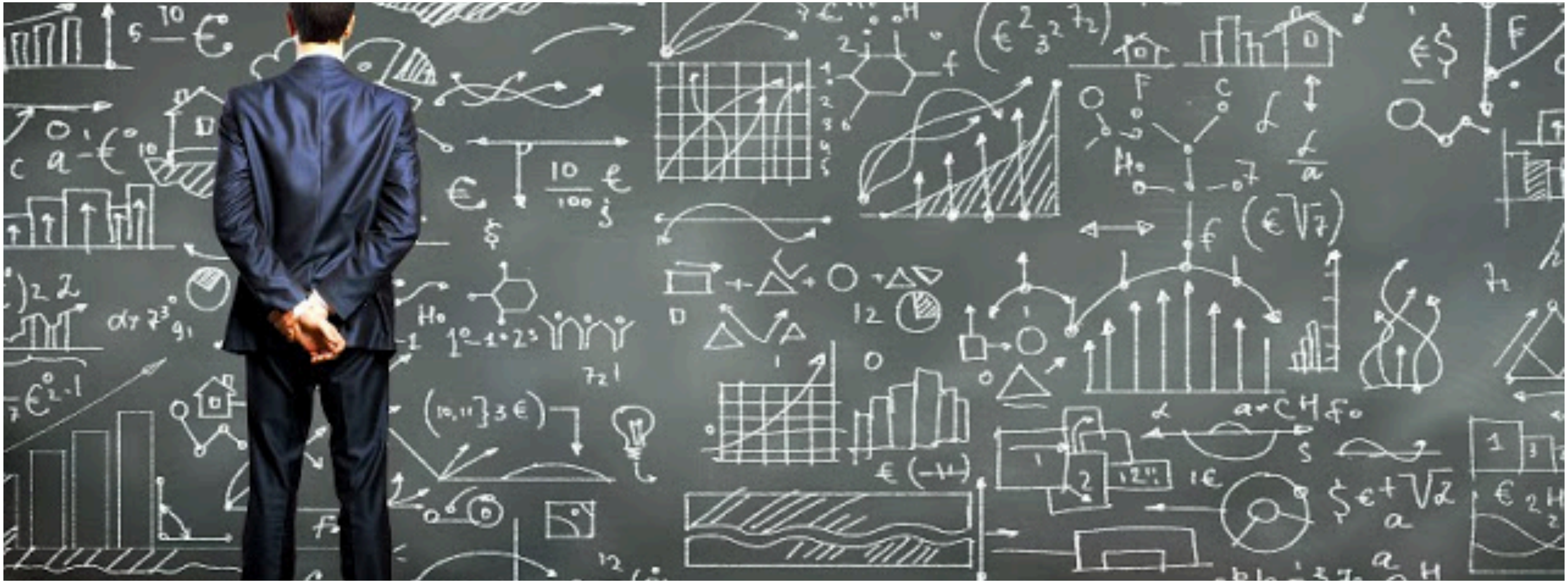
UNIVERSITÀ DEGLI STUDI DI TRIESTE

MANAGERIAL COSTING

What is “managerial costing” and why it is needed



BRUNO DE ROSA

Holds a tenured position at the University of Trieste as Associate Professor of Accounting, where he teaches both Financial and Management Accounting.

He is Scientific Director and Partner of Dyn@mika S.r.l. a Spin-off of the University of Trieste devoted to spread management control culture among Italian SMEs.

He teaches Accounting, Management Control, and Strategy Implementation courses in several Executive Education and MBA Programs. He is a member of the Core Faculty at MIB Trieste School of Management, where he is in charge for ”Management Control and Performance Measurement” courses. For more than a decade he was “Il Sole 24 ORE Expert” on Management Control.

His current research and teaching areas extent from Management Accounting and Control Systems, Performance Measurement and Strategy Implementation to Value Creation and Value Based Management.

He works as a Management Consultants for several Italian Enterprises, and he is an Italian Certified Public Accountant and Auditor.

BENEFIT STATEMENT

What you are going to learn:

The primary aim of this module is to increase your knowledge in the field of **"Managerial Costing"** in order to let you fully understand the importance of employing a plurality of cost information for decision-making. In addition, you will be led to appreciate the fundamental role played by control tools and mechanisms in the execution of business strategies.

Why it is important for you to learn:

The role of accounting is rapidly **changing.** «Entering into the 21st Century, financial professionals saw the emphasis of their responsibilities shift from recording various aspects of a corporation's financial health to joining top executives in a broad-based partnership, a trend accelerated by the 2008 financial crisis». This **shift from "bean counter" to "trusted financial and strategic advisor"** requires a deeper understanding of the connections linking the decision-making process to the production of relevant and accurate cost information. For the same reasons, **managers need to acquire a greater understanding of the monetary consequences of their decisions and of the control tools available to them for strategy implementation.**

LEARNING OBJECTIVES

- ✧ Distinguish between the uses and users of financial accounting and managerial accounting information.
- ✧ Understand the distinction between cost accounting and managerial costing.
- ✧ Grasp the importance of accounting system flexibility and recognize the fact that different decisions require different sets of data

WHAT IS ACCOUNTING AND WHY IT IS IMPORTANT?

Accounting is the process of:

- *COLLECTING*
- *RECORDING*
- *ESTIMATING*
- *ORGANIZING*
- *SUMMARIZING*

FINANCIAL AND **OPERATIONAL DATA**

in order to provide **VALUABLE INFORMATION** to **DECISION MAKERS**

RETAIL METRICS: 15 ESSENTIAL KPIS

Sales metrics and KPIs

1. Sales per square foot
2. Sales per employee
3. Conversion rate
4. Gross profit
5. Net profit
6. Average transaction value
7. Basket size OR items per transaction
8. Online sales relative to brick-and-mortar locations
9. Year over year growth

Inventory metrics and KPIs

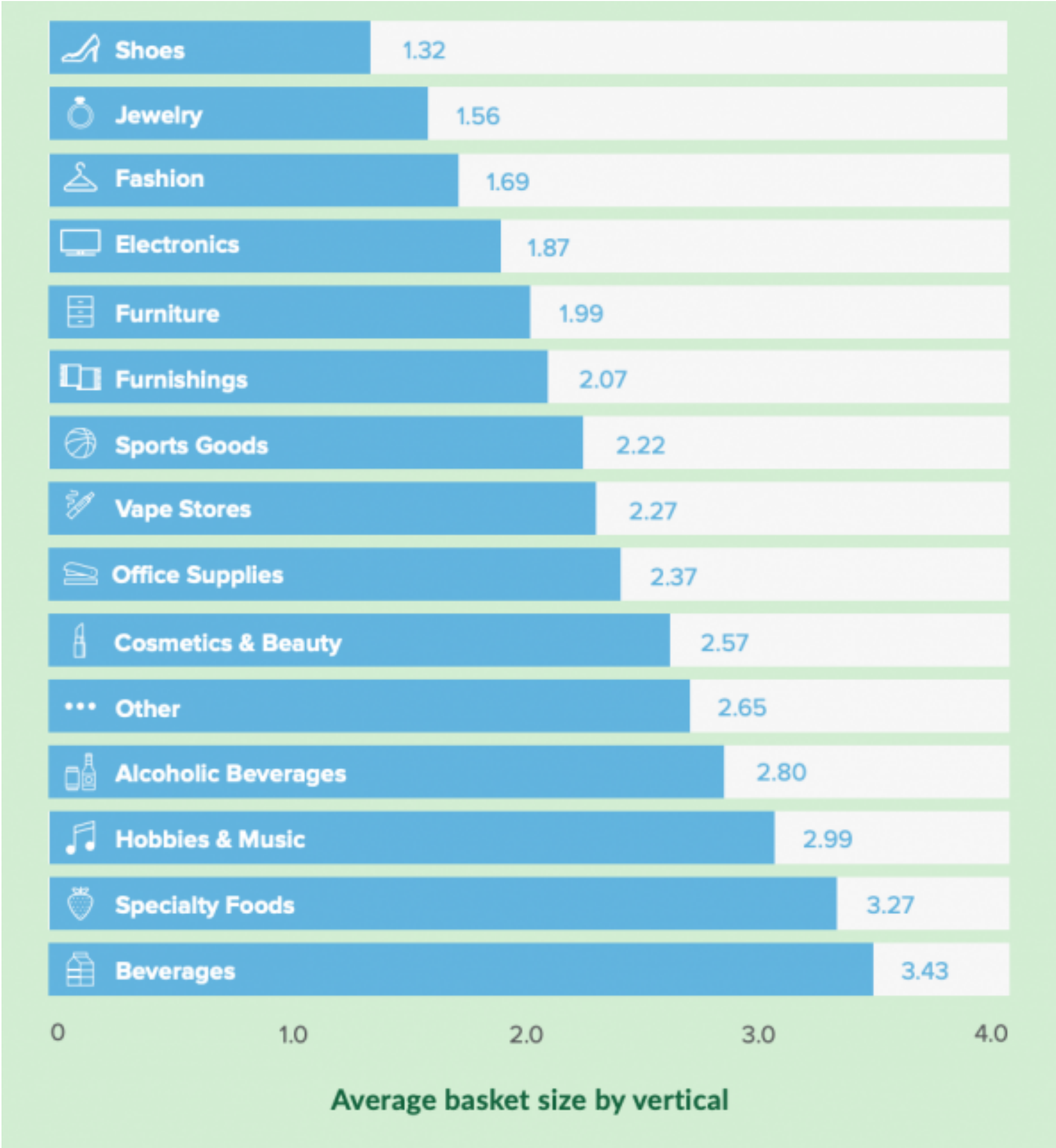
10. Stock turn
11. Gross Margin Return on Investment (GMROI)
12. Sell-through
13. Shrinkage

Customers

14. Foot traffic
15. Customer retention

SOURCE: https://www.vendhq.com/blog/retail-metrics-and-kpis/

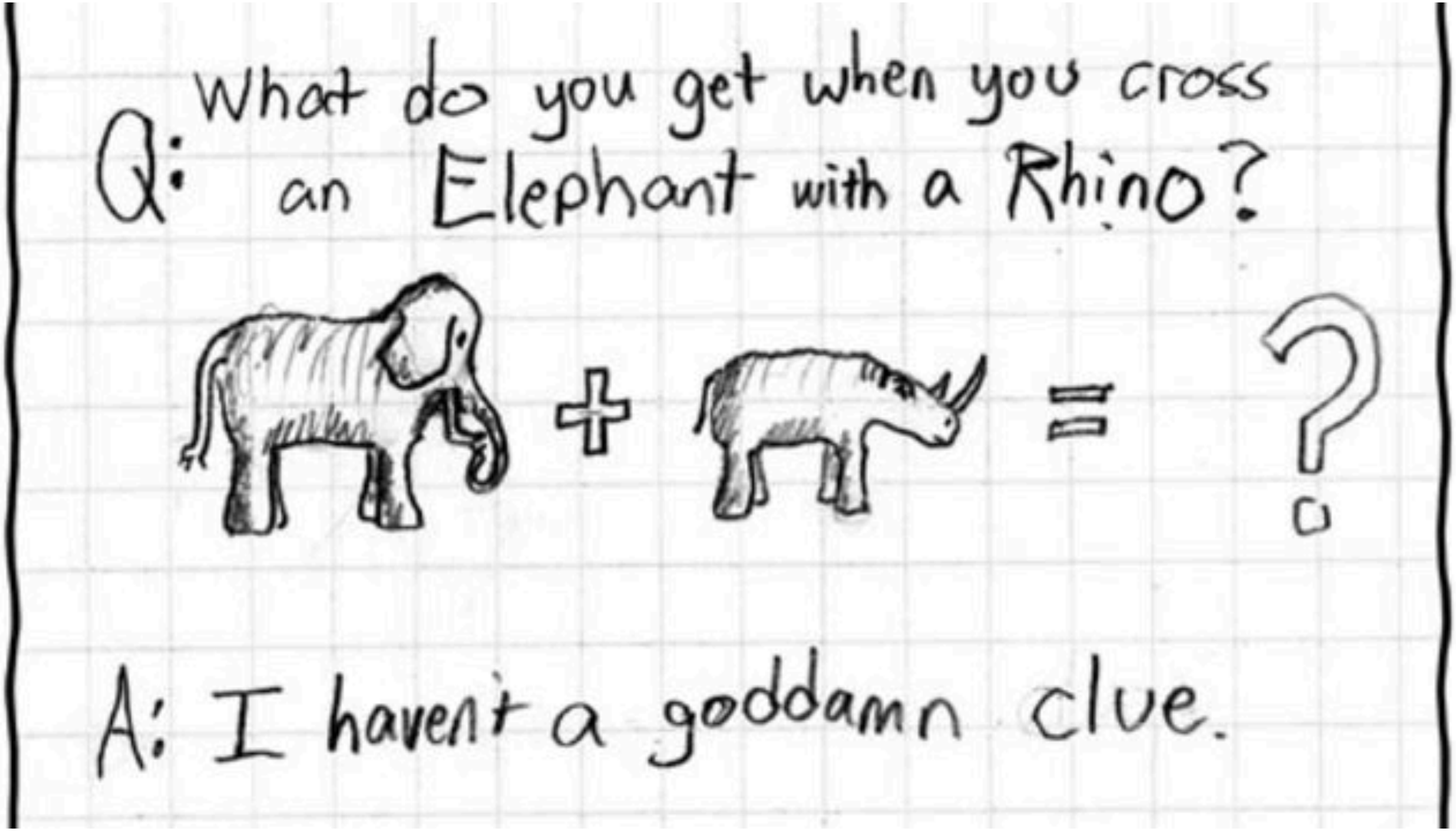
AVERAGE BASKET SIZE IN DIFFERENT SECTORS



SOURCE: https://www.vendhq.com/blog/retail-metrics-and-kpis/

CAN DIFFERENT DEVICES BE ADDED TOGETHER?

THE PROBLEM WITH HETEROGENEITY



WELL, I HAVE IT!

PRICE AS "HOMOGENIZATION FACTOR"

$ 1,000

1 iPhone

$ 2,000

2 iPhone equivalent

$ 900

0,9 iPhone equivalent

Break even point in units → Break even point in total dollars

USER OF ACCOUNTING INFORMATION

All accounting systems are designed to provide information to

"DECISION MAKERS"

SOURCE: Lanen–Anderson-Maher, "Fundamentals of Cost Accounting", Third Edition

USER OF ACCOUNTING INFORMATION

All accounting systems are designed to provide information to

"DECISION MAKERS"

Some of them are not directly involved in the daily management of the firm.
These users of the information are often "**external"** to the firm.

We defined "**internal"** to the firm, those users that are responsible for its performance.

SOURCE: Lanen–Anderson-Maher, "Fundamentals of Cost Accounting", Third Edition

USER OF ACCOUNTING INFORMATION

All accounting systems are designed to provide information to

"DECISION MAKERS"

Some of them are not directly involved in the daily management of the firm.
These users of the information are often "**external**" to the firm.

- ACTUAL OR POTENTIAL INVESTORS
- CREDITORS
- GOVERNMENT AGENCIES
- TAX AUTHORITIES

We defined "**internal**" to the firm, those users that are responsible for its performance.

MANAGERS
- Executive Level
- Middle Management Level
- Production Level

SOURCE: Lanen–Anderson-Maher, "Fundamentals of Cost Accounting", Third Edition

FINANCIAL ACCOUNTING AND MANAGERIAL ACCOUNTING

“EXTERNAL” DECISION MAKERS

↕

FINANCIAL ACCOUNTING

Field of accounting that reports financial position and income according to accounting rules.

“INTERNAL” DECISION MAKERS

↕

MANAGERIAL ACCOUNTING

Field of accounting concerned with providing information to managers for use within the organization. It has, therefore, the aim of identifying, measuring, analyzing, interpreting and communicating information for the pursuit of an organization's goals.

FINANCIAL ACCOUNTING AND MANAGERIAL ACCOUNTING

"EXTERNAL" DECISION MAKERS

↕

FINANCIAL ACCOUNTING

Field of accounting that reports financial position and income according to accounting rules.

"INTERNAL" DECISION MAKERS

↕

MANAGERIAL ACCOUNTING

Field of accounting concerned with providing information to managers for use within the organization.

	FINANCIAL ACCOUNTING	MANAGERIAL ACCOUNTING
Users of the system	External	Internal
Most important criteria	Comparability, Objectivity, Verifiability	Decision relevance, Timeliness
Who establishes or defines the system?	Standard-setters	Managers
How to determine accounting treatment ?	Standards	Relevance for decision making

SOURCE: Adapted from Lanen–Anderson-Maher, "Fundamentals of Cost Accounting", Third Edition

FINANCIAL ACCOUNTING VS. MANAGERIAL ACCOUNTING

FINANCIAL ACCOUNTING

- Reports to those **outside** the organization:
  - Owners
  - Creditors
  - Tax Authorities
  - Regulators
- Emphasizes financial consequence of **past** activities
- Emphasizes **precision**
- Emphasizes **companywide** reports (focus on the **whole**)
- **Must** follow GAAP/IFRS
- **Mandatory** for external reports.

MANAGERIAL ACCOUNTING

- Reports to manager **inside** the organization for
  - Planning
  - Controlling
- Emphasizes decisions affecting the **future**
- Emphasizes **timeliness**
- Emphasizes **segment** reports (focus on **parts**)
- Need **not** follow GAAP/IFRS
- **Not mandatory**

SOURCE: Adapted from Garrison, Noreen, Brewer, "Managerial Accounting", 16th Edition

LEARNING OBJECTIVES

- ✧ Distinguish between the uses and users of financial accounting and managerial accounting information.
- ✧ Understand the distinction between cost accounting and managerial costing.
- ✧ Grasp the importance of accounting system flexibility and recognize the fact that different decisions require different sets of data

COST ACCOUNTING AND MANAGERIAL COSTING

"EXTERNAL" DECISION MAKERS

FINANCIAL ACCOUNTING

Field of accounting that reports financial position and income according to accounting rules.

COST ACCOUNTING

"Cost accounting is measuring and reporting costs intended for external financial reporting or regulatory purposes where guidelines and principles must be followed and complied with to meet regulatory, legal, or other defined standards and requirements."

Source: IFAC (International Federation of Accountants), "Evaluating and Improving Costing in Organizations," International Good Practice Guidance, July 2009.

"INTERNAL" DECISION MAKERS

MANAGERIAL ACCOUNTING

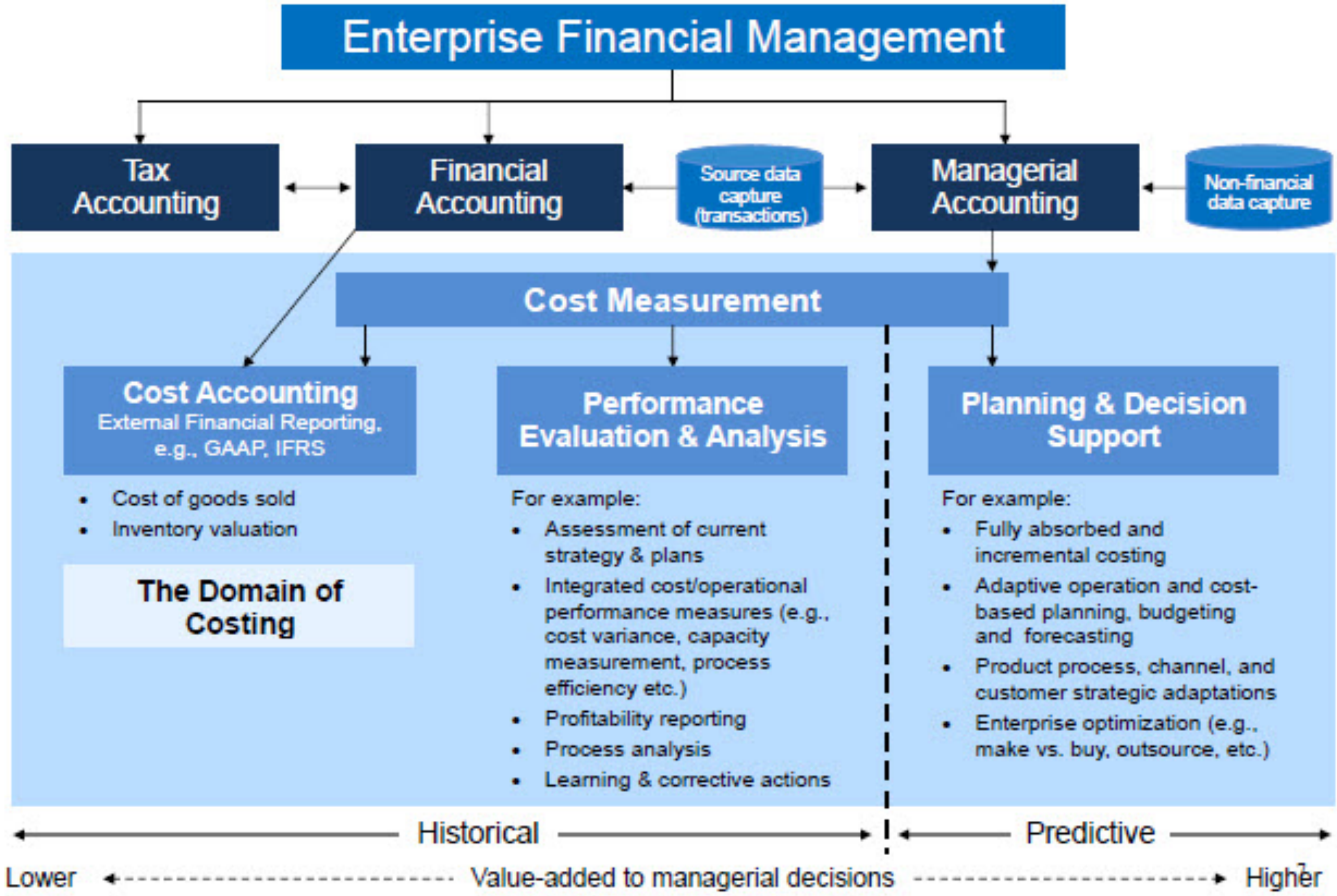
Field of accounting concerned with providing information to managers for use within the organization.

MANAGERIAL COSTING

"Managerial costing is costing done purely for the organization to use internally to ensure that information for decisions reflects the characteristics of the organization's resources and operations."

Source: IMA (Institute of Management Accountants), "The Conceptual Framework for Managerial Costing," Statement on Management Accounting, September 2014.

COST MEASUREMENT, COST ACCOUNTING & MANAGERIAL COSTING



COST MANAGEMENT

We frequently hear business people use the term *cost management*. Unfortunately, that term has no uniform definition.

We use **cost management** to describe the approaches and activities of managers to use resources to increase value to customers and to achieve organizational goals.

Cost management decisions include decisions such as whether to enter new markets, implement new organizational processes, and change product designs. Information from accounting systems helps managers to manage costs, but the information and the accounting systems themselves are not cost management.

Cost management has a broad focus and is not only about reduction in costs. Cost management includes decisions to incur additional costs, for example to improve customer satisfaction and quality and to develop new products, with the goal of enhancing revenues and profits.

SOURCE: Horngren, Datar, Foster, "Cost Accounting. A managerial Emphasis", 11th Edition

STRATEGIC COST MANAGEMENT

Strategy specifies how an organization matches its own capabilities with the opportunities in the marketplace to accomplish its objectives. In other words, strategy describes how an organization will compete and the opportunities its managers should seek and pursue.

Deciding between [different] strategies is a critical part of what managers do.

Management accountants work closely with managers in formulating strategy by providing information about the sources of competitive advantage—for example, the cost, productivity, or efficiency advantage of their company relative to competitors or the premium prices a company can charge relative to the costs of adding features that make its products or services distinctive.

Strategic cost management describes cost management that specifically focuses on strategic issues.

SOURCE: Horngren, Datar, Foster, "Cost Accounting. A managerial Emphasis", 11th Edition

STRATEGIC COST MANAGEMENT

Management accounting information helps managers formulate strategy by answering questions such as the following:

- **Who are our most important customers, and how can we be competitive and deliver value to them?** After Amazon's success in selling books online, management accountants at Barnes and Noble presented senior executives with the costs and benefits of several alternative approaches for building its information technology infrastructure and developing the capabilities to also sell books online. A similar cost-benefit analysis led Toyota to build flexible computer-integrated manufacturing (CIM) plants that enable it to use the same equipment efficiently to produce a variety of cars in response to changing customer tastes.
- **What substitute products exist in the marketplace, and how do they differ from our product in terms of price and quality?** Hewlett-Packard, for example, designs and prices new printers after comparing the functionality and quality of its printers to other printers available in the marketplace.
- **What is our most critical capability?** Is it technology, production, or marketing? How can we leverage it for new strategic initiatives? Kellogg Company, for example, uses the reputation of its brand to introduce new types of cereal.
- **Will adequate cash be available to fund the strategy, or will additional funds need to be raised?** Proctor & Gamble, for example, issued new debt and equity to fund its strategic acquisition of Gillette, a maker of shaving product

SOURCE: Horngren, Datar, Foster, "Cost Accounting. A managerial Emphasis", 11th Edition

OPERATIONAL COST MANAGEMENT

Operational cost management involves the whole set of planning and monitoring activities that are necessary to increase the level of efficiency and effectiveness with which business processes are carried out.

Planning comprises:

a. selecting organizations goals, projecting the results under alternative ways of achieving these goals, deciding on the plan of action that is deemed most effective in achieving the desired results and

b. communicating the goals and how to attain them to the entire organization.

Monitoring comprises:

a. taking actions that implement the planning decisions (execution of the strategy) and

b. deciding how to evaluate the performance and to provide what feedback that will increase the level of efficiency and effectiveness with which business processes are carried out and help future decision making.

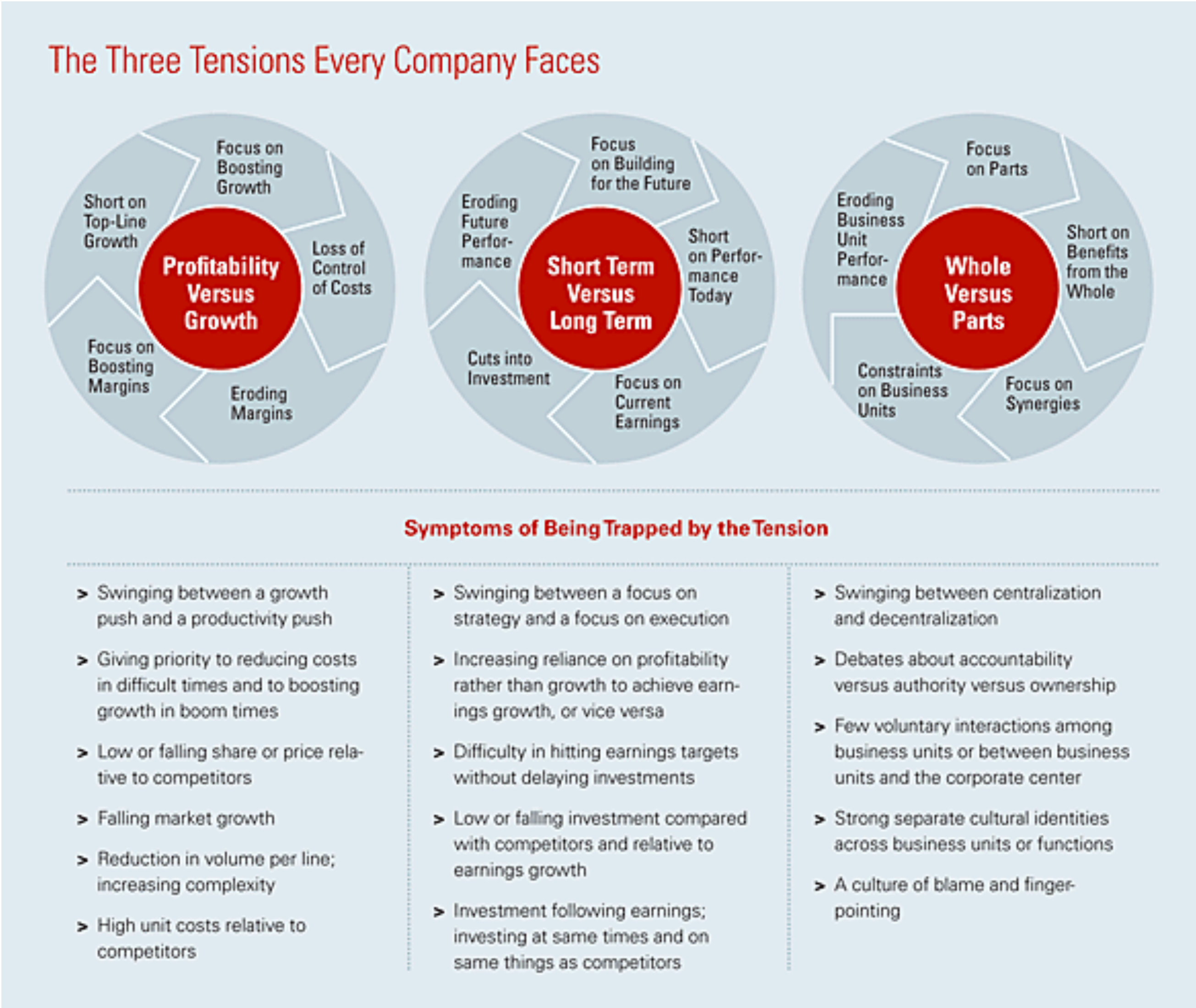
SOURCE: Horngren, Datar, Foster, "Cost Accounting. A managerial Emphasis", 11th Edition

LEARNING OBJECTIVES

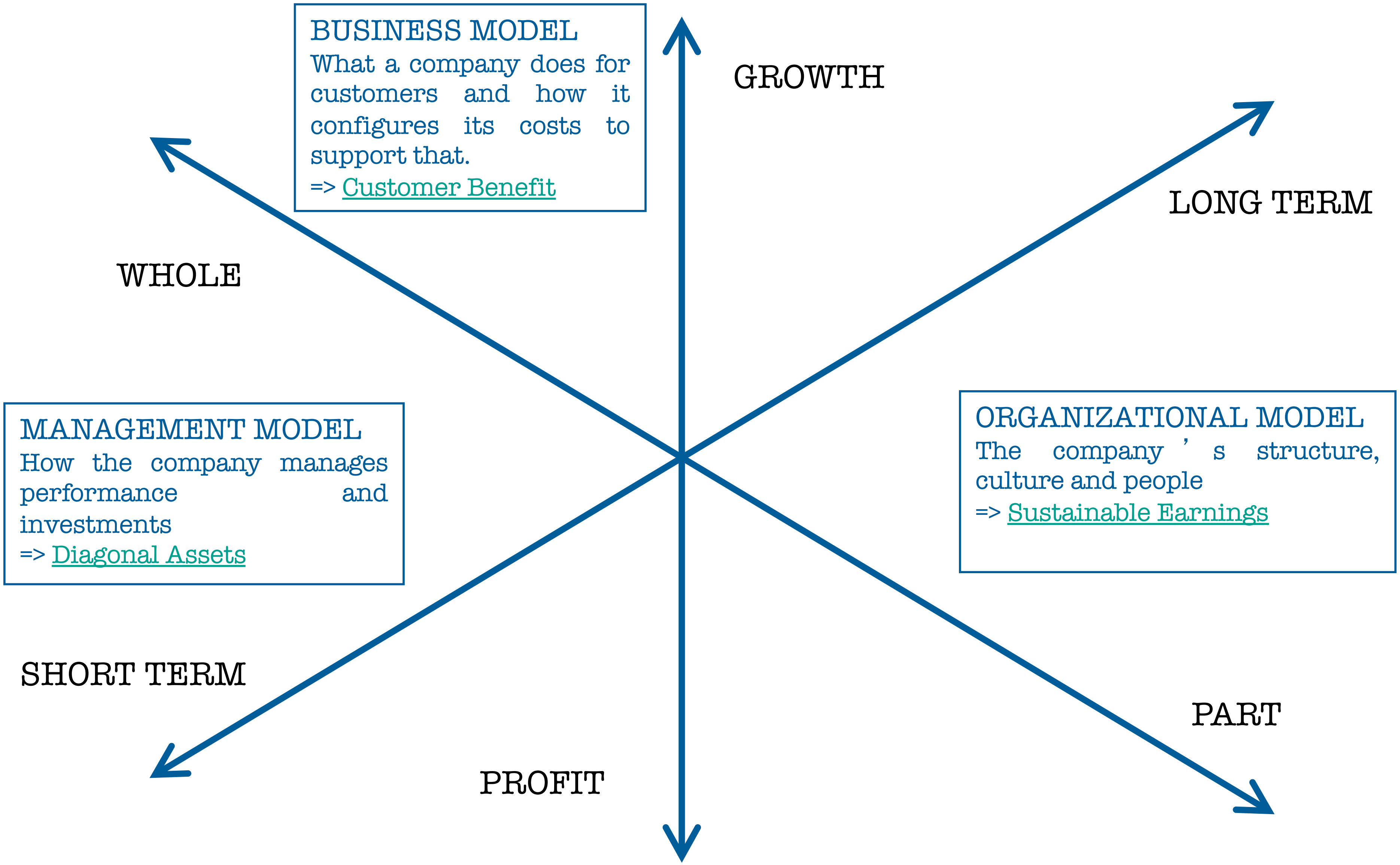
- Distinguish between the uses and users of financial accounting and managerial accounting information.
- Understand the distinction between cost accounting and managerial costing.
- Grasp the importance of accounting system flexibility and recognize the fact that different decisions require different sets of data

MANAGING TENSIONS

MANAGING THE RIGHT TENSION



MANAGING THE RIGHT TENSION



CONFLICTING OBJECTIVES

There are many “tensions” every modern manager has to cope with:

- Profitability versus growth;
- Short term versus long term;
- The whole organization versus its parts;
- Top-down direction versus bottom-up creativity;
- Empowerment versus accountability;
- Experimentation versus efficiency
- Company goals versus those of its employees;
- The existence of an increasing number of opportunities to create value and the scarce amount of time and attention available

COST ACCOUNTING AND MANAGERIAL COSTING

"EXTERNAL" DECISION MAKERS

↕

FINANCIAL ACCOUNTING

↕

COST ACCOUNTING

In cost accounting, **standardization** of activities performed is crucial for the effectiveness of the system. Cost calculations are therefore normally implemented on a **systematic manner**. The focus is on absorption costing.

"INTERNAL" DECISION MAKERS

↕

MANAGERIAL ACCOUNTING

↕

MANAGERIAL COSTING

In managerial accounting **flexibility** of information provided to users is the key objective. Cost calculations are, therefore, performed using different logics, in such a way as to ensure the relevance of the various cost figures produced with respect to the types of decisions that need to be made.

CONSISTENCY AND COMPARABILITY OF ACCOUNTING INFORMATION

Consistency

In order for accounting information to be useful in decision making, it must be recorded consistently, meaning the same accounting treatment must be applied at all times to a given type of accounting data.

Comparability

Comparability is a subset of consistency. If you cannot compare accounting information for one period of time to another, then you cannot derive useful information in order to make operational decisions. Without consistency, any comparison of accounting data is useless, as the data compared will not have been created using the same methods or standards.

FLEXIBILITY OF ACCOUNTING SYSTEMS

An accounting system should be able to provide different sets of information in different period of time. Its output should change in accordance with changes in company needs, operations, and management.

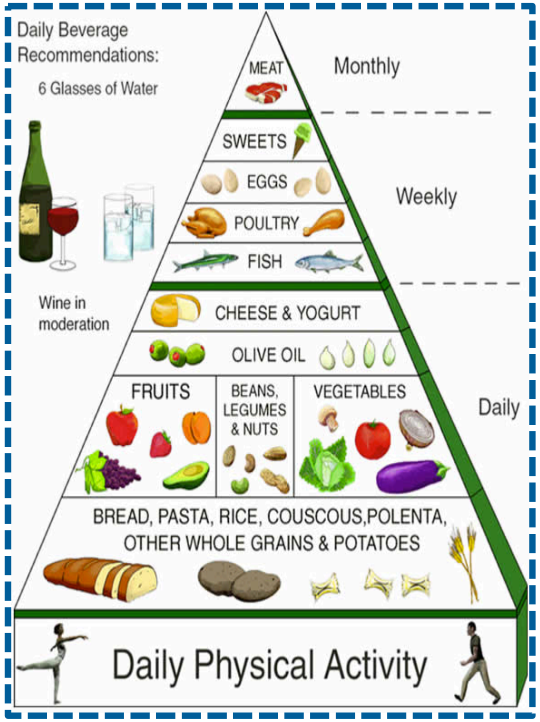
Any information system used by a business should be able to adapt during time and to grow in breadth and in complexity in accordance with the expansion of the business processes performed by the company.

WHAT DOES A MANAGER DO?

1. He/She acquires information

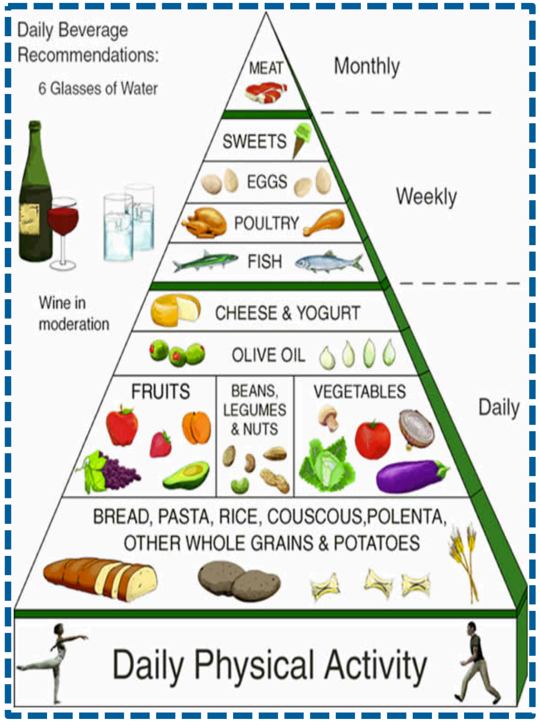
WHAT DOES A MANAGER DO?

2. He/She makes decisions

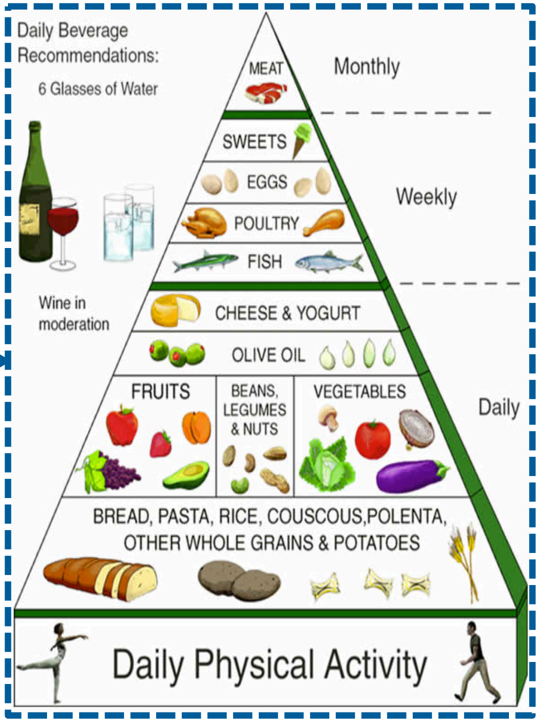


WHAT DOES A MANAGER DO?

3. He/She tries to put the decision taken in practice



COHERENCE BETWEEN INFORMATION AND DECISIONS



DECISION MODELS

The information must be **RELEVANT** for the decisions that managers, operating in a particular business environment with a particular strategy, make.

MENTAL MODELS

In 1971 Jay Wright Forrester defined mental models as follows:

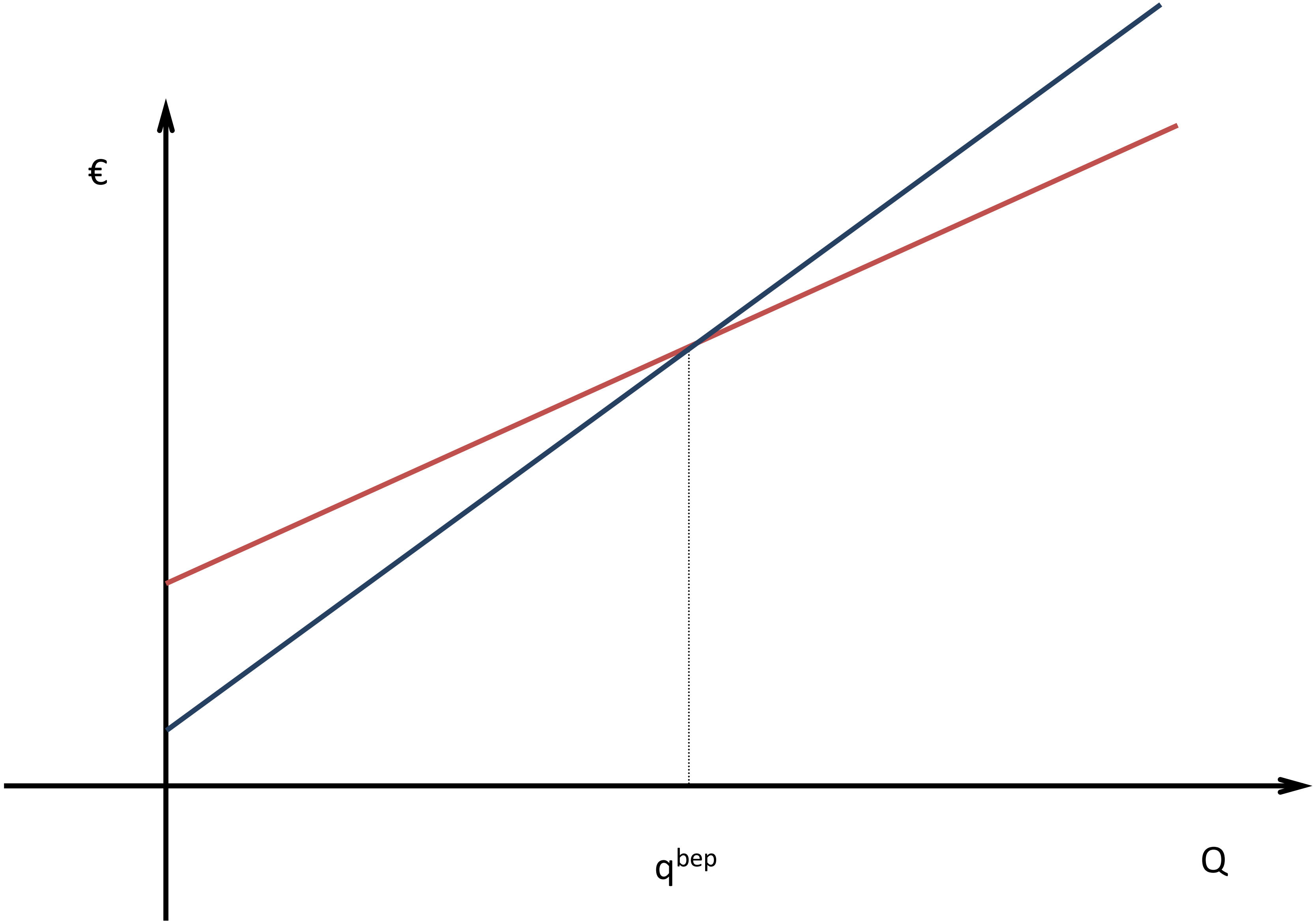
"The image of the world around us, which we carry in our head, is just a model. Nobody in his head imagines all the world, government or country. He has only selected concepts, and relationships between them, and uses those to represent the real system"

Mental model is an explanation of someone's thought process about how something works in the real world. It is a representation of the surrounding world, the relationships between its various parts and a person's intuitive perception about his or her own acts and their consequences. Mental models can help shape behavior and set an approach to solving problems (similar to a personal algorithm) and doing tasks.

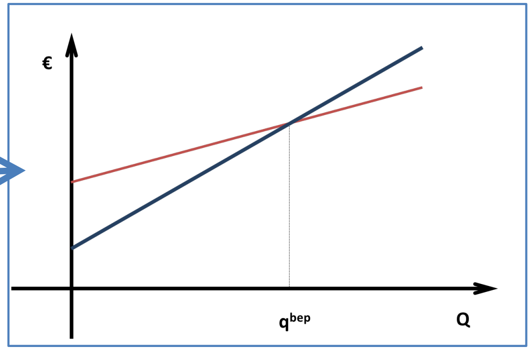
A mental model is a kind of internal symbol or representation of external reality, hypothesized to play a major role in cognition, reasoning and decision-making. Kenneth Craik suggested in 1943 that the mind constructs "small-scale models" of reality that it uses to anticipate events.

SOURCE: https://en.wikipedia.org/wiki/Mental_model

COST-VOLUME-PROFIT ANALYSIS

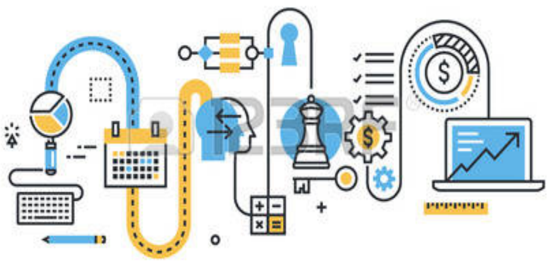


DECISION MODELS



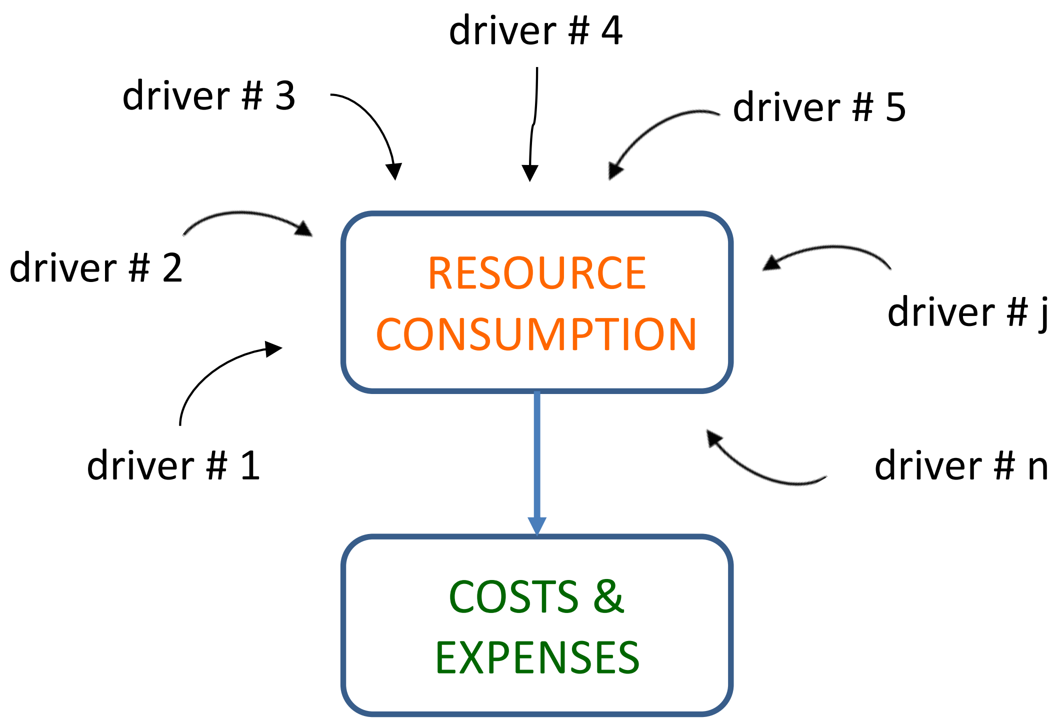
DECISION MODEL
(ABSTRACTION)

SELECTED CONCEPTS AND
SELECTED RELATIONSHIPS
BETWEEN THEM



BUSINESS PROCESSES
(REALITY)

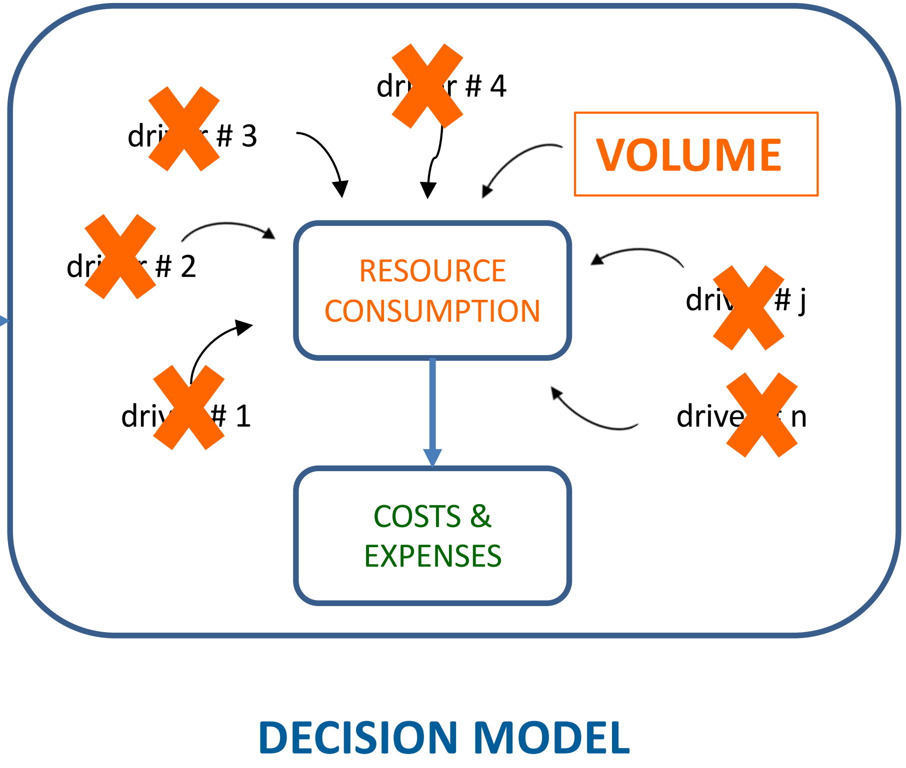
COSTS, RESOURCES AND DRIVERS



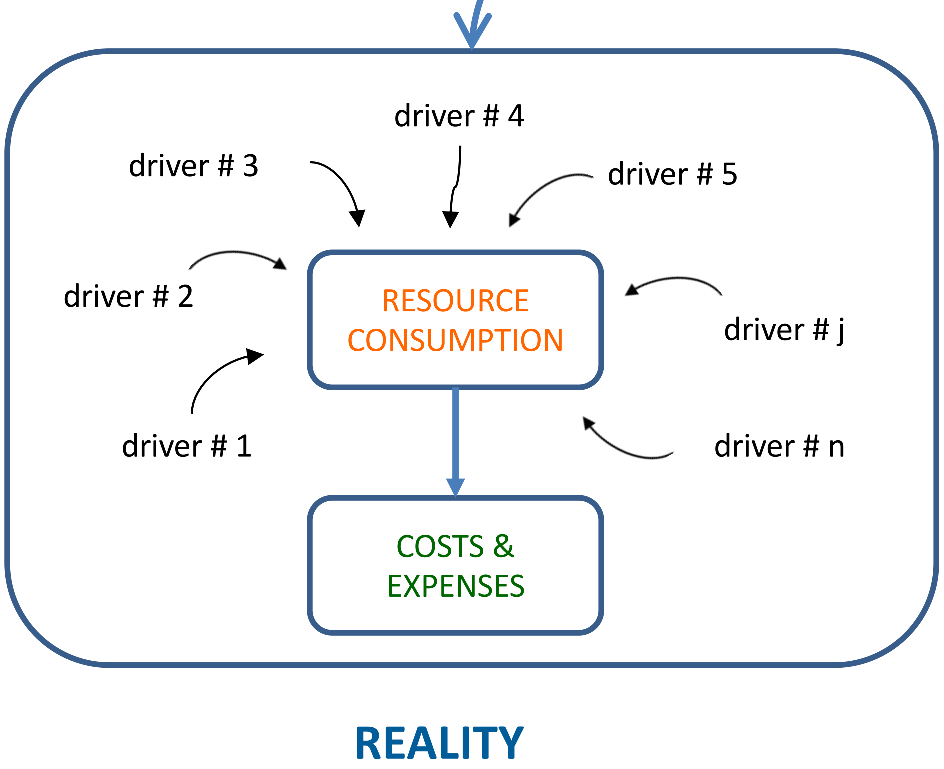
A **cost** is a sacrifice of resources. More precisely the cost (and therefore an expense) is **the monetary reflection** of the sacrifice of one or more resources that are used in order to perform business processes. The **usage** of a resource is determined by different kinds of causes (generally indicated in accounting as drivers)

«The objective of managerial **costing** is to provide a **monetary reflection** of the **utilization** of business **resources** and related cause and effect insights».

COST-VOLUME-PROFIT MODEL



SELECTED CONCEPTS AND SELECTED RELATIONSHIPS BETWEEN THEM



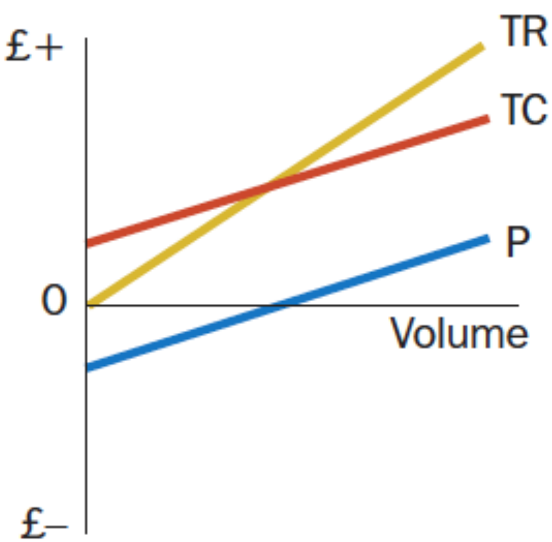
COMPARE

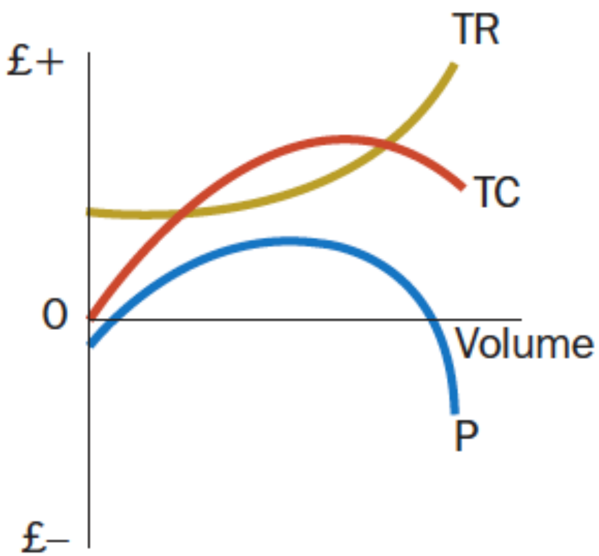
The graphs shown below show cost–volume– profit relationships as they are typically represented in

1. management accounting and
2. economic theory.

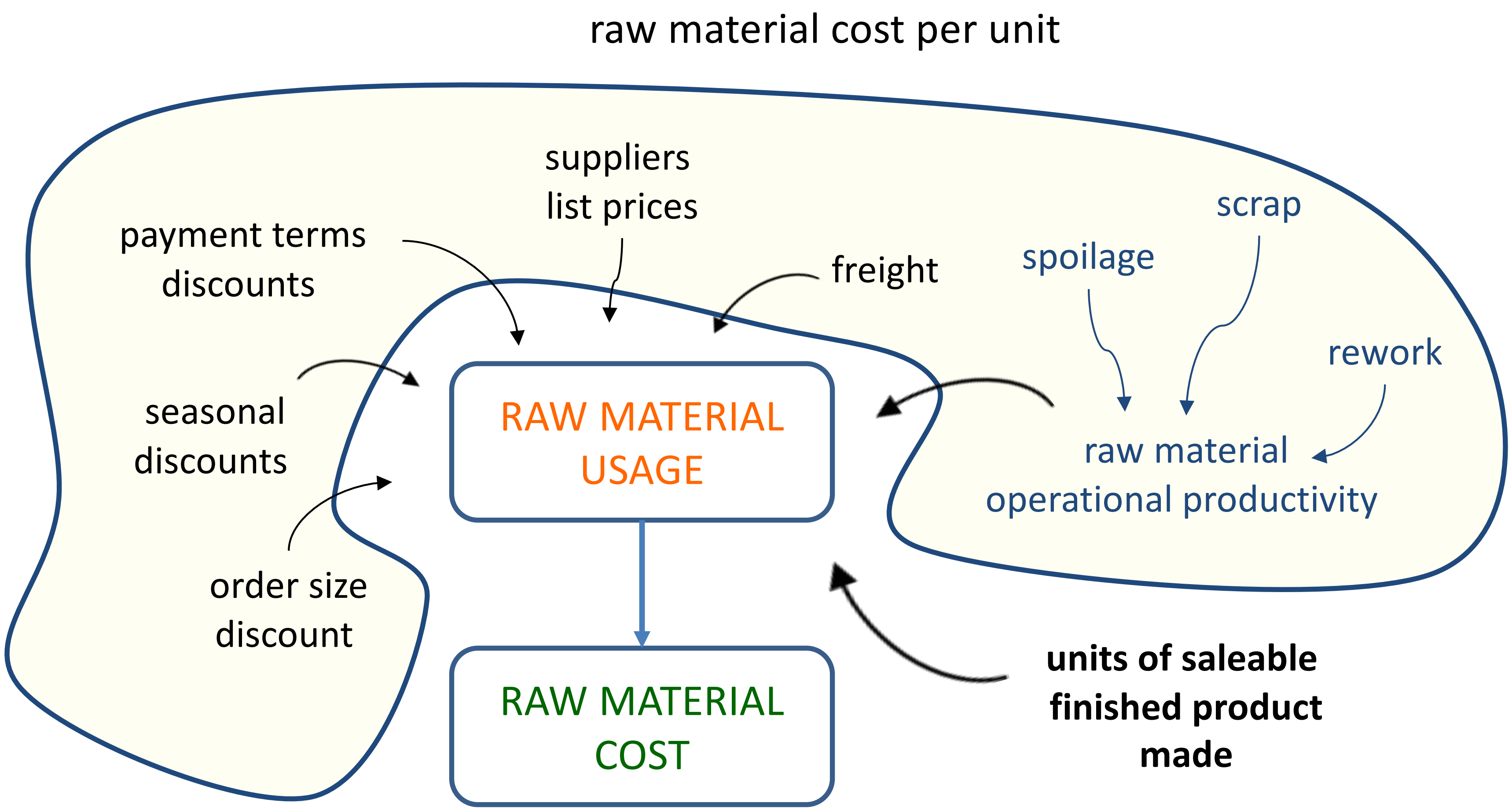
In each graph T = total revenue, TC = total cost, and P = profit.

You are required to compare these different representations of cost–volume–profit relationships, identifying, explaining and commenting on points of similarity and also differences.





COST OF RAW MATERIAL UTILISATION



WHY DOES ONE NEED TO COMPUTE THE COST OF A PRODUCT?

- To evaluate inventory and other assets for financial and tax statements, allocating periodic production costs between goods sold, period costs and goods in stock.

- To justify costs or compute reimbursement amounts

- To provide information for economic decisions
  - Short Term
  - Medium Long Term

- To motivate managers and other employees

DIFFERENT DECISIONS , DIFFERENT SETS OF INFORMATION

Decision to be made:

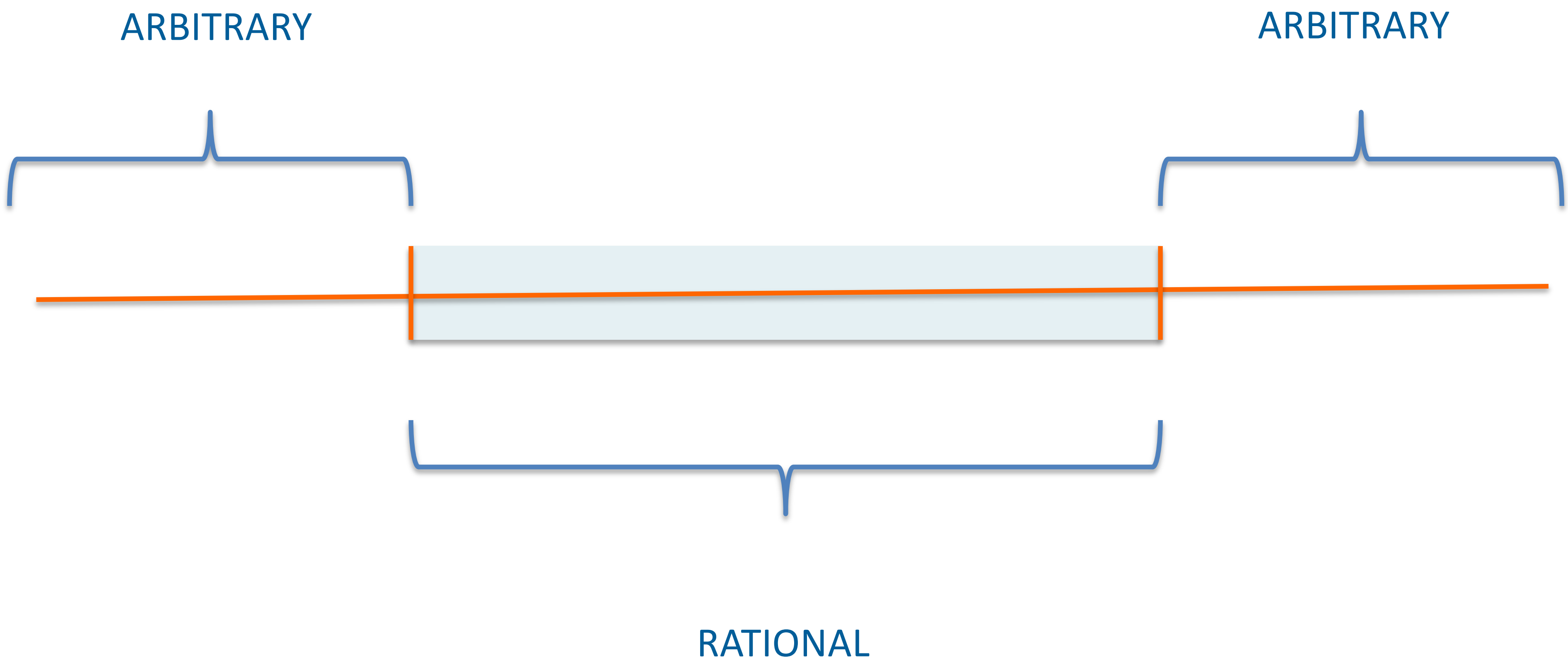
A. Things to do in Rome while visiting the city as a tourist for a five days period

- Different possible hotel/B&B accommodations
- Best restaurants in town
- Underground tickets and weekly pass
- Best Museum
- Exercise drills

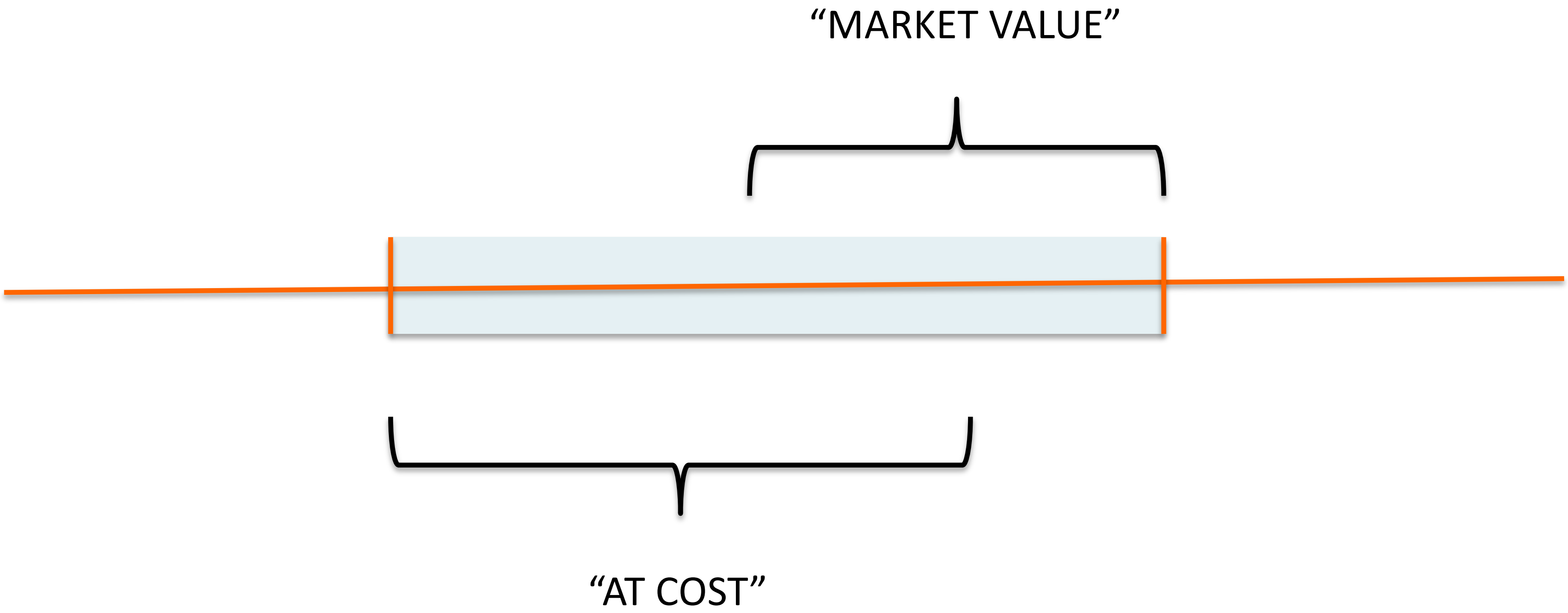
B. Things to do in Rome while spending a six months period in the city for work

- Apartments monthly rates
- Convenient grocery stores nearby
- Used cars prices, buses and train monthly pass
- Places to visit in the surrounding area
- Gym and swimming pool memberships

EVALUATION RANGE FOR A PRODUCT

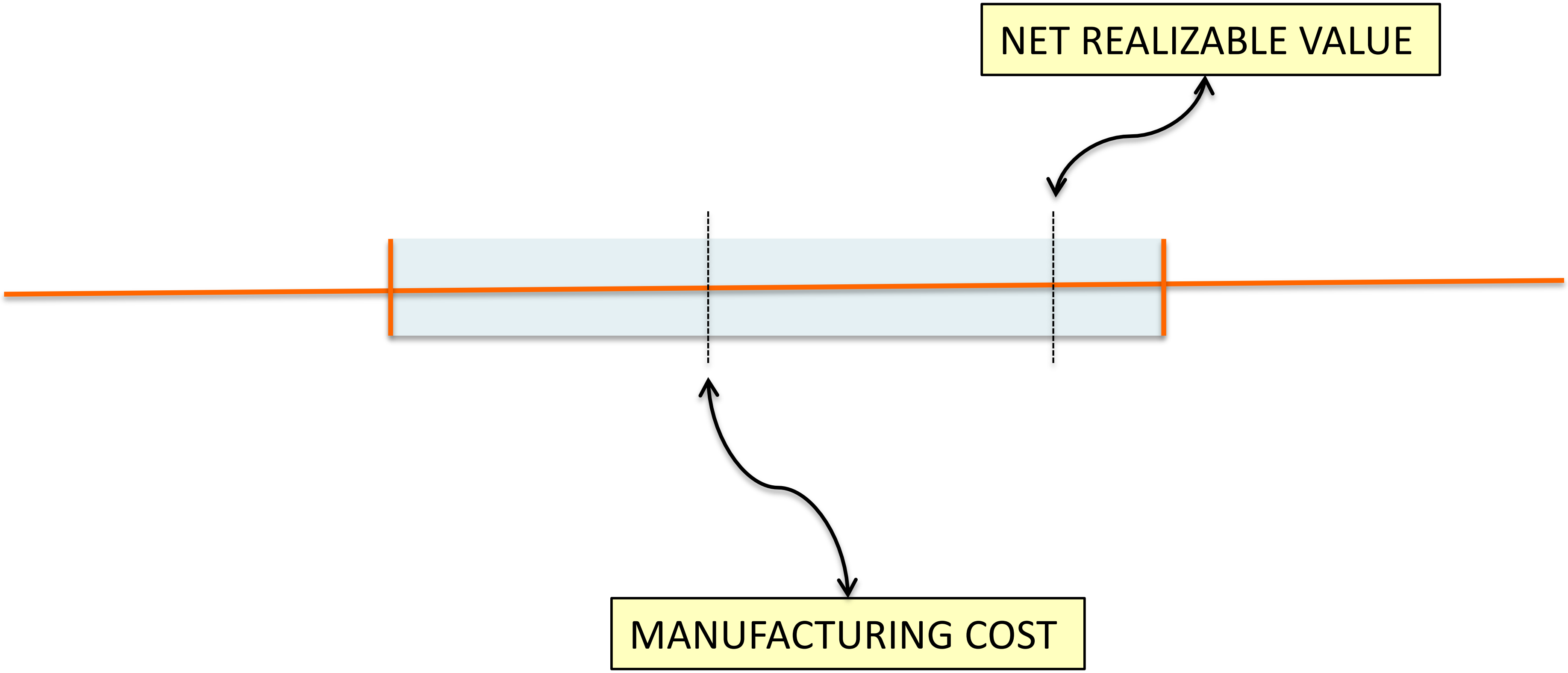


DIFFERENT EVALUATION CRITERIA



DIFFERENT POSSIBLE EVALUATION CRITERIA FOR A PRODUCT

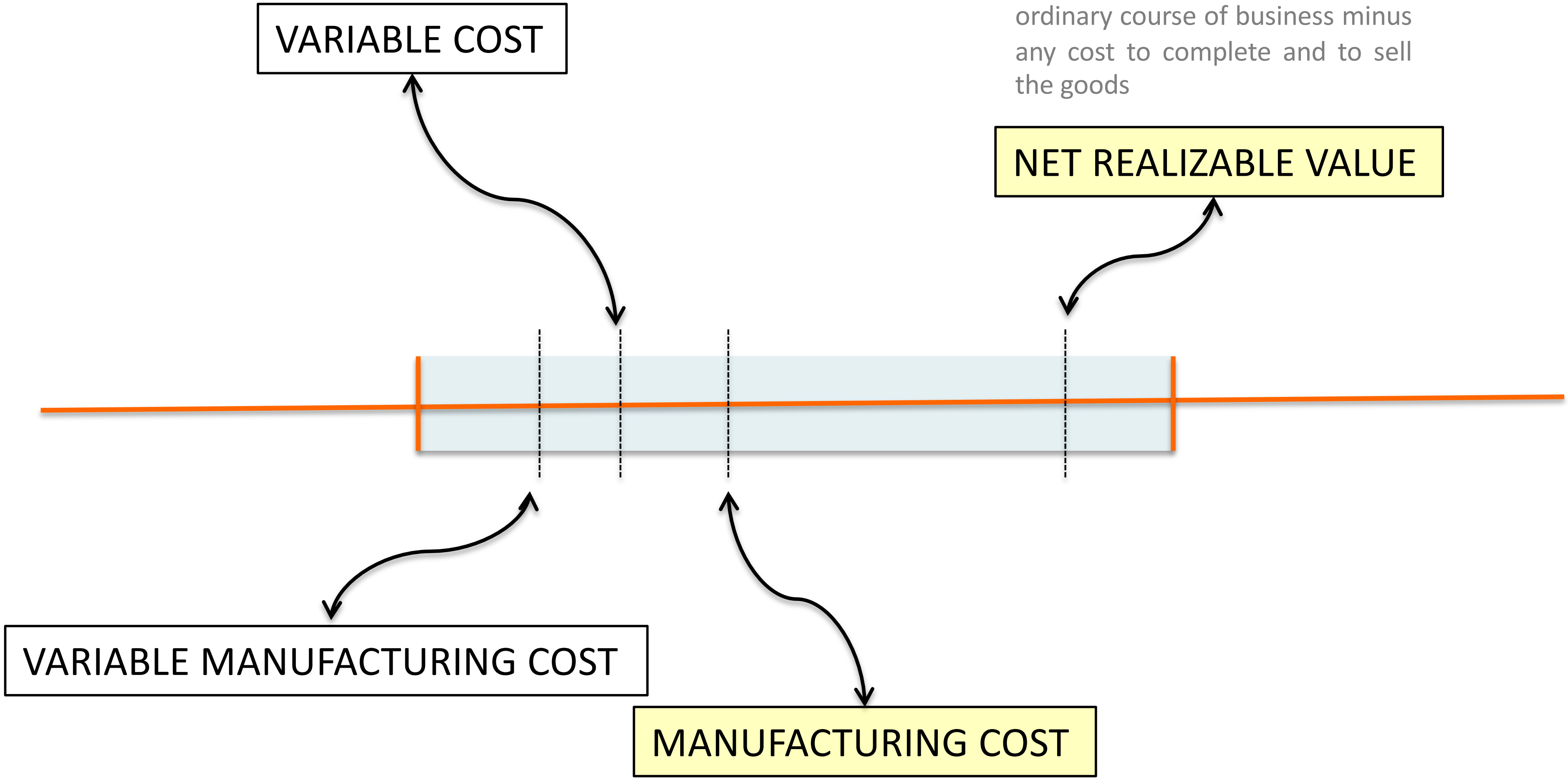
The estimated selling price in the ordinary course of business minus any cost to complete and to sell the goods



The costs necessary to convert raw materials into products. All manufacturing costs must be attached to the units produced for **external financial reporting under US GAA**P. The resulting unit costs are used for **inventory valuation** on the balance sheet and for the calculation of the **cost of goods sold** on the income statement.

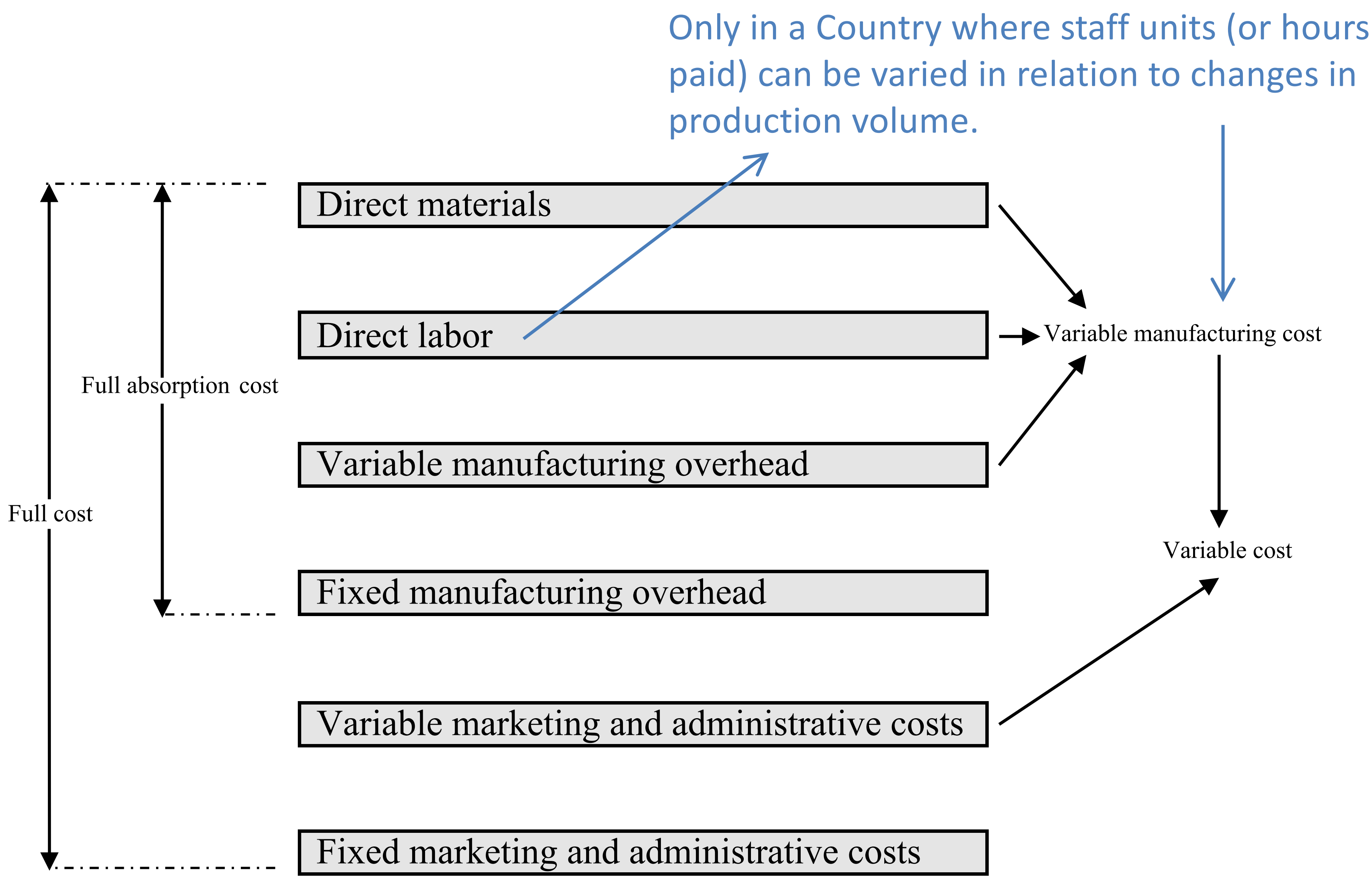
DIFFERENT POSSIBLE EVALUATION CRITERIA FOR A PRODUCT

The estimated selling price in the ordinary course of business minus any cost to complete and to sell the goods



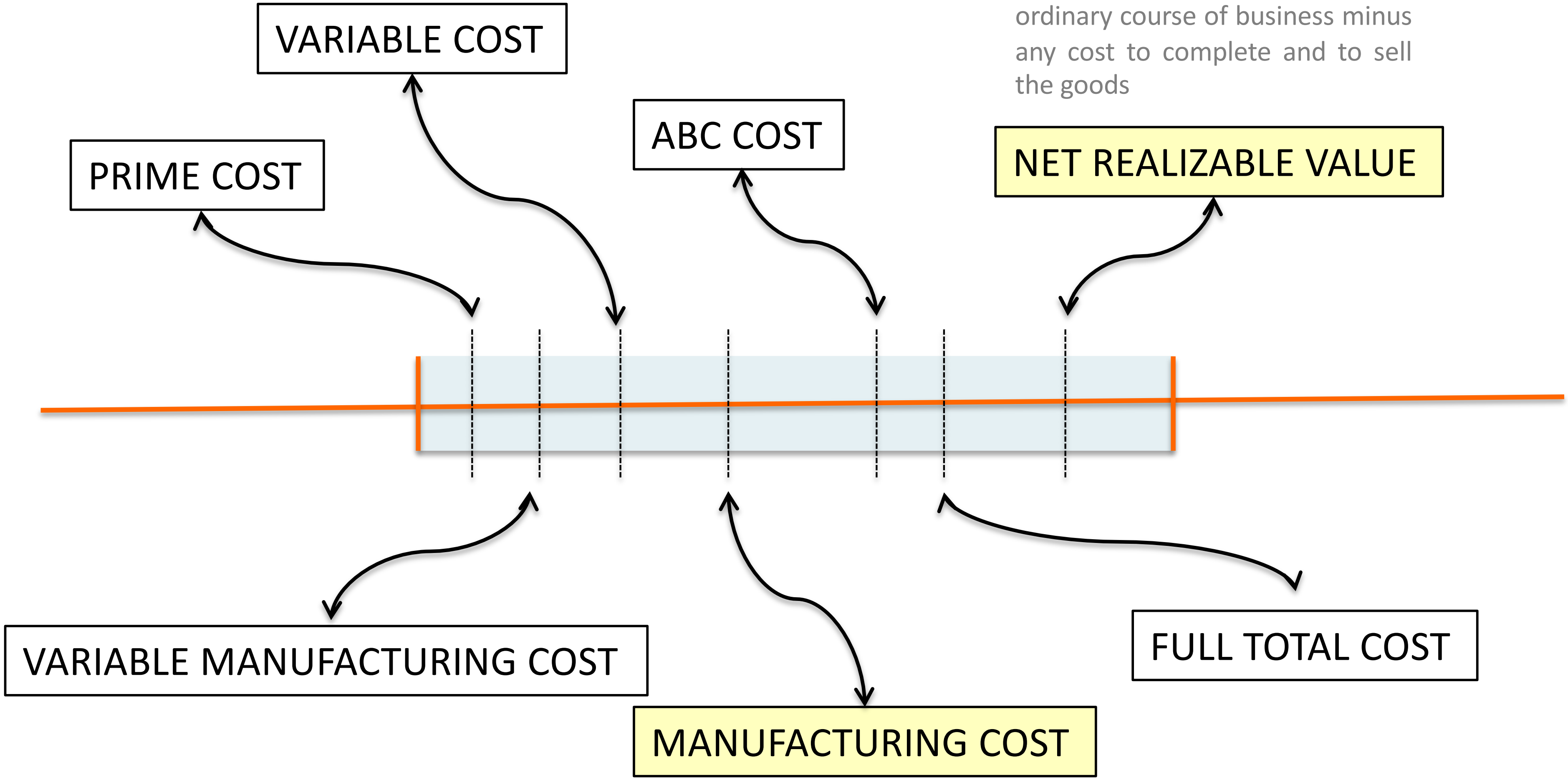
The costs necessary to convert raw materials into products. All manufacturing costs must be attached to the units produced for **external financial reporting under US GAA**P. The resulting unit costs are used for **inventory valuation** on the balance sheet and for the calculation of the **cost of goods sold** on the income statement.

DIFFERENT POSSIBLE EVALUATION CRITERIA FOR A PRODUCT



DIFFERENT POSSIBLE VALUATION CRETERIA FOR A PRODUCT

The estimated selling price in the ordinary course of business minus any cost to complete and to sell the goods



The costs necessary to convert raw materials into products. All manufacturing costs must be attached to the units produced for **external financial reporting under US GAA**P. The resulting unit costs are used for **inventory valuation** on the balance sheet and for the calculation of the **cost of goods sold** on the income statement.

COST OBJECTS AND COST RULES

When you think of cost, you invariably think of it in the context of finding the cost of a particular thing. We call this thing a **cost object**, which is anything for which a measurement of costs is desired.

SOURCE: Charles T. Horngren, Srikant M. Datar, Madhav V. Rajan, “Cost Accounting. A Managerial Emphasis” 14th Edition

A **cost object** is anything for which cost data are desired—including products, customers, jobs, and organizational subunits.

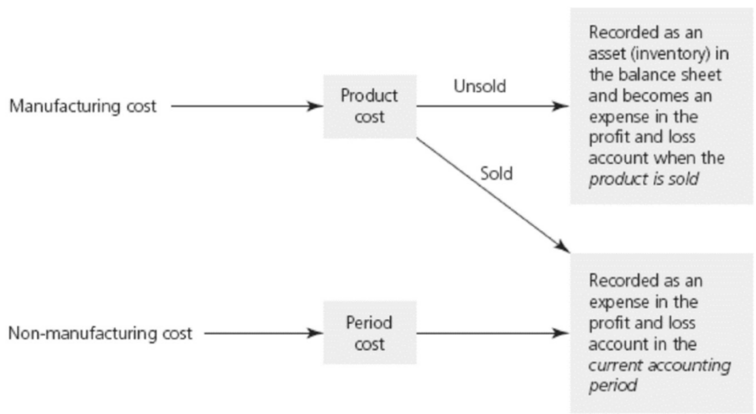
SOURCE: Ray H. Garrison, Eric W. Noreen, Peter C. Brewer, “Managerial Accounting”, 15th Edition

A **cost rule** is a conventional “norm” (not necessarily a legal one) that establishes which components (in terms of individual cost items) must be considered in order to achieve a specific valuation (in cost terms) of a given cost object.
The cost rule, therefore, establishes which classes of cost items are to be assigned to the cost object and which are to be excluded from the calculation process.
As mentioned above, since the relevant information changes in relation to the type of decision to be made, we clearly need different cost rules that allow us to calculate different cost values for the same cost object.

COST OBJECTS AND COST RULES

COST ACCOUNTING

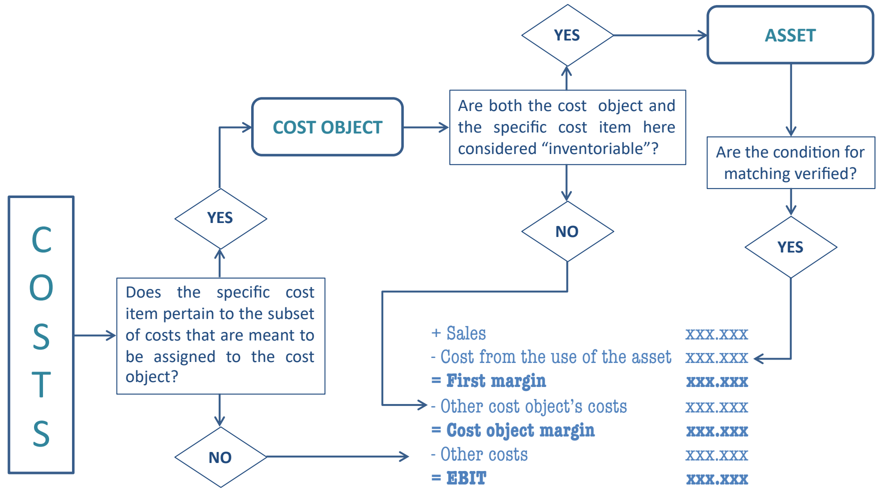
PRODUCT



Within financial accounting we essentially have a single cost object (the "product", typical or atypical, produced by the enterprise) and a single cost rule (called "absorption costing")

MANAGERIAL COSTING

PRODUCT **CUSTOMER** **DEPARTMENT** **SALE CHANNEL**



For managerial costing requirements we have, on the other hand, the need to calculate the cost of several different objects (several very different entities) and apply several cost rules in order to obtain the relevant information with respect to the decisions to be taken

SOME TAKEAWAY POINTS FROM PART # 1

- Different input and output values (flows) cannot be added together if they are measured in physical terms. The same conclusion applies to sets of different resources (stocks).

- The importance of monetary measurement (second degree measurement) lies in the fact that it makes it possible to homogenize different entities (representing stocks or flows). Thanks to monetary measurement, therefore, it is possible to provide indicators of the overall level of efficiency and effectiveness.

- Non-monetary indicators are needed to manage activities. In fact, they are the technical tools used to quantify the true “drivers” of the value creation or destruction process. Whoever wants to manage a company needs operational indicators to know what are the real causes that increase or reduce the company's wealth.

SOME TAKEAWAY POINTS FROM PART # 1

- Financial Accounting is primarily concerned with providing an overview of the level of efficiency and effectiveness achieved by the company as a whole, while Managerial Accounting is concerned with investigating how the individual parts contribute to the overall level of efficiency and effectiveness. For this reason, in Financial Accounting mainly monetary indicators are used, while in Management Accounting a much greater amount of operational indicators are needed.

- The types of decisions that managers must continually make are very diverse. Some of them relate to the short term, others to the medium to long term. Some relate to products, others to customers, or production sites, or suppliers with whom to establish stable relationships, etc. This multiple set of decisions, which are very different from each other, therefore requires the use of different decision-making models. Different decisional models impose the production of different sets of information. For this reason, Management Accounting is required to have a level of flexibility unknown to Financial Accounting. In Management Accounting the same basic cost data must, therefore, be aggregated in a much more articulate manner according to the knowledge needs pursued.