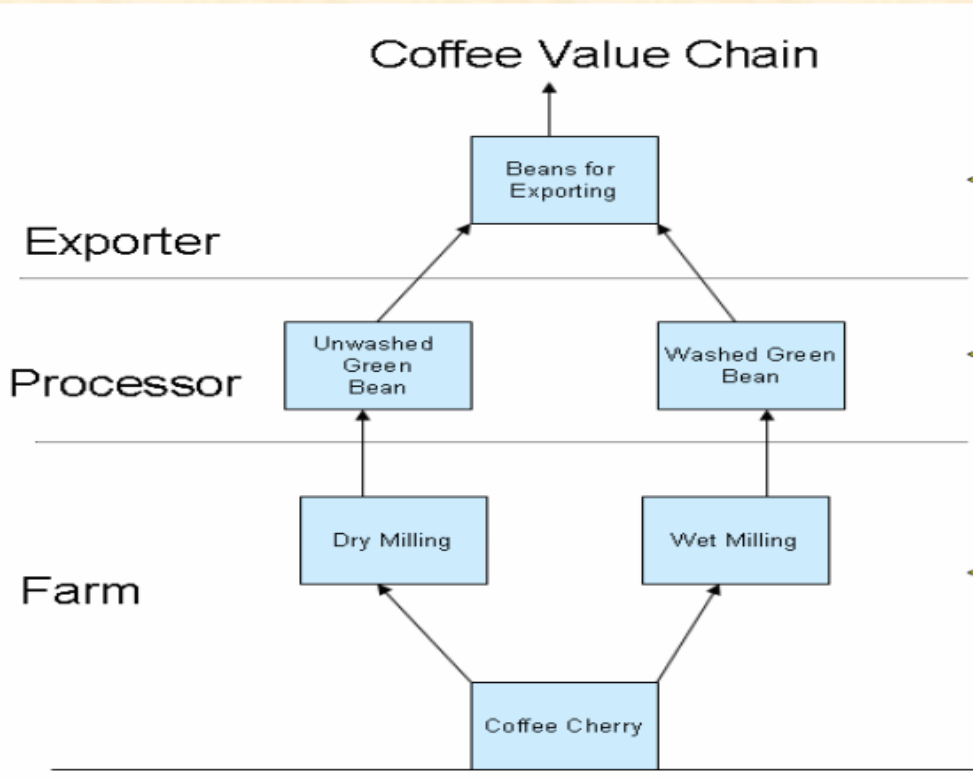


Figure 1.7 coffee value chain

1.7. Concepts of value addition

Value addition refers to the process of enhancing the value of a product, service, or business by incorporating additional features, improvements, or modifications that make it more desirable or useful to customers. It involves going beyond the basic or standard offering to provide something unique or extra that sets it apart from competitors or increases its perceived worth.

- Value addition can take various forms depending on the context. In the manufacturing industry, it can involve adding new features or functionalities to a product, improving its quality or performance, or customizing it to meet specific customer requirements. For example, a smart phone manufacturer may add advanced camera capabilities or a longer battery life to differentiate their product and attract more customers.
- In the service industry, value addition can involve providing additional services or amenities that enhance the overall customer experience. For instance, a hotel may offer complimentary breakfast, airport shuttle service, or access to a fitness center to add value for their guests.
- Value addition can also occur in business processes and operations. It can involve streamlining internal processes to improve efficiency, reducing costs without compromising quality, or introducing innovative methods and technologies to deliver better outcomes.
- The goal of value addition is to create a competitive advantage, increase customer satisfaction, and differentiate a product or service in the market. By providing something extra or unique, businesses can justify higher prices, build customer loyalty, and attract more customers.

	Self-check 1	Written test	

Name…… ID…… Date…….

Test I: Choose the best answer

1. Which one is not true about value chain
   A. Value chain is value creation process on agricultural product
   B. Value chain is create innovation on how to a company satisfy its own customers
   C. Value chain is only movement of product from producer to final consumer
   D. A and B
2. Which one is not true statement?
   A. Value chain can be simple or complex
   B. Value chain may be global
   C. Value chain is only the process of moving product
   D. All
3. In which value chain, activities are spread across multiple countries or regions, with different stages of production occurring in locations that offer the most cost-effective or efficient conditions.
   A. Global B. Local C. Traditional D. All
4. Which of the following is not primery activities of value chain
   A. Operations C. Service
   B. Outbound Logistics: D. Inbound logistics
5. Which of the following is not feature of effective value chain
   A. Differncite product . C. Create higher value
   B. Go beyond spot market transactions D. value addition
6. Which of the following is not importance of value chain
   A. Simple and better way to identify gaps and technologies.
   B. Increases efficiency and systemic competitiveness of local enterprise.
   C. Increase production costs and improves profitability
   D. Improves customer satisfaction by providing quality product and service

Test II: Short Answer Questions

1. Discuss scope of value chain

_____

_____

2. Explain concept of value addition

_____

_____

3. Describe principles of value chain

_____

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_____

4. Differentiate value chain with supply chain

_____

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5. Write steps of value chain mapping

_____

_____

_____

_____

LG #49	LO #2- Identify Value chain analysis

Instruction sheet 2

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Dimension and structures of value chain
- Value chain actors
- Value chain maps for different agricultural products
- Value chain techniques for value addition
- Contract farming system

This guide will also assist you to attain the learning outcomes stated in the cover page. 0Specifically, upon completion of this learning guide, you will be able to:

- Explain dimension and structures of value chain
- Identify value chain actors
- Illustrate value chain maps for different agricultural products
- Identify value chain techniques for value addition
- Explain contract farming system to promote value chain.

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the information Sheets
5. Accomplish the Self-check

Information Sheet 2

2.1. Dimension and structures of value chain

2.1.1. Dimension of value chain

The dimension of the value chain refers to the different stages or activities involved in creating value. Each activity adds a specific dimension to the overall value creation process. The primary activities directly contribute to the production, marketing, and delivery of the product or service, while the support activities provide the necessary infrastructure and resources to enable the primary activities.

It's important to note that the dimensions of the value chain may vary depending on the industry or specific business model. Some industries may have additional or modified activities based on their unique characteristics and requirements.

- The value chain concept has several dimensions.
  - ✓ The first is its flow, also called its input-output structure. In this sense, a chain is a set of products and services linked together in a sequence of value-adding economic activities. A value chain has another, less visible structure. This is made up of the flow of knowledge and expertise necessary for the physical input-output structure to function. The flow of knowledge generally parallels the material flows, but its intensity may differ
  - ✓ The second dimension of a value chain has to do with its geographic spread. Some chains are truly global, with activities taking place in many countries on different continents. Others are more limited, involving only a few locations in different parts of the world..The third dimension of the value chain is the control that different actors can exert over the activities making up the chain. The actors in a chain directly control their own activities and are directly or indirectly controlled by other actors. Since value chains are basically constellations of human interaction, the possible varieties of governance are endless.

Dimension 1: Sourcing of Inputs and Supplies

i. Primary product characteristics

Primary product characteristics are the essential qualities or features of a product that directly address the needs and preferences of customers. These characteristics are typically the primary reasons why customers choose a particular product over others in the market. The specific primary product characteristics can vary depending on the industry and the nature of the product or service.

- Some common examples of primary product characteristics across different industries:
  - ✓ Durability
  - ✓ Performance
  - ✓ Reliability:
  - ✓ Aesthetics
  - ✓ Functionality
  - ✓ Safety
  - ✓ Customizability.

ii. Characteristics of primary producers and input providers

Primary producers and input providers are crucial components of the value chain in various industries.

A. Primary Producers

- **Resource Utilization**: Primary producers are directly involved in the extraction or cultivation of natural resources such as agriculture, forestry, mining, or fishing.
- **Production Expertise**: Primary producers possess specialized knowledge and skills related to the production process.
- **Scale and Volume**: Primary producers often operate on a large scale to meet the demands of downstream processes or consumer markets.
- **Quality Control:** Primary producers are responsible for maintaining quality standards and ensuring the consistency of their output.
- **Seasonal Variations**: Many primary production activities are influenced by seasonal variations.

B. Input Providers

- **Supply Chain Management**: Input providers play a crucial role in managing the supply chain of materials and resources required by primary producers.
- **Technological Expertise**: Input providers possess knowledge and expertise in the technologies and equipment they supply.
- **Relationship Building**: Input providers establish strong relationships with primary producers to understand their specific needs and requirements..
- **Quality Assurance**: Input providers ensure the quality and reliability of the inputs they supply.
- **Cost Efficiency**: Input providers focus on offering cost-effective solutions to primary producers.

iii. Contractual arrangements

It refers to the agreements, contracts, and legal arrangements that dictate the rights, responsibilities, and interactions between various participants in the value chain.

In a value chain, different activities are performed by different entities or organizations, such as suppliers, manufacturers, distributors, retailers, and service providers..

Contractual arrangements can take various forms depending on the specific industry, market conditions, and strategic objectives of the organizations involved.

- Some common contractual arrangements in the value chain include:
  - ✓ Supplier Contracts:
  - ✓ Manufacturing Contracts:
  - ✓ Distribution Agreements:.
  - ✓ Licensing and Intellectual Property Agreements:
  - ✓ Franchise Agreements:
  - ✓ Service Level Agreements (SLAs):
  - ✓ Logistics

iv. Infrastructure and transport facilities

They play a crucial role in facilitating the movement of goods, services, and resources, thereby enabling the smooth functioning of economic activities.. Value chain dimension of infrastructure and transport facilities in more detail:

- Supply of Resources:
- Production and Manufacturing:
- Distribution and Logistics:
- Market Access:
- Customer Service and Support:
- Reverse Logistics:

v. Communication

The value chain is a concept used in business and economics to describe the various activities and processes that contribute to the creation and delivery of a product or service. Communication plays a crucial role in multiple dimensions of the value chain.

- R**elevannce of communication in different value chain dimensions**
  - ✓ Inbound Logistic
  - ✓ Operations:
  - ✓ Outbound Logistics
  - ✓ Marketing and Sales
  - ✓ Service:
  - ✓ Procurement
  - ✓ Firm Infrastructure

Dimension 2: Production Capacity and Technology

i. Production capacity

It refers to the maximum amount of goods or services that a company or a production system can produce within a given timeframe. It is typically measured in terms of output per unit of time, such as units per hour, units per day, or units per month.

Factors influence production capacity, including

- Physical resources.
- Labor force:
- Production efficiency:
- Technology and automation.
- Time

ii. Technology

The technology dimension of the value chain refers to the role and impact of technology in each stage of the value chain within a business or industry. It plays a significant role in enhancing and transforming various stages of the value chain, including:

- Research and Development (R&D
- Design and Engineering
- Production and Operations.
- Supply Chain Management.
- Marketing and Sales
- Customer Service.

iii. Knowledge use

The value chain is a concept that describes the sequence of activities

a company undertakes to create and deliver a product or service to its customers. It encompasses all the processes, from the initial conception of the product or service to its final delivery and support

The value chain can be divided into primary activities and support activities, each of which contributes to the overall value creation. The dimensions of the value chain can vary depending on the specific industry and company.

- Some common dimensions that are often considered in analyzing the value chain:

a) Inbound logistics
b) Operations:
c) Outbound logistics
d) Marketing and sales
e) Procurement.
f) Technology development
g) Human resource management.

h) Infrastructure

iv. Costs and margins.

The cost dimension of the value chain refers to the expenses incurred at each stage of the value chain. These costs can include the cost of raw materials, labor costs, manufacturing overhead, marketing expenses, distribution costs, and other operating expenses. The goal is to manage and optimize these costs to ensure that the value chain operates efficiently and effectively.

Margins, on the other hand, refer to the profitability or financial returns generated at each stage of the value chain. Margins are calculated by subtracting the costs

associated with a particular activity or stage from the revenue generated from that activity. Positive margins indicate that the revenue generated is higher than the costs incurred, resulting in a profit. Conversely, negative margins indicate that the costs exceed the revenue, resulting in a loss.

I. Cost Dimension:

- **Cost Structure**: The cost structure of the value chain refers to the distribution of costs across different activities. Understanding the cost structure helps identify the major cost drivers and areas where costs can be reduced or optimized. For example, in manufacturing, the cost of raw materials and production equipment may be significant cost drivers.
- **Cost Reduction**: Analyzing the cost dimension allows businesses to identify cost-saving opportunities. This can involve streamlining processes, improving efficiency, negotiating better deals with suppliers, optimizing inventor management, or implementing cost-effective technologies. By reducing costs, businesses can improve their competitiveness and profitability.
- **Cost Allocation**: Allocating costs accurately to specific activities within the value chain is important for understanding the profitability of each activity. This helps identify the most and least profitable parts of the value chain and can guide resource allocation decisions.

II. Margin Dimension

- Profitability Analysis: Examining margins at various stages of the value chain provides insights into the profitability of each activity. It helps identify high-margin

activities that contribute significantly to the overall profitability of the business. By understanding the drivers of high margins, businesses can focus on expanding those activities or leveraging them to create competitive advantages.

- **Value-added Analysis**: Margins also reflect the value added at each stage of the value chain. Value-added refers to the difference between the value of the inputs at the beginning of a stage and the value of the outputs at the end of that stage. Analyzing value-added helps identify areas where businesses can enhance the value they provide to customers, which can lead to higher margins.
- **Pricing Strategies**: Margin analysis can guide pricing decisions. By understanding the margins associated with different activities, businesses can set prices that align with their desired profitability levels. It helps strike a balance between competitiveness and profitability.

v. Innovation

Value chain innovation refers to the development and implementation of new ideas, processes, or technologies within the various stages of a value chain...Innovation within the value chain can occur in several dimensions, including:

- Product Innovation:
- Process Innovation.
- Supply Chain Innovation.
- Marketing and Distribution Innovation
- Customer Service Innovation

Dimension 3: End-markets and Trade

i End-product characteristics

The value chain dimension refers to the various stages and activities involved in creating a product or service, from raw materials sourcing to the delivery of the end product to the customer. Each stage in the value chain adds value to the product or service, contributing to its overall characteristics. The end-product characteristics, on the other hand, refer to the specific qualities, features, or attributes of the final product that make it unique or desirable to the customer. some examples of value chain dimensions and their impact on end-product characteristics:

- Raw Materials Sourcing
- Design and Development.
- Manufacturing.
- Assembly and Integration.
- Marketing and Branding
- Distribution and Logistics
- After-sales Service

ii **Consumer demand**

Consumer demand represents the wants and needs of the target market for a particular product or service. Understanding consumer demand is essential for businesses to effectively design their value chain and meet customer expectations.

- How consumer demand influences different stages of the value chain
  - ✓ Procurement
  - ✓ Production.
  - ✓ Marketing
  - ✓ Distribution
  - ✓ Customer Service

iii End-buyer perspectives

From an end buyer perspective, the value chain can be divided into several dimensions that are crucial in delivering value and meeting customer needs. These dimensions include:

- **Product Design and Development**: This dimension focuses on designing and developing products that meet the specific requirements and preferences of the end buyers. It involves market research, concept development, prototyping, and testing to ensure that the final product aligns with customer expectations.
- **Procurement and Sourcing:** This dimension involves the process of procuring raw materials, components, and other resources needed to manufacture the product. It includes identifying reliable suppliers, negotiating contracts, managing relationships, and ensuring the availability of materials to meet customer demand.
- **Production and Manufacturing:** This dimension encompasses the actual manufacturing process of converting raw materials into finished products. It involves activities such as assembly, quality control, packaging, and logistics to ensure efficient and cost-effective production while maintaining product quality.
- **Marketing and Sales**: This dimension focuses on promoting and selling the products to the end buyers. It includes market research, advertising, branding, pricing, distribution, and customer relationship management.
- **Distribution and Logistics**: This dimension involves the management of the physical flow of products from the manufacturer to the end buyer. It includes
  activities such as warehousing, transportation, inventory management, order fulfillment, and after-sales support.
- **Customer Service and Support:** This dimension centers around providing post-sales support and assistance to the end buyers. It includes activities like handling inquiries, addressing complaints, providing technical support, and offering warranty services.
- **Disposal and Recycling**: This dimension relates to the responsible disposal or recycling of products at the end of their lifecycle. It involves implementing environmentally friendly practices to minimize the impact on the environment and comply with regulatory requirements.

iv **Marketing and trade capacities**

Marketing and trade capacities are important dimensions within the value chain of a business or industry. They refer to the capabilities and resources that enable organizations to effectively promote, sell, and distribute their products or services to customers. These capacities play a crucial role in creating and delivering value to the market.

v **Marketing Capacities**

Marketing capacities encompass various activities and strategies aimed at understanding customer needs, creating brand awareness, and promoting products or services.

- **Some key elements of marketing capacities include**:
  - ✓ **Market Research**: Conducting research to gather insights about customer preferences, market trends, and competitor analysis.
  - ✓ **Product Development**: Creating and refining products or services based on market demands and customer feedback.
  - ✓ **Branding and Advertising**: Developing a strong brand identity and creating advertising campaigns to enhance brand visibility and attract customers.
  - ✓ **Customer Segmentation**: Identifying distinct customer groups and tailoring marketing efforts to target and engage each segment effectively.
  - ✓ **Marketing Communication**: Developing and implementing strategies to communicate product features, benefits, and value propositions to customers through various channels such as advertising, public relations, and digital marketing.
  - ✓ **Sales and Distribution**: Establishing sales channels, managing sales teams, and ensuring efficient distribution of products or services to reach customers.

vi **Trade Capacities**

Trade capacities refer to the capabilities and activities involved in facilitating the movement of goods or services from producers to consumers. These capacities are particularly relevant in industries with complex supply chains and global markets.

vii **Standards**

Value chain standards encompass a broad range of standards that are used to improve and optimize various aspects of the value chain within an organization or industry.

Some common dimensions that are often considered in value chain standards:

- **Inputs**: This dimension focuses on the standards and requirements related to the raw materials, components, and resources that are used in the production process. It may include standards for quality, sustainability, safety, and traceability of inputs.
- **Production**: This dimension pertains to the standards and practices related to the actual production or manufacturing processes. It may include standards for efficiency, productivity, quality control, waste reduction, and environmental impact.

- **Distribution and Logistics**: This dimension involves standards related to the movement and distribution of products or services throughout the value chain. It may include standards for transportation, warehousing, inventory management, packaging, and delivery.
- **Marketing and Sales**: This dimension focuses on standards related to the promotion, advertising, and sales of products or services. It may include standards for branding, marketing strategies, customer relationship management, and sales practices.
- **Service**: This dimension encompasses standards related to the after-sales service and support provided to customers. It may include standards for customer service, warranty, repairs, technical support, and customer feedback management.
- **Information Systems**: This dimension concerns standards related to the management and integration of information systems within the value chain. It may include standards for data security, interoperability, data exchange formats, and information sharing among different stakeholders.
- **Social and Environmental Responsibility**: This dimension addresses standards related to the social and environmental impact of the value chain activities. It may include standards for labor practices, human rights, community engagement, environmental management, and sustainability.

Dimension 4: Governance of Value Chain

i. domination

Actor domination in the value chain refers to the extent to which certain actors or companies have significant control or influence over specific stages of the value chain. It implies that certain actors have a dominant position, either due to their market power, resources, or strategic advantages, which allows them to exert control over other actors and potentially manipulate the dynamics of the value chain to their advantage.

Dominant actors in the value chain can have a significant impact on the overall functioning of the chain and the distribution of value among different participants.

However, it's important to note that actor domination can vary across different industries and value chains. In some industries, such as technology or telecommunications, a few major companies may dominate certain stages of the value chain, while in other industries, the value chain may be more fragmented with multiple actors sharing power.

The concept of actor domination should be considered within the broader context of market dynamics, competition, and regulatory frameworks. Antitrust and competition laws are designed to prevent anti-competitive behavior and promote fair competition, aiming to prevent excessive actor domination that may harm market efficiency or limit consumer choice.

ii. Participation in and distribution of value addition

- Participation in and distribution of value addition are important dimensions of the value chain. The value chain refers to the series of activities that a company undertakes in order to create and deliver a product or service to the market.
- Participation in value addition refers to the involvement of different stakeholders in the value chain activities. This typically includes suppliers, manufacturers, distributors, retailers, and customers. Each participant contributes to the value creation process in their own way, adding their expertise, resources, and efforts to enhance the value of the final product or service.
- Distribution of value addition involves the allocation of the created value among the participants in the value chain. This distribution is often based on the contributions made by each participant and can take various forms, such as monetary compensation, profit sharing, or other incentives. The distribution of value addition should ideally be fair and equitable, taking into account the roles and contributions of each participant.
- Efficient participation and distribution of value addition are crucial for the overall success and sustainability of the value chain. When all participants are actively engaged and adequately rewarded for their contributions, it creates a positive and collaborative business environment. This, in turn, can lead to increased productivity, improved product quality, better customer satisfaction, and ultimately, higher profitability for all stakeholders involved.

iii. Type of governance

In the context of a value chain, governance refers to the mechanisms and structures that regulate and control the activities within the chain. It involves making decisions, setting rules, and establishing processes to ensure effective coordination, collaboration, and accountability among the different actors involved in the value chain.

Several dimensions of governance that can be considered within a value chain:

- Hierarchical Governance
  - Market Governance
  - Network Governance
  - Multistakeholder.

Dimension 5: Sustainable Production and Energy Use

i. Use of materials

It refers to the stages and processes involved in the acquisition, utilization, and management of materials throughout a product or service's lifecycle. It encompasses the sourcing, handling, transformation, and disposal of materials, and is a critical aspect of overall supply chain management and sustainability efforts.

- Use of materials within the value chain typically includes the following key activities
- Material Sourcing.
- Material Handling and Storage
- Material Transformation
- Waste Management
- Product Design and Material Selection
- Packaging:
- End-of-Life Management

ii. Energy use

The value chain dimension of "energy use" refers to the stages and processes involved in the acquisition, consumption, and management of energy throughout a product or service's lifecycle. It encompasses the energy requirements and efficiency considerations at various stages of the value chain, from raw material extraction to end product delivery.

The value chain dimension of energy use typically includes the following key activities:

- Energy Procurement.
- Energy Generation
- Energy Distribution
- Energy Consumption
- Energy Monitoring and Management
- Energy Efficiency Improvements.
- Renewable Energy Integration

- Waste Heat Recovery.

iii.Use of water

The value chain of water use typically involves various stages and activities, each of which can contribute to the overall dimension of water use.

- Some key dimensions to consider within the value chain of water use:
  - ✓ Extraction/Abstraction.
  - ✓ Treatment and Purification
  - ✓ Distribution and Transport
  - ✓ Industrial/Commercial Use
  - ✓ Agricultural Use
  - ✓ Domestic Use.

iv. Effects on bio-diversity

- including air and water pollution, which can harm local ecosystems and wildlife. Additionally, the release of greenhouse gases and other pollutants during production can contribute to climate change, which poses a significant threat to global biodiversity.
- **Transportation and Logistics:** The transportation and logistics involved in the value chain, such as shipping or road transportation, can further contribute to biodiversity loss. For example, the construction of transportation infrastructure can fragment habitats and disrupt migration routes for certain species. Invasive species can also be introduced through transportation, negatively impacting native biodiversity.
- **Consumption and Waste**: The consumption and waste stage of the value chain can also affect biodiversity. Unsustainable consumption practices can drive the overexploitation of natural resources, leading to habitat destruction and the depletion of species populations. Improper waste management, including the disposal of hazardous materials, can contaminate ecosystems and harm wildlife.

v. Emissions

When considering emissions in the context of the value chain, there are several dimensions that can be taken into account.

- **Five dimensions related to emissions in the value chain:**

Scope 1 Emissions: Scope 1 emissions refer to the direct greenhouse gas emissions that occur from sources owned or controlled by the organization. This includes emissions from company-owned facilities, vehicles, and equipment. For example, if a manufacturing company has its own power plant emitting greenhouse gases, those emissions would fall under scope 1.

Scope 2 Emissions: Scope 2 emissions encompass the indirect greenhouse gas emissions associated with the purchased electricity, heat, or steam consumed by the organization. These emissions are generated during the production of the energy purchased and are considered indirect because they occur outside the organization's direct control. Many organizations seek to reduce their scope 2 emissions by procuring renewable energy or improving energy efficiency.

Scope 3 Emissions: Scope 3 emissions represent the indirect emissions that occur throughout an organization's value chain. These emissions arise from activities such as the extraction and production of purchased materials, transportation of goods, use of products or services, and disposal of waste. Scope 3 emissions are often the most significant and challenging to measure and manage since they extend beyond a company's immediate operations.

Upstream Emissions: Upstream emissions refer to the greenhouse gas emissions associated with the extraction, production, and transportation of raw materials and inputs used in the production process. These emissions occur before the organization receives the materials and can include activities such as mining, farming, and processing. Managing upstream emissions often requires collaboration with suppliers and efforts to promote sustainable sourcing practices.

Downstream Emissions: Downstream emissions are greenhouse gas emissions that occur as a result of the use and disposal of a company's products or services by customers and consumers. These emissions are beyond the direct control of the organization but are influenced by product design, energy efficiency, and end-of-life management. Organizations can reduce downstream emissions through eco-design, recycling initiatives, and promoting responsible product use.

By considering these five dimensions of emissions in the value chain (scope 1, scope 2, scope 3, upstream, and downstream emissions), organizations can better identify and address environmental impacts throughout their operations and supply chains. This holistic approach is important for effective emissions management and sustainability efforts

Dimension 6: Value Chain Finance

i. Financial attractiveness

Financial attractiveness is a crucial dimension of the value chain that assesses the profitability and financial viability of each stage or activity within the chain. It involves evaluating the costs, revenues, and potential returns associated with each step of the value chain to determine its financial value and attractiveness.

- To analyze the financial attractiveness of different dimensions of the value chain, several key factors can be considered:
  - ✓ Cost Structure.
  - ✓ Revenue Generation
  - ✓ Profit Margin
  - ✓ Return on Investment (ROI.
  - ✓ Capital Intensity
  - ✓ Risk Assessment

ii. Availability of financing

Availability of financing is a crucial dimension in the value chain of any business or industry. It refers to the accessibility and availability of funds or capital at various stages of the value chain, from production to distribution and beyond. Adequate financing is essential for businesses to invest in resources, infrastructure, research and development, marketing, and other critical activities that drive value creation.

- Some key points regarding the availability of financing in the value chain:
  - ✓ Research and Development (R&D)
  - ✓ Procurement of Inputs.
  - ✓ Production and Operations
  - ✓ Marketing and Sale
  - ✓ Expansion and Growth
  - ✓ Risk Management.
  - ✓ Sustainability and Social Responsibility

Dimension 7: Business Environment and Socio-political Context

i. Business environment

In the business environment, the value chain dimension refers to the specific aspects or elements of the value chain that are relevant to a particular business or industry. It involves understanding how value is created, captured, and delivered within a specific context.

- Some key dimensions of the value chain in the business environment include:
  a) Inbound logistics
  b) Operations
  c) Outbound logistics
  d) Marketing and sales
  e) Service
  f) Procurement
  g) Technology and infrastructure
  h) Human resources.

ii.. Product and trade regulations

The value chain dimension of product and trade regulations refers to the various aspects of regulations that impact the production, distribution, and trade of goods and services within a value chain. These regulations are put in place by governments and other regulatory bodies to ensure safety, quality, fairness, and compliance with legal requirements in the marketplace.

- **Some key considerations within this dimension**:
  - ✓ **Product Standards and Certification**: Regulations often establish mandatory product standards to ensure the safety, quality, and performance of products. These standards may cover aspects such as labeling, packaging, materials, and manufacturing processes. Compliance with these standards may require certification or testing by authorized bodies.
  - ✓ **Intellectual Property Rights (IPR**): Intellectual property regulations protect inventions, trademarks, copyrights, and other forms of intellectual property. These rights encourage innovation by granting exclusive rights to creators and innovators, preventing unauthorized use or imitation.
  - ✓ **Health, Safety, and Environmental Regulations**: Governments enforce regulations to protect public health, worker safety, and the environment. These regulations may cover

areas such as product labeling, hazardous materials handling, emissions control, waste disposal, and workplace safety standards.

- ✓ **Trade Barriers and Tariffs:** Trade regulations include import and export restrictions, customs procedures, tariffs, and quotas. These measures are implemented to protect domestic industries, regulate international trade, and address issues such as national security, public health, or environmental concerns. Trade agreements between countries can also influence these regulations, leading to the reduction or elimination of trade barriers.
- ✓ **Licensing and Permits**: Certain products and services may require licenses or permits to ensure compliance with specific regulations. For example, pharmaceuticals, food products, financial services, or transportation industries often require specialized permits or licenses to operate legally.
- ✓ **Labeling and Consumer Protection:** Regulations may mandate specific labeling requirements to provide consumers with accurate information about products. This includes nutritional labeling, ingredient disclosure, allergen warnings, country of origin labeling, and other consumer protection measures. These regulations enable consumers to make informed choices and protect them from deceptive or unsafe products.
- ✓ **International Trade Agreements**: Countries often negotiate trade agreements that aim to harmonize regulations and facilitate international trade. These agreements, such as free trade agreements or customs unions, reduce trade barriers, streamline customs procedures, and establish common standards.

iii.Public and private service provision

The value chain dimension of public and private service provision refers to the different stages or activities involved in delivering services in both the public and private sectors. In the context of public and private service provision, the value chain can be divided into several key stages:

- **Planning and Policy Development**: This stage involves the formulation of policies, regulations, and strategies for service provision. In the public sector, this may include the development of public policies and plans to address specific societal needs, while in the private sector, it may involve market research and strategic planning to identify profitable service opportunities.

- **Service Design and Development:** This stage involves the design and development of services based on the identified needs and demands. In the public sector, this may involve the design of programs, infrastructure development, and the creation of service delivery mechanisms. In the private sector, it may involve the design of service offerings, development of service delivery models, and innovation in service design.
- **Service Delivery**: This stage involves the actual provision of services to the end-users or customers. In the public sector, service delivery may be carried out by government agencies, public institutions, or contracted private entities. In the private sector, service delivery is typically undertaken by private companies or organizations.
- **Monitoring and Quality Assurance**: This stage involves monitoring the delivery of services to ensure compliance with standards, regulations, and service level agreements. It may include performance monitoring, customer feedback mechanisms, and quality assurance processes. In the public sector, this may involve government oversight and evaluation of service providers, while in the private sector, companies may have internal quality control measures.
- **Evaluation and Improvement:** This stage involves assessing the effectiveness and efficiency of service provision and identifying areas for improvement. In the public sector, this may involve program evaluations, impact assessments, and policy reviews. In the private sector, companies may conduct market research, customer satisfaction surveys, and performance evaluations to identify opportunities for enhancing service delivery

iv. Social and cultural context

The social and cultural context is an important dimension of the value chain. It refers to the broader societal and cultural factors that shape how value is created, delivered, and perceived by different stakeholders. Understanding and incorporating the social and cultural context into the value chain analysis can help businesses identify new opportunities, mitigate risks, and create sustainable value.

- Some key considerations related to the social and cultural context within the value chain:

✓ Consumer Preferences and Behavior

✓ Ethical and Social Responsibility

✓ Diversity and Inclusion

✓ Local and Global Communities

- ✓ Technological Adoption and Digital Divide

2.2.1. Structure of value chain

The value chain structure refers to the sequence of activities or processes involved in creating and delivering a product or service to customers. It encompasses all the steps required to bring a product from its inception to the point of consumption. The concept of the value chain was introduced by Michael Porter in his book "Competitive Advantage" and is widely used in business strategy and management.

The value chain can be divided into two primary categories of activities: primary activities and support activities.

I. Primary Activities

- **Inbound Logistics**: This includes activities such as receiving, storing, and distributing raw materials or inputs used in the production process.
- **Operations**: These are the core production activities that transform inputs into finished products or services.
- **Outbound Logistics**: This involves activities such as warehousing, order fulfillment, and distribution of the final products to customers.
- **Marketing and Sales**: These activities are related to promoting and selling the products or services to customers.
- **Service:** This includes activities such as installation, repair, customer support, and after-sales service.

II. Support Activities

- **Procurement:** This involves sourcing and purchasing the necessary inputs, such as raw materials, equipment, and services, for the value chain.
- **Technology Development:** This includes activities related to research and development, process improvement, and technological innovation that support the value chain.
- **Human Resource Management**: These activities include recruiting, training, and development of employees to support the value chain.
- **Firm Infrastructure**: This involves activities such as general management, finance, accounting, and legal support that facilitate the overall functioning of the value chain. It's important to note that the value chain structure can vary across industries and companies. Each organization may have a unique configuration of activities based on its specific

business model, competitive strategy, and industry dynamics. Additionally, advancements in technology and globalization have led to the emergence of virtual value chains, where activities may be outsourced or performed by external partners across different geographical locations.

2.1. Value chain actors

Value chain actors are the various entities and individuals involved in the production, distribution, and delivery of goods and services to consumers. They play a crucial role in creating value at each stage of the value chain. The specific actors can vary depending on the industry and the specific value chain being considered.

- **Common examples of value chain actors:**

i. **Suppliers**: These are the entities that provide raw materials, components, or services needed for production. They can be individuals, companies, or even other organizations.

ii. **Manufacturers/Producers**: These are the entities that transform the raw materials or components into finished products. They may involve processes such as assembly, fabrication, or manufacturing.

iii. **Distributors/Wholesalers**: These are intermediaries that purchase products from manufacturers in large quantities and distribute them to retailers or other intermediaries. They often provide warehousing, logistics, and transportation services.

iv. **Retailers**: These are the entities that sell products directly to consumers. They can be physical stores, online marketplaces, or a combination of both. Retailers may also provide additional services such as after-sales support or customer assistance.

v. **Service Providers**: These actors offer various services that enhance the value of the product or support its use. Examples include repair and maintenance services, consulting firms, marketing agencies, and logistics providers.

vi. **Customers/Consumers**: The end-users or buyers of the products or services. They are an essential part of the value chain as their preferences, demands, and feedback influence the activities of other actors.

vii. **Financiers**: These actors provide financial resources to fund various stages of the value chain, including production, inventory management, marketing, and expansion. They can be banks, investors, venture capitalists, or other financial institutions.

viii. **Regulators/Government Agencies**: They enforce regulations, set standards, and oversee compliance within the value chain. They ensure fair competition, consumer protection, and adherence to environmental and safety standards.

ix. **Research and Development (R&D) Institutions**: These entities conduct research and development activities to improve products, processes, and technologies. They contribute to innovation and advancements within the value chain.

x. **Collaborators/Partners:** These are entities that collaborate with other actors in the value chain to achieve common goals. They can include strategic partners, joint venture partners, or suppliers of complementary products or services.

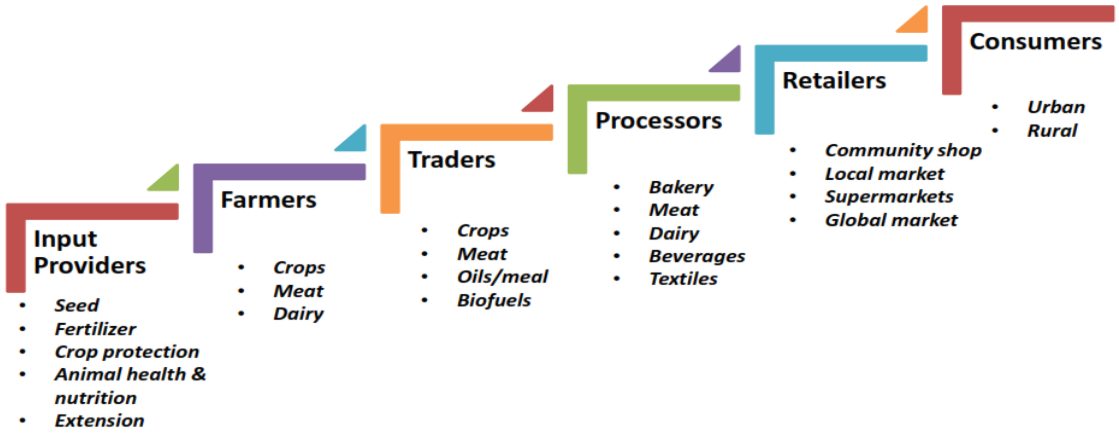


Figure2.1 value chain actors

2.2. Value chain techniques for value addition

Value chain techniques are methods or strategies employed to enhance value addition at different stages of the value chain. Value addition refers to increasing the value of a product or service throughout its production and distribution process.

- **Some commonly used value chain techniques for value addition are:**

✓ **Quality control and assurance**: Implementing rigorous quality control measures at each stage of the value chain ensures that the product meets or exceeds customer expectations. This includes strict quality standards, adherence to regulatory requirements, and product testing.

- ✓ **Process optimization**: Analyzing and improving production processes to increase efficiency, reduce waste, and enhance product quality. This can involve lean manufacturing techniques, automation, and continuous improvement practices.
- ✓ **Product diversification**: Expanding the range of products or services offered within the value chain to cater to different customer segments or market niches. This can involve developing new product variants, packaging options, or complementary services.
- ✓ **Branding and marketing**: Developing a strong brand identity and implementing effective marketing strategies to differentiate the product in the market. This includes branding, advertising, promotion, and customer relationship management activities.
- ✓ **Research and development (R&D**): Investing in R&D to develop innovative products, improve existing products, or optimize production processes. This can lead to the introduction of new features, improved performance, or cost reduction.
- ✓ **Value-added services**: Offering additional services or features that enhance the customer experience or provide added value. Examples include after-sales support, customization options, warranty programs, or training and education services.
- ✓ **Customer feedback and engagement**: Actively seeking customer feedback, understanding their needs, and incorporating their preferences into product development and service delivery. Engaging customers through surveys, focus groups, social media, or customer relationship management systems can help identify areas for improvement and drive value creation..These value chain techniques can be applied in various combinations and adapted to specific industries and business contexts. By implementing these techniques, organizations can enhance the value of their products or services, differentiate themselves in the market, and ultimately achieve a competitive advantage

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2.3. Steps to Conduct Value Chain Analysis

Value Chain Analysis is a framework developed by Michael Porter to help organizations identify and analyze all the activities involved in delivering a product or service to customers. By understanding the value chain, organizations can identify areas of competitive advantage and potential areas for improvement.

Step 1: Conduct a market analysis .Usually a value chain analysis begins with a market study to identify the potential gains than can be captured by individuals or groups, and the current make-up of the chain.

Step 2: Map the chain and conduct a stakeholder analysis. Mapping the chain helps identify the main products and their markets, as well as activities involved and the geographical location for each node in the chain. A stakeholder analysis must be conducted to identify different stakeholders (by function, socio-economic category, and gender) at each node of the chain.

Step 3: Identify constraints and opportunities for the value chain. Identify all constraints on each node of the chain to determine what needs to happen to minimize or eliminate constraints for entry or participation in the value chain. Studying constraints allows identifying the "leverage points" to advance the chain and redistribute values among all chain participants in an equitable and efficient manner. The causes are mapped out to help with decision-making process and focus on strengthening particular nodes and actors in the chain some actors (especially new entrants may need more support and business-like environment to sustain participation

Step 4: Develop a strategic action plan. Information collected in the previous steps can help form the basis for a strategic action plan to integrate women (individually or in groups) to participate in the value chain or advance to the next node in the chain

For example, involving women cooperatives in the wholesale or retail activities in addition to their participation in the production and processing of the product

2.4. Contract farming system

Contract farming is a system where agricultural production is carried out based on a formal agreement between farmers and agribusiness firms, processors, exporters, or retailers. Under a contract farming arrangement, the farmer agrees to produce a specific crop or livestock according to certain quality and quantity specifications, and the buyer agrees to purchase the produce at predetermined prices or terms.

2.5.1. Types of contract farming

1. **Market specification (or marketing) contract: -** Market-specifying contract describes the term of the sales transaction with regard to price, quantity, timing, and product attributes. Market-specification reduces information and coordination costs, which are particularly important for perishable, export markets or new markets.

II. **Production management contract**: - Production-management contract, which specifies the manner in which the commodity is to be grown, such as the planting density, use of pesticides, and timing of harvest. .

III. **Resource providing contract:** resource-providing contract, the buyer also provides agricultural inputs and technical assistance on credit.

2.5.2. Models of contract farming

I. **The Centralized model**: - Contracting Company provides support to the production of the crop by smallholder farmers, purchases the crop from the farmers, and then processes, packages and markets the product, thereby tightly controlling its quality.

II. **Multipartite models; -** involve various actors like government, NGOs and service providers. It usually also involves dealing with farmers' organizations like cooperatives as well as joint ventures between government and the private sector.

III. **The Informal model: -**This model may also include trader-farmer arrangements whereby the trader buys up (part of) the farmers' harvest before the actual harvest has taken place. This arrangement comes down to the trader providing credit to the farmer with the farmer repaying the credit in crops harvested.

IV. **The Intermediary model** involves intermediaries between producers and buyers who subcontract buyers. In this model, because of the absence of strong linkages with farmers, buyers run the risk of losing control over quality, quantity and price. For similar reasons, farmers within this intermediary model hardly avoid market uncertainties.

- Contract farming systems can vary in their structure and terms, but they generally involve the following key elements:
  - ✓ **Agreement**: A formal contract is established between the farmer and the buyer, outlining the terms and conditions of the arrangement. The contract typically specifies the crop or livestock to be produced, production practices, quality standards, delivery schedules, pricing mechanisms, and any other relevant terms.

- ✓ **Inputs and technical assistance**: The buyer often provides the farmers with necessary inputs such as seeds, fertilizers, pesticides, or animal feed. Additionally, technical assistance and guidance may be offered to ensure that the production meets the required standards. This support can include agronomic advice, training, access to improved technologies, and best practices.
- ✓ **Price and payment**: The contract specifies the pricing mechanism, which can be based on a fixed price, cost-plus arrangement, or market-linked pricing. Payment terms, such as advance payments, installment payments, or payment upon delivery, are also outlined in the contract.
- ✓ **Production and quality standards**: The contract defines the specific production practices and quality standards that the farmers are expected to follow. This can include guidelines for land preparation, irrigation, crop protection, animal welfare, and post-harvest handling. Compliance with these standards ensures that the produce meets the buyer's requirements and market demands.
- ✓ **Market access**: Contract farming often provides farmers with a guaranteed market for their produce. Buyers may commit to purchasing the entire output or a specified quantity, eliminating uncertainties associated with finding buyers and negotiating prices. This can provide farmers with improved market access and reduce their marketing risks.
- ✓ **Risk-sharing**: The contract farming system can help distribute risks between the farmers and the buyers. Risks related to market price fluctuations, weather events, pests, or diseases can be shared based on the agreed terms. This can provide some stability and predictability for the farmers, reducing their vulnerability to market uncertainties.

2.5.1. Farmer and processing making firm for production

Farmers and processing firms often have a symbiotic relationship in the production process. Farmers are responsible for growing crops or raising livestock, while processing firms specialize in converting raw agricultural products into processed goods, such as food, beverages, or other value-added products..

- **Key points to consider regarding the relationship between farmers and processing firms:**
  - ✓ **Supply and Demand:** Farmers and processing firms work together to meet consumer demand. Processing firms rely on a steady supply of raw materials from farmers to

maintain their production levels. Farmers, in turn, depend on processing firms to purchase their produce or livestock.

- ✓ **Contracts and Agreements**: Many farmers and processing firms establish contractual agreements to ensure a consistent supply of raw materials. These contracts may outline the quantity, quality, and price of the agricultural products to be supplied. They can provide stability and security for both parties involved.
- ✓ **Quality Control**: Processing firms often have specific quality standards and requirements for the raw materials they source from farmers. This can include factors such as size, color, ripeness, or absence of contaminants. Farmers may need to adhere to these standards to ensure their products are accepted by the processing firms.
- ✓ **Value Addition:** Processing firms add value to the raw agricultural products by transforming them into processed goods. This can involve activities like sorting, cleaning, cutting, packaging, preserving, or creating new products. The processing firms may have specialized equipment, facilities, and expertise to carry out these activities efficiently.
- ✓ **Market Access**: Processing firms may have established distribution channels and market networks that farmers can tap into. By working with processing firms, farmers can gain access to wider markets and potentially higher prices for their products. This can help farmers expand their customer base and increase their profitability.
- ✓ **Collaboration and Innovation**: Farmers and processing firms may collaborate on research and development activities to improve agricultural practices, enhance product quality, or develop new products. This can involve sharing knowledge, conducting trials, or exploring new processing techniques. Such collaboration can lead to mutual benefits and advancements in the agricultural industry.

2.5.2. Supply of agricultural product

- The supply of agricultural products can be influenced by various factors. **Key considerations that affect agricultural product supply:**
  - ✓ **Weather conditions**: Climate and weather patterns play a significant role in agricultural production. Favorable weather conditions such as adequate rainfall, moderate temperatures, and sunshine can enhance crop yields and overall productivity. Conversely, adverse weather events like droughts, floods, storms, and extreme temperatures can lead to reduced yields and supply disruptions.
  - ✓ **Land availability and quality**: The availability of arable land and its quality are crucial for agricultural production. The amount of land dedicated to agriculture, its fertility, and suitability for specific crops affect the overall supply of agricultural products. Land-use changes, such as urbanization or deforestation, can limit available agricultural land and impact supply.
  - ✓ **Technological advancements**: Advances in agricultural technology, including improved seeds, fertilizers, pesticides, irrigation systems, and machinery, can increase productivity and output. Technology adoption can lead to higher yields and greater efficiency, thereby positively influencing the supply of agricultural products.
  - ✓ **Government policies and subsidies**: Government policies and subsidies can have a significant impact on agricultural production and supply. Policies related to trade, taxation, subsidies, price controls, and regulations can influence farmers' decisions, production levels, and market availability of agricultural products.
  - ✓ **Market demand and prices**: The demand for agricultural products, both domestically and internationally, affects farmers' decisions regarding production levels. Favorable market conditions and higher prices can incentivize increased production, while low prices may lead to reduced supply.
  - ✓ **Pest and disease outbreaks**: Outbreaks of pests, diseases, and invasive species can significantly impact agricultural production. Crop diseases and infestations can lead to lower yields, crop losses, and reduced overall supply.
  - ✓ **Input costs**: The cost of inputs such as seeds, fertilizers, pesticides, and labor can influence agricultural production. Higher input costs may discourage farmers from expanding production, leading to reduced supply.

Self-check 2	Written test	

Name…… ID…… Date…….

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Test I: Choose the best answer (3 points each)

1. Which of the following are not actors in a value chain?

A. Suppliers B. Producers C. Traders D. Brokers

2. Type of contract farming which specifies the manner in which the commodity is to be grown,

A. Resource providing contract

B. Production management contract:

C. Market specification contract

D. A and B.

Test II: Short Answer Questions (5 points each)

1. Discuss dimension of value chain

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2. Explain models of contract farming

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-_____

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-_____

3. Discuss value chain techniques for value addition

-_____

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LG #50	LO #3- Develop value chain

Instruction sheet 3

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Value chain parameters
- Constraints and gaps to develop value chain
- Value Chain selection techniques
- Steps of value chain development
- Potential interventions for value chain development

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Analyze Value chain parameters
- Describe steps of value chain development
- Identify value Chain selection techniques
- Identify Potential interventions for value chain development

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below.
3. Read the information written in the information Sheets
4. Accomplish the Self-checks
5. Perfom operation sheet
6. Do LAB test

Information Sheet 3

3.1. Value chain parameters

- **Product:** In the very beginning one needs to define the nature of the product whose value chain is to be analyzed.
- **Functions**: The generation and marketing of each industrial product involves a number of different transformation processes.
- **Common functions** in value chains are input supply, production, assembly, processing, wholesale, export, retail, etc., and sub-functions may be defined in each.
- **Value chain actors:** These are the firms and individuals who assume different functions in the value chain, engaging directly in production, processing, trading and marketing. They usually become the owner of the product and/or take active market positions. Often certain actors can have more than one function
- **Flow of product and end-markets**: These establish the main connections between the different actors in the value chain. It may be sufficient for a generic map to depict which types of actors deliver products to each other. However, frequently it is also interesting to find out how many products are delivered. The map should also indicate the end- market(s) to which products flow.
- **Service provision**: The map should include reference to the types of services that support the functioning of the chain, including transportation, packing and handling, business services such as consulting and accounting, quality and process certification, financial support, etc.

3.2. Constraints and gaps to develop value chain

When it comes to developing a value chain, there can be various constraints and gaps that hinder the process.

- **Common constraints and gaps that organizations may encounter:**

✓ **Lack of Infrastructure**: Inadequate physical infrastructure, such as transportation networks, power supply, and communication systems, can pose challenges in developing an efficient value chain. Without proper infrastructure, it becomes difficult to move goods and information smoothly through the chain.

- ✓ **Limited Access to Capital**: Insufficient access to capital or financial resources can impede value chain development. It may be challenging for businesses to invest in necessary assets, technology, and personnel required to enhance the value chain.
- ✓ **Knowledge and Skills Gap:** Lack of knowledge and skills within the workforce can be a significant constraint. A skilled workforce is essential for carrying out various value chain activities effectively. Insufficient training and education programs can hinder the development of expertise in specific areas of the value chain.
- ✓ **Information Asymmetry:** Information asymmetry occurs when certain participants in the value chain have more information than others. This can lead to inefficiencies, unfair practices, and a lack of transparency, which can hinder effective coordination and decision-making within the value chain.
- ✓ **Regulatory and Policy Constraints**: Regulatory and policy frameworks can either facilitate or hinder value chain development. Inadequate or burdensome regulations, trade barriers, and inconsistent policies across regions or countries can create obstacles for businesses operating within the value chain.
- ✓ **Limited Collaboration and Cooperation**: Collaboration and cooperation among different stakeholders within the value chain are crucial for its successful development. However, conflicts of interest, lack of trust, and a competitive mindset can hinder effective collaboration, leading to suboptimal outcomes.
- ✓ **Sustainability and Environmental Considerations**: Increasingly, organizations are expected to address sustainability and environmental concerns throughout the value chain. Failure to integrate sustainable practices can lead to reputational risks and limit long-term growth opportunities.
- ✓ **Technology and Digitalization Gaps**: Rapid advancements in technology and digitalization have transformed value chains. Organizations that do not embrace and adopt relevant technologies may face challenges in optimizing their value chain activities and remaining competitive.
- ✓ **Market Access and Demand Constraints**: Limited market access, lack of demand, or unpredictable market conditions can pose challenges for organizations striving to develop a value chain. Understanding market dynamics and ensuring a steady demand for products or services is crucial for a sustainable value chain.

- ✓ **Lack of Performance Measurement and Analysis:** Without adequate performance measurement and analysis systems, it becomes challenging to identify inefficiencies, optimize processes, and make informed decisions regarding value chain improvements.

To overcome these constraints and gaps, organizations need to invest in infrastructure development, foster collaboration and knowledge sharing, advocate for supportive policies and regulations, embrace technological advancements, and prioritize sustainability and market-oriented approaches.

3.3. Selection technique of value chain

Every value chain will have its own unique factors and considerations and it may be difficult to decide how to create a hierarchy on which to base a decision. What CARE discovered (and consistent with many other value chain interventions) was that its desired outcomes proved to be excellent starting points for its research. It began to search out value chains in their focus countries that had the potential to meet these outcomes: economic sustainability, benefits for the poor, gender equity, and environmental sustainability. Added to this list were other, entirely pragmatic criteria, such as sufficient resources and previous experience in the sector.

3.3.1. Key selection techniques of value chain analysis

i. economic Sustainability

The most important consideration in selecting a value chain is its potential to create and distribute value in ways that include and benefit low-income producers, entrepreneurs, and employees in a financially sustainable way. Unmet or growing demand for the value chain products in question is absolutely essential. Without demand and potential for sustainable economic growth, there will be little additional value to be distributed. Without economic growth potential, any investments to improve a value chain will likely fail to be sustainable. Economic growth is therefore a necessary means to the end of sustainable poverty reduction.

Some specific economic sustainability criteria that CARE considered when selecting additional agricultural value chains include the following:

- Unmet market demand and positive growth
- Potential of the value chain
- Scope for expanding productivity, value, volume, and quality
- Potential for regional or international competitiveness
- An active private sector willing to invest in the value chain

- Likely commitment and interest of key value chain partners, including lead firms and government support organizations

ii. Benefits for the Poor

The potential for value chain development to benefit poor producers and others is often a central selection criterion, and many social impacts fall under the broad umbrella of benefits for the poor. These benefits can include increased income and assets, as well as empowerment, capabilities, health, security, and reduced risks and vulnerability.

Some specific criteria that CARE considered were

- the potential for the value chain to enhance the incomes and assets of large numbers of disadvantaged groups (poor, women, youth, disabled, etc.);
- opportunities for empowerment and capacity building of disadvantaged groups
- improved health and education outcomes; and reduced risks and vulnerabilities.

A particular note can be made here based on CARE's experience inreducing risks for farmers. Often staple crops and/or livestock production targeting local markets are associated with lower risks than producing high-value crops for export markets. It may be that very vulnerable farmers lack the risk tolerance and capabilities to export in the early stages of development, making local markets less risky and more attractive. Speaking directly with farmers helped CARE assess the perceived benefits and risks related to poor producers.

iii. Gender Equity

For CARE, working on issues of gender justice and equity is a central aspect of the organization's mission and an area where it has acquired a breadth of learning and experience. For CARE, women's inclusion and empowerment is an important end in itself, but it is also an important means to the end of greater economic development in agriculture. When looking at a potential value chain for further development, CARE identified specific criteria to evaluate the potential of an initiative to promote gender equity.

These criteria included

- numbers of women already involved in the value chain in traditional roles;
- opportunities for women in the value chain to move into higher value production and roles;
- opportunities for increased women's involvement in nontraditional roles; and
- opportunities for women to enhance their decision making at the household level.

Speaking with women farmers and other value chain actors directly can help illuminate the gender dynamics and potential for improving women's rights and opportunities in specific value chains.

iv. ***Environmental Sustainability***

Economic development can sometimes be accompanied by negative environmental impacts that affect long-term ecological stability. When evaluating potential value chains for selection, CARE considered probable impacts on the natural environment. Criteria that were used for this purpose included

- value chain development is consistent with ecological sustainability conditions (e.g., keeping the natural environment and farm land intact and protected);
- value chain development has the potential to contribute to long term food security and improved household nutrition; the value chain will not be seriously negatively impacted by climate change in the near future; and
- developing the value chain can contribute to mitigate or adapt to climate change and associated droughts, floods, or other weather pattern changes.

iv. Pragmatic Criteria

Additional criteria are pragmatic considerations that will be unique to each organization (rather than to the value chain). These criteria will prove to be important when choosing from a shortlist of candidates that already meet the previous four criteria.

Some pragmatic criteria that CARE considered were

- sufficient resources (time, funds, and know-how) to significantly impact the value chain;
- previous experience in the sector;
- alignment with broad organizational objectives and mandate;
- relevance to government priorities and existing government support institutions; and
- synergies and scope for cooperation with others, including industry massociations, NGOs, and government agencies.

3.3.2. Steps of value chain development

Developing a value chain involves a series of steps aimed at analyzing and improving the various activities and processes within an organization to create and deliver value to customers.

General steps to develop a value chain

i. **Identify the Value Chain Activities**: Begin by identifying the primary and support activities involved in your organization's value chain. Primary activities typically include inbound logistics, operations, outbound logistics, marketing and sales, and customer service. Support activities include procurement, technology development, human resource management, and firm infrastructure.

ii. **Analyze Value Chain Activities**: Evaluate each value chain activity to understand its role, efficiency, and effectiveness in creating value for customers. Identify areas of strength and weakness, and determine opportunities for improvement or optimization.

iii. **Identify Value Drivers**: Identify the key factors that drive value creation in each value chain activity. These are the aspects that directly impact customer satisfaction and differentiate your organization from competitors. For example, in the operations activity, value drivers could be product quality, production speed, or flexibility.

iv. **Assess Competitive Advantage**: Analyze your organization's competitive advantage in each value chain activity. Determine whether your organization has a cost advantage or a differentiation advantage compared to competitors. This assessment helps identify areas where you can focus your efforts to enhance your competitive position.

v. **Identify Improvement Opportunities**: Based on the analysis of value chain activities, value drivers, and competitive advantage, identify specific areas where improvements can be made. These improvements can range from process optimization and cost reduction to enhancing product features or customer service.

vi. **Develop an Action Plan**: Create a detailed action plan that outlines the specific initiatives and activities required to implement the identified improvements. Prioritize the initiatives based on their potential impact and feasibility. Assign responsibilities and set timelines for implementation.

vii. **Implement and Monitor**: Execute the action plan by implementing the identified initiatives. Monitor the progress of each initiative and track key performance indicators (KPIs) to assess the effectiveness of the improvements. Make adjustments as necessary to ensure the desired outcomes are achieved.

viii. **Continuous Improvement**: Value chain development is an ongoing process. Continuously monitor and evaluate the value chain activities, adapt to changing market conditions, and seek opportunities for further improvement. Regularly review and update your action plan to align with the organization's strategic objectives. value chain development requires a holistic

approach and collaboration across different functions within the organization. It involves not only optimizing internal processes but also considering the external factors that impact value creation, such as suppliers, partners, and customer preferences

3.4. Potential interventions for value chain development

Value chain development refers to the process of improving the efficiency, productivity, and competitiveness of a value chain, which is the sequence of activities involved in producing, distributing, and selling a product or service. There are several potential interventions that can be implemented to foster value chain development.

- **Some examples**

✓ **Capacity Building**: Enhancing the skills, knowledge, and capabilities of value chain actors is crucial. This can be achieved through training programs, workshops, and technical assistance focused on improving production techniques, quality control, marketing, and business management.

✓ **Access to Finance:** Lack of access to finance is a common constraint for value chain actors, especially small and medium-sized enterprises (SMEs). Interventions such as microfinance programs, grants, and credit facilities can help provide working capital, investment funds, and access to financial services.

✓ **Infrastructure Development**: Improving physical infrastructure, such as transportation networks, storage facilities, and access to utilities, can reduce transaction costs, enhance efficiency, and enable value chain actors to reach markets more effectively.

✓ **Technology Adoption**: Encouraging the adoption of appropriate technologies can significantly improve productivity and competitiveness. This includes providing technical assistance, facilitating technology transfer, and promoting research and development (R&D) collaborations.

✓ **Market Linkages**: Facilitating connections between value chain actors and markets is crucial. This can involve establishing partnerships, creating market information systems, supporting market research, and facilitating access to domestic and international markets.

✓ **Quality and Standards**: Enhancing product quality and complying with industry standards and certifications is essential for value chain development. Interventions can include training on quality control, supporting certification processes, and assisting value chain actors in meeting international quality requirements.

- ✓ **Policy and Regulatory Reforms**: Reviewing and reforming policies and regulations that hinder value chain development is essential. This may involve streamlining bureaucratic procedures, reducing trade barriers, and creating an enabling business environment.
- ✓ **Collaboration and Networking**: Encouraging collaboration and networking among value chain actors can foster learning, knowledge sharing, and innovation. This can be facilitated through the establishment of industry associations, business clusters, and platforms for dialogue and collaboration.
- ✓ **Sustainable Practices**: Promoting environmentally sustainable practices throughout the value chain can improve competitiveness and access to markets. Interventions can include promoting resource-efficient production methods, supporting green certifications, and providing training on sustainable practices.

It's important to note that the specific interventions required for value chain development will vary depending on the context, sector, and specific challenges faced by the value chain actors. A comprehensive analysis and understanding of the value chain dynamics is necessary to identify the most appropriate interventions.

Self-check 3	Written test

Name…… ID…… Date…….

Test I: Choose the best answer (3 points each)

1. Among the following which one is not a value chain parameter?

A. Product B. Function C. Actors D. agreement

2. From the following which one is not constraints and gap to develop value chain,

A. Lack of Infrastructure

B. Limited Access to Capital:

C. Knowledge and Skills development

D. Technology and Digitalization Gaps

E. All

Test II: Short Answer Questions

1. Discuss potential interventions for value chain development

-_____

_____

2. Write selection techniques for value chain

_____

_____

_____

_____

You can ask your teacher for the copy of the correct answers

Operation sheet: 3

III. Process of value chain development

1. Tools and equipment's

- Pen,
- pencils, paper,
- work sheet,
- note books
- reference book

2. Steps of value chain development

i. Identify the Value Chain Activities
ii. Analyze Value Chain Activities
iii. Identify Value Drivers
iv. Assess Competitive Advantage
v. Identify Improvement Opportunities
vi. Develop an Action Plan
vii. Implement and Monitor
viii. Continuous Improvement

LAP TEST-3	Performance Test

Name: _____ ID: _____

Date:_____

Time started: _____ Time finished: _____

Assume you are a value chain expert and you have you own fruit farm (avocado and papaya) and you sold these fruits in fresh and processed form for your customer so as to improve the satisfaction of your customer you are required to improve quality and optimize cost of the product to receive customer feedback and complaint. based on this information accomplish the following activities

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within **3** hour. The project is expected from each student to do it.

Task-1: Identify value chain actors for your fruit farm

Task 2. Identify primary and supportive activities

Task3.Discribe the role of women in your fruit value chain farm

Task4. Develop fruit value chain for your farm

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LG #51	LO #4- Upgrade value addition

Instruction sheet

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Environmental considerations to upgrade value addition
- Identify value chain actors for value addition
- Upgrading value chain for agricultural products
- Ways of collecting customers feedbacks in value chain analysis

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Identify environmental considerations to upgrade value addition
- Identify value chain actors for value addition
- Upgrade value chain for agricultural products
- Explain ways of collecting customers feedbacks in value chain analysis

Learning Instructions:

3. Read the specific objectives of this Learning Guide.
4. Follow the instructions described below.
5. Read the information written in the information Sheets
6. Accomplish the Self-checks
7. Perfom operation sheet
8. Do LAB TEST’

Information Sheet 4

4.1. Environmental considerations to upgrade value addition

When considering value addition in the context of environmental sustainability, it is important to focus on strategies that minimize negative impacts on the environment while maximizing the overall value generated.

- **Key environmental considerations to keep in mind when upgrading value addition**

✓ **Resource efficiency**: Optimize the use of resources, such as energy, water, and raw materials, throughout the value addition process. Implement measures to reduce waste generation and improve resource efficiency, such as recycling, reusing, and reducing material inputs.

✓ **Renewable energy**: Shift towards renewable energy sources, such as solar, wind, or hydroelectric power, to power value addition processes. This helps reduce greenhouse gas emissions and dependence on fossil fuels.

✓ **Sustainable sourcing**: Ensure that the raw materials used in value addition are sourced sustainably. This involves considering factors such as responsible forestry practices, ethical mining, and sustainable agriculture. Promote the use of certified sustainable materials and engage with suppliers who prioritize environmental stewardship.

✓ **Lifecycle assessment:** Conduct a comprehensive lifecycle assessment of the value addition process to identify and mitigate potential environmental impacts at every stage, from raw material extraction to end-of-life disposal. Identify areas where improvements can be made to minimize environmental footprints, such as reducing emissions, optimizing transportation logistics, and improving waste management practices.

✓ **Circular economy principles**: Embrace circular economy principles by designing products and processes that promote reuse, recycling, and remanufacturing. Implement strategies to close the loop and minimize waste generation, such as incorporating recycled materials into products and designing for disassembly.

✓ **Pollution prevention:** Implement robust pollution prevention measures to minimize the release of harmful substances into the environment. This may involve implementing proper wastewater treatment, controlling air emissions, and managing hazardous waste in compliance with applicable regulations.

- ✓ **Stakeholder engagement:** Engage and communicate with stakeholders, including employees, customers, suppliers, and local communities, to create awareness and foster a culture of environmental responsibility. Involve stakeholders in decision-making processes and seek their input on environmental initiatives.
- ✓ **Continuous improvement**: Adopt a culture of continuous improvement by monitoring and measuring environmental performance indicators. Set clear targets for reducing environmental impacts and track progress over time. Regularly review and update environmental management systems to incorporate emerging best practices and technologies.

By integrating these environmental considerations into the upgrade of value addition processes, businesses can enhance their sustainability performance, reduce their environmental footprint, and contribute to a more resilient and resource-efficient economy.

4.2. Identifying Value chain actors for Value addition

Value chain actors for value addition can vary depending on the specific industry or sector. Some common value chain actors that are involved in adding value to a product or service:

- **Suppliers**: Suppliers provide raw materials, components, or resources necessary for the production process. They may supply materials such as metals, chemicals, fabrics, or agricultural commodities.
- **Manufacturers/Producers**: Manufacturers or producers transform raw materials into finished products. They add value by employing various processes such as assembly, fabrication, or production to create goods ready for the market.
- **Distributors/Wholesalers:** Distributors or wholesalers act as intermediaries between manufacturers and retailers. They help in the efficient distribution of products from the manufacturer to the end consumer. They add value by storing, sorting, and transporting goods in bulk quantities.
- **Retailers**: Retailers are the final link in the value chain before the product reaches the end consumer. They sell goods directly to customers through physical stores, e-commerce platforms, or other sales channels. Retailers add value by providing convenient access to products and offering customer support.

- **Service Providers**: Service providers offer services that enhance the value of a product. These can include after-sales support, repairs, maintenance, installation, or consulting services. Service providers contribute to the overall customer experience and satisfaction.
- **Marketing and Advertising Agencies:** Marketing and advertising agencies play a crucial role in promoting and creating awareness about products or services. They develop marketing strategies, branding activities, and advertising campaigns that add value by attracting customers and increasing sales
- **Technology Providers**: Technology providers offer innovative solutions, software, or platforms that improve the efficiency and effectiveness of value chain activities. They may provide tools for supply chain management, data analytics, automation, or customer relationship management.
- **Research and Development (R&D):** R&D departments or organizations focus on developing new products, improving existing ones, or discovering new technologies. Their efforts add value by driving innovation and differentiation in the market.
- **Customers:** Although customers are typically considered the endpoint of the value chain, they also play a role in value addition. Customer feedback, preferences, and demands drive product improvements and innovation, adding value by shaping the development and design of products and services

4.3. Upgrade value chain for agricultural products

Upgrading agricultural products refers to the process of improving the quality, value, or characteristics of agricultural products through various means. This can involve enhancing their nutritional content, increasing their market appeal, improving their storage or transportation properties, or optimizing their production methods.

- **Common methods used to upgrade agricultural products**:

✓ **Genetic Improvement**: Scientists and breeders use various techniques, such as selective breeding and genetic engineering, to develop crop varieties with desirable traits. These traits can include improved yield, disease resistance, enhanced nutritional content, or better tolerance to environmental conditions.

- ✓ **Crop Management Practices**: Employing advanced agricultural practices can enhance the quality of agricultural products. This includes optimizing irrigation, fertilization, and pest management techniques to maximize crop health and productivity.
- ✓ **Post-Harvest Handling**: Proper post-harvest handling is crucial to maintain the quality and value of agricultural products. Techniques such as sorting, grading, cleaning, and packaging can help minimize damage, reduce spoilage, and extend the shelf life of the products.
- ✓ **Processing and Value Addition**: Transforming raw agricultural products into processed goods can add value and increase their market appeal. Examples include milling grains into flour, processing fruits into juices or jams, or converting milk into cheese or yogurt.
- ✓ **Quality Certification and Standards**: Adhering to established quality standards and obtaining certifications can enhance the marketability of agricultural products. Certifications like organic, fair-trade, or geographical indications can provide consumers with assurance regarding the quality, authenticity, and sustainable production practices associated with the products.
- ✓ **Market Research and Consumer Preferences**: Understanding consumer preferences and market trends can help farmers and producers identify opportunities for product differentiation and tailor their production accordingly. This may involve producing specialty or niche products that cater to specific consumer demands.
- ✓ **Technology Adoption:** Utilizing innovative technologies, such as precision agriculture, sensor-based monitoring systems, or data analytics, can optimize production processes, reduce waste, and improve overall product quality.By upgrading agricultural products, farmers and producers can increase their competitiveness, access higher-value markets, and meet the evolving demands of consumers for healthier, safer, and more sustainable food options.

- **Upgraded agricultural product May include, but are not limited to**:
  - ✓ Farm crop
  - ✓ Milk and Milk Products
  - ✓ Meat and Meat Products
  - ✓ Poultry Products
  - ✓ Fish and Fish Products
  - ✓ Honey and Honey Products

4.4. Ways of collecting Customers feedbacks in value chain analysis

When conducting a value chain analysis, collecting customer feedback is crucial for understanding customer satisfaction and identifying areas for improvement.

- **Some ways to collect customers' feedback at different stages of the value chain:**

✓ **Surveys:** Design and distribute surveys to your customers to gather their opinions and experiences. Surveys can be conducted through various channels such as email, online forms, or paper-based questionnaires. Keep the survey concise and focused on specific aspects of the value chain to obtain targeted feedback.

✓ **Interviews:** Conduct one-on-one interviews with customers to delve deeper into their experiences and perceptions. Interviews allow for open-ended discussions, enabling you to gather qualitative feedback and gain valuable insights. These interviews can be conducted in person, over the phone, or through video conferencing.

✓ **Focus Groups**: Organize focus groups comprising a small group of customers who represent your target market. Facilitate group discussions to explore their preferences, pain points, and suggestions related to the value chain. Focus groups provide an opportunity for customers to interact with each other, sparking new ideas and perspectives.

✓ **Social Media Monitoring**: Monitor social media platforms such as Twitter, Facebook, and online forums to capture customer feedback and sentiments. Set up alerts or use social listening tools to track mentions of your brand and relevant keywords. Engage with customers directly by responding to their comments or messages to gather more detailed feedback.

✓ **Online Reviews and Ratings:** Monitor online review platforms and customer rating websites relevant to your industry to gather customer feedback. Websites like Yelp, Google Reviews, Amazon, or specialized industry-specific review platforms can provide valuable insights into customer satisfaction, product/service performance, and specific pain points. Pay attention to both positive and negative reviews to identify areas for improvement.

✓ **Customer Feedback Forms:** Provide customers with feedback forms at various touch points in the value chain, such as after a purchase, customer service interaction, or product/service usage. These forms can be physical or digital and should be user-friendly and concise to encourage participation.

- ✓ **Customer Support Interactions**: Train your customer support teams to actively seek feedback from customers during their interactions. Encourage support representatives to ask open-ended questions, listen attentively, and take notes on customer suggestions, complaints, or ideas for improvement.
- ✓ **Website Analytics:** Analyze website analytics to gain insights into customer behavior and preferences. Pay attention to metrics such as time spent on different pages, bounce rates, and exit rates. These data points can provide indications of customer engagement and potential pain points.
- ✓ **User Testing:** Engage customers in user testing sessions to observe their interactions with your products or services. This hands-on approach allows you to gather real-time feedback on usability, functionality, and overall user experience.
- ✓ **Customer Feedback Platforms:** Utilize dedicated customer feedback platforms that allow customers to submit feedback directly. These platforms often provide features like feedback forums, voting systems, and idea submission portals, enabling customers to share their opinions and suggestions. Remember to analyze and consolidate the collected feedback to identify patterns, prioritize improvement areas, and inform decision-making throughout the value chain..Collecting customer feedback is essential in value chain analysis to understand customer preferences, identify areas for improvement, and enhance overall customer satisfaction

Self-check 4	Written test

Name…… ID…… Date……..

Test I: Choose the best answer (3 points each)

1. One of the following is not method used to upgrade agricultural products

A. Genetic Improvement

B. Pest and disease

C. Processing

D. Quality Certification

2. From the following one is not environmental considerations to upgrade value addition

A. Renewable energy

B. Resource inefficiency:

C. Sustainable sourcing

D.Lifecycle assessment

Test II: Short Answer Questions (5 points each)

1. Discuss potential interventions for value chain development

_____

_____

2. Discuss selection techniques for value chain

_____

_____

3. Write ways of collecting customers feedbacks in value chain analysis

_____

_____

You can ask your teacher for the copy of the correct answers

Operation sheet: 4

1.1.Techniques of collecting customers feedbacks in value chain analysis

A. Tools and equipment's

- Pen,
- pencils, paper,
- work sheet,
- note books
- personal protective equipment

B. **Techniques**

I. Surveys
II. Interviews
III. Focus Groups
IV. Social Media Monitoring
V. Online Reviews and Ratings
VI. Customer Feedback Forms
VII. Customer Support Interactions
VIII. Website Analytics
IX. User Testing
X. Customer Feedback Platforms

.

LAP TEST-4	Performance Test

Name: _____ ID: _____

Date:_____

Time started: _____ Time finished: _____

Assume you are a value chain expert and you have you own fruit farm (avocado and papaya) and you sold these fruits in fresh and processed form for your customer so as to improve the satisfaction of your customer you are required to improve quality and optimize cost of the product to receive customer feedback and complaint. based on this information accomplish the following activities

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within **2**hour. The project is expected from each student to do it.

Task.1 Collect customer feedback use the techniques which are existed in the operation sheet 4

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http://www.agric.gov.ab.ca/app21/rtw/selsubj.jsp(19/11/2023at 9:23 AM)

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http://www.agfoodcouncil.com/serve/chainindex.html(23/11/2023 at 10:25AM)

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