Advanced Management Accounting

Lecture 3, Value chain analysis

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Value chain concept: what is it and what does it offer?

- Describes the linked set of value-creating functions required to bring a product or service to the customer.
  - Begins with basic raw materials from suppliers, moves to a series of value-added activities involved in producing and marketing a product or service and ends with distributors getting the final products or services into the hands of the ultimate customers.
- Developed by Michael Porter (1980, 1985) as a tool to help businesses to analyse cost structures and identify competitive strategies.
- Emphasises that costs occur, not only in manufacturing, but across the business.
- Provides a useful perspective for understanding non-manufacturing cost classifications.

Value-added analysis and value chain analysis ? (1)

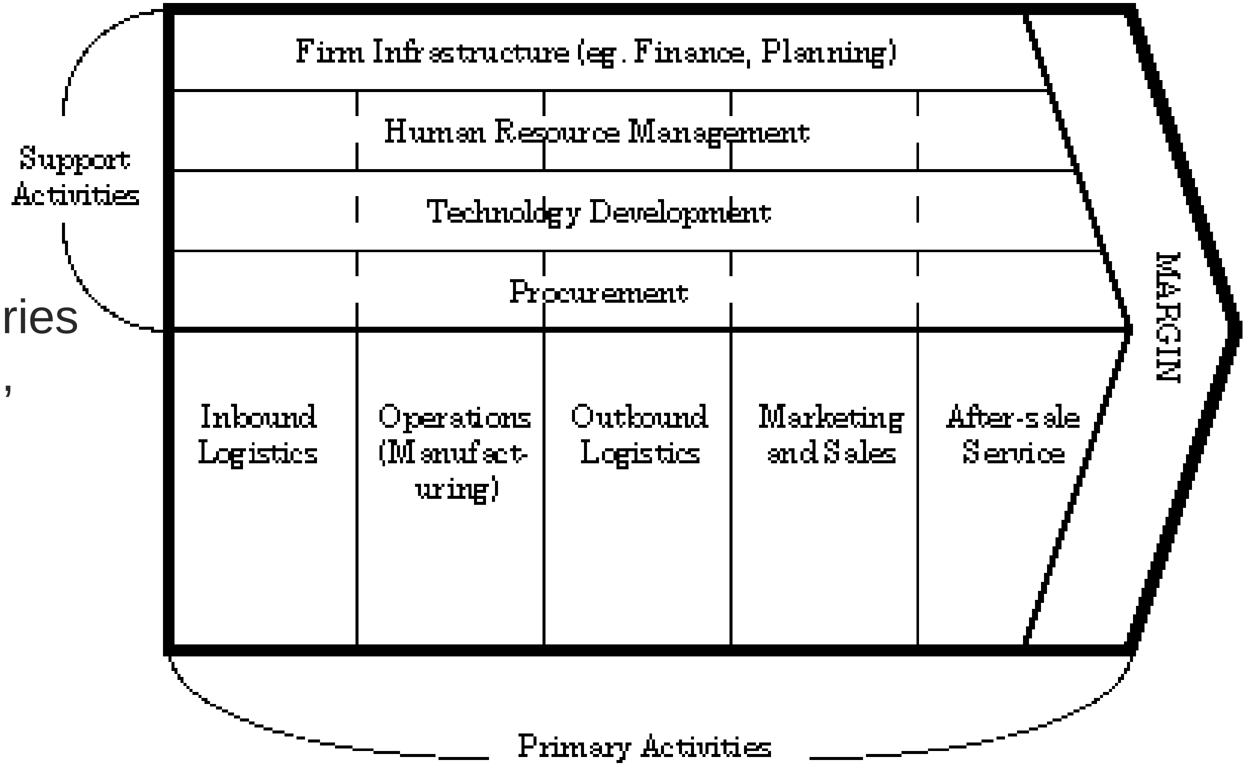
- Value-added analysis
- Activities are classified as value-added or non-value-added.
- Identify which activities to keep and which to eliminate.
- **Non value adding activities:**
  - preparation time;
  - waiting time;
  - unnecessary process steps;
  - over-production;
  - rejects;
  - set-up times;
  - transportation/distribution;
  - process waste; materials waste;
  - Communications.

Value-added analysis and value chain analysis ? (2)

- **Value chain analysis**
- Emphasis understanding the total value of all operations across the business, as well as the industry.
  - Determine areas where cost can be minimised (for cost leadership strategy)
  - Determine where customer value can be enhanced (for product differentiation strategy).
- Focuses on the value-creating activities
  - ranging from receipt of raw materials from suppliers, and research and development of products and processes,
  - to the sale of the product to the customer and the provision of after-sales customer support.
- Customer value refers to the characteristics of a product or service that a customer perceives as valuable.

Porter's value chain framework

- Considers linkage with
  - suppliers and
  - customers, and
  - competitors.
- Composed of nine categories
  - primary activities and,
  - support activities:



Primary and support activities

- **Primary Activities**
  - Directly concerned with creating and delivering a product
- **Support Activities**
  - Not directly involved in production, may increase effectiveness or efficiency

Primary activities (1)

- **Inbound logistics** activities involve managing inbound items such as raw materials handling and warehousing.
- **Operations activities** involve the transformation of inbound items into products suitable for resale, for example, research and development, product design, and manufacturing.
- **Outbound logistics** activities involve carrying the product from the point of manufacturing to the buyer, such as warehousing and distribution.

Primary activities (2)

- **Marketing and sales** activities involve informing buyers about products and services with a reason to purchase, such as distribution strategy and promotional activities, including advertising.
- **Service** includes all activities require to keep the product or service working effectively for the buyer after it is sold and delivered. Examples of such activities include installation, repair, after-sales service, warranty claims and answering customer inquiries.

Support activities

- In support of the primary activities of the value chain, four support activities are proposed:
  - procurement (purchasing),
  - human resource management,
  - technology development (R and D), and
  - the firm's infrastructure (accounting, finance, strategic planning, etc.).
- These activities feed into each stage of the primary activities.

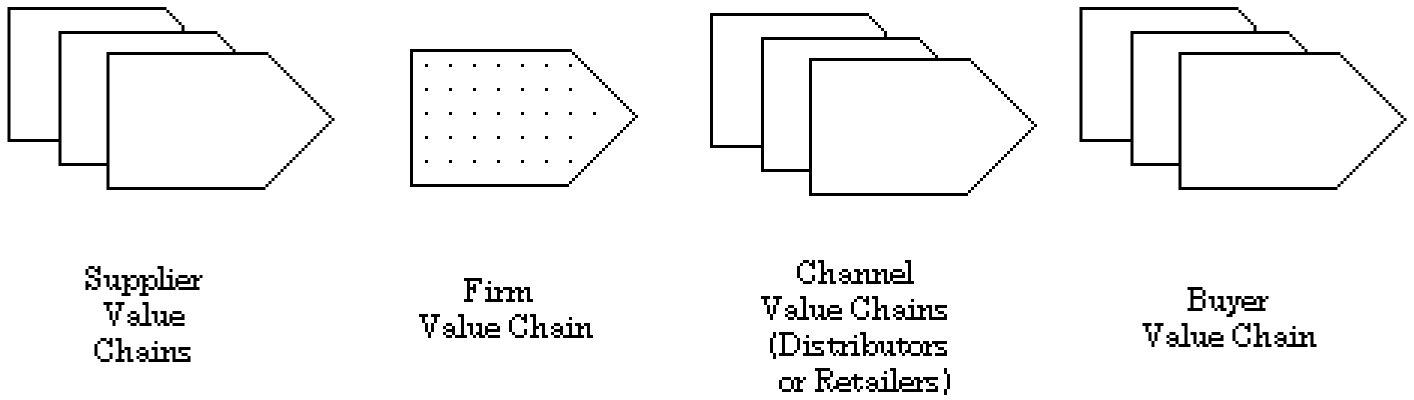
Co-ordination of activities

- By co-ordinating linked activities, an enterprise can
  - Reduce transaction costs
  - Gather better information for control purposes
  - Substitute less costly operations in one activity for more costly ones elsewhere
  - Reduce the combined time required to perform them

- Gaining competitive advantage requires that an enterprise's value chain be managed as a system rather than as a collection of separate parts.

Porter's Industry Value-Chain

- A companies value chain for competing in a particular industry is embedded in a larger stream of activities
- This includes suppliers and distribution channels
- Competitive advantage is a function of how well a company can manage the entire industry value-chain



Management accounting systems in the value chain framework (1)

- Traditional management accounting systems have been criticised for a greater internal focus

- Traditional management accounting does not give adequate information on non-financial and external factors crucial to long-term survival of the firm.

- External orientation involving customer satisfaction in order to gain a competitive advantage
  - Accounting too needs to change its focus and become more strategically oriented.

Management accounting systems in the value chain framework (2)

- **According to Porter a value chain cost management methodology involves the following steps:**
  - Identify the value chain, then assign costs, revenues, and assets to value activities.
  - Diagnose the cost drivers regulating each activity.
  - Develop sustainable competitive advantage, either through controlling cost drivers better than competitors or by reconfiguring the value chain.

Structural and executional costs

- **Structural cost** drivers derive from a company's choices about its underlying economic structure. These choices drive cost positions for any given product group.
- There are at least five strategic choices that a firm must make about its underlying economic structure:
  - **Scale:** the size of the investment in manufacturing, R & D, and marketing resources.
  - **Scope:** the degree of vertical integration.
  - **Experience:** how many items in the past has the firm already created, and what is it doing again?
  - **Technology:** what process technologies are used in each step of the firm's value chain?
  - **Complexity:** how wide a line of products or services is being offered to customers?

Structural and executional costs

- **Executional cost** drivers are the determinants of a firm's cost position that hinge on its ability to 'execute' successfully. These cost drivers may include:
  - work force involvement
  - total quality management
  - capacity utilisation
  - plant layout efficiency
  - product configuration
  - links with suppliers and customers

Value Chain Analysis Example (1)

- The carpet manufacturing industry involves six stages each of which is undertaken by a different company. Process, cost and revenue data for each stage is detailed below.
  - **Oil extraction:** Conversion costs (labour and overheads) of £0.25 per kilogramme (kilo) of crude oil produced are incurred. The oil is sold at £0.63 per kilo. There are no purchases of raw materials as the company owns the mineral extraction rights.
  - **Oil refining:** Crude oil is purchased from the extraction company and refined into fine oil with a yield of 75%. Conversion costs of £0.84 per kilo of fine oil are incurred and the fine oil is sold at £2.85 per kilo.
  - **Plastic powder manufacture:** Fine oil is purchased from the refiners and processed into plastic powder with a yield of 95%. This process involves conversion costs of £0.88 per kilo of powder which is sold at £4.42 per kilo.

Value Chain Analysis Example (2)

- **Component manufacture:** Plastic powder is purchased and manufactured into carpet components with a yield of 93%. The conversion cost is £2.09 per kilo of component which is sold at £7.60 per kilo.
- **Carpet manufacture:** Carpets components are purchased and assembled into carpet with a yield of 95%. The carpet weighs one kilo per square metre. Conversion costs of £3.20 per square metre are incurred and the carpet is sold at £14.00 per square metre.
- **Distribution:** The retailer purchases the carpet for resale without loss of input. Costs of £4.00 per square metre are incurred and the carpet is sold at £20.00 per square metre.

- Prepare an analysis of the industry's value chain to assist the management of the component manufacturing company with their strategic planning.

Value chain illustration, per unit of final product

	Output	Purchase cost	Conversion cost	Total cost	Selling price	Added value	Value conversion
Oil extraction							
Oil refining							
Plastic powder mfg							
Component mfg							
Carpet mfg	1 sq. m.						
Distribution	1 sq. m.						

Customer relationship management (CRM)

- **CRM** covers concepts used by companies to manage their relationships with customers
- Includes capture, storage and analysis of customer information.
- Three aspects of CRM which can each be implemented in isolation from one another:
  - 1-Operational CRM- automation or support of customer processes that include a company's sales or service representative
  - 2-Collaborative CRM- direct communication with customers that does not include a company's sales or service representative
  - 3- Analytical CRM- analysis of customer data for a broad range of purposes

Operational, Collaborative and Analytical CRM

- **Operational CRM**
  - Provides support to "front office" business processes, including sales, marketing and service.
  - Interaction with customers added to a customer's contact history, information on customers in databases.
  - Customers can interact with different people or different contact “channels” in a company over time without having to repeat the history of their interaction each time.
  - Consequently, many call centers use some kind of CRM software to support their call centre agents.
- **Collaborative CRM**
- Collaborative CRM covers the direct interaction with customers.
  - Includes a variety of channels, such as internet, email, automated phone/ Interactive Voice Response (IVR). It can generally be equated with “self service”.
- The objectives of Collaborative CRM can be broad, including cost reduction and service improvements.
- Many organizations are searching for new ways to achieve and retain a competitive advantage via customer intimacy.
- Industry and trade are pooling their respective customer data in the different sales and communication channels and therefore generate better customer insight.

Operational, Collaborative and Analytical CRM

- **Analytical CRM** looks at customer data for a variety of purposes including
  - design and execution of targeted marketing campaigns to optimize marketing effectiveness
  - design and execution of specific customer campaigns, including customer acquisition, cross-selling, up-selling, retention
  - analysis of customer behaviour to aid product and service decision making (e.g. pricing, new product development, etc)
  - management decisions, e.g. financial forecasting and customer profitability analysis
  - risk assessment and fraud detection, in particular for credit card transactions

CRM - Strategy

- CRM – selects and manages the most valuable customer relationships
- CRM is not just a technology, but rather a holistic approach to an organisation's philosophy in dealing with its customers.
- Includes policies and processes, front-of-house customer service, employee training, marketing, systems and information management.
- Important that any CRM implementation considers not only technology, but also the broader organisational requirements.
- CRM strategy must consider a company’s specific situation and its customers' needs and expectations.