APPLICATION OF SCIENCE IN TAX COMPLIANCE MANAGEMENT

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Conducting Financial Investigations

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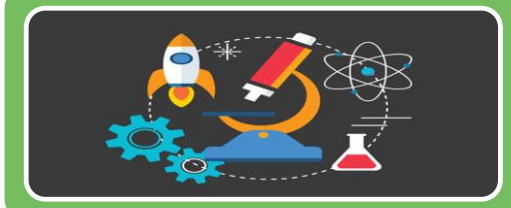
OBJECTIVES

- Recognize the problem and reality of tax fraud
- Contextualize science in tax compliance management
- Discuss the application of scientific approaches in investigating tax fraud
- Identify other roles of science function in tax administration

OUTLINE

Introduction – visualize the problem



Science – Taxation Context

Justification for Scientific Approach

Scientific Approaches in Tax Compliance Mgt

BRIEF ORGANIZATIONAL STRUCTURE

REALITY OF TAX FRAUD

The East African / Business

Africa losing $25.7b to fraudsters using tax havens

MONDAY DECEMBER 07 2020

found.

TAX NON-COMPLIANCE TENDENCIES

Using the chat function, highlight examples of tax fraud you have identified in your jurisdiction

TAX NON-COMPLIANCE TENDENCIES_ CUSTOMS SERVICE

- Tariff misclassification and misdeclaration
  - Under grading, False labelling
- Over valuation esp. items with 0% IDR
- Concealment, esp. items imported in parts.
- Over claiming duty draw back.
- Abuse of Customs Procedure Codes (CPCs) granting preferential treatment (like exemptions, lower import duty rates) → excess materials and machinery.
- Smuggling esp. prohibited items

TAX NON-COMPLIANCE TENDENCIES_ DOMESTIC TAXES

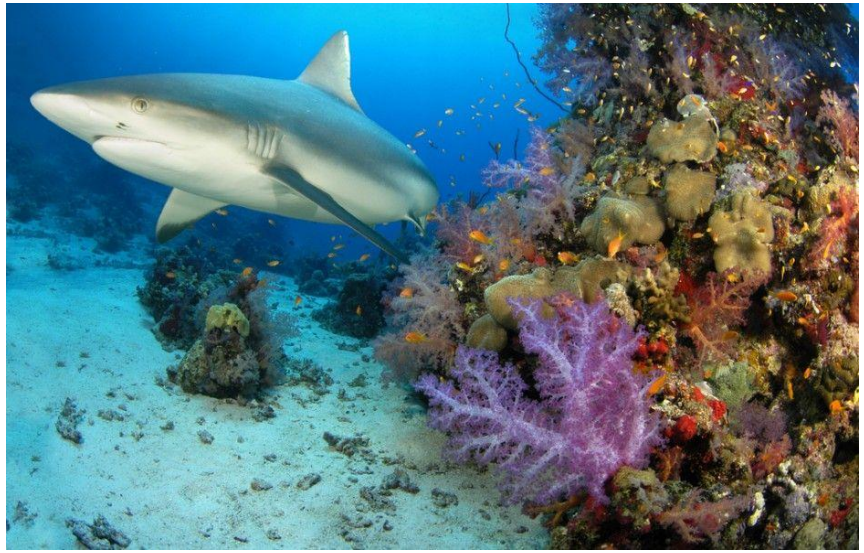
- Under declaration of sales.
- Diversion of inputs imported with preferential treatment
- Inflation of materials used in construction.
- False refund claims esp. VAT
- False declaration of financial loss position

SOME COPING STRATEGIES

- Conventional Tax Audit Approach
- Digital solutions e.g electronic invoicing, digital tracking solutions
- Tracking and monitoring measures at Customs e.g e-seals, NII
- Voluntary disclosure of tax non-compliance
- Application of scientific approaches

To what extent can the strategies enable recovery of concealed revenue?

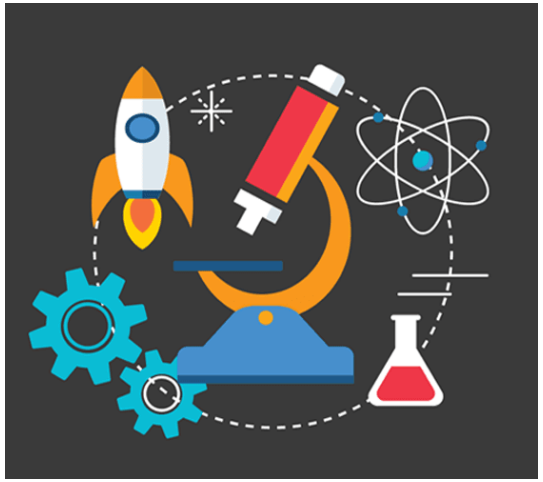
SCIENCE?



SCIENCE IN TAXATION CONTEXT

- Logical study, experiment and observation to establish facts about the matter of interest.
- These facts should be verified and validated through further investigation.

WHY SCIENTIFIC APPROACHES?



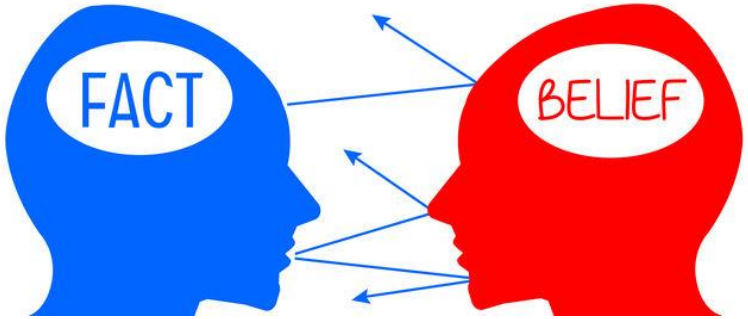
- Science & Technology is one of the major drivers of top tax revenue contributing sectors.
- Science is based on facts and universally accepted principles → can be validated, withstand objection.
- Make better use of data, enabling us to establish truthfulness of available information.

I) SCIENCE AND TECHNOLOGY

- Facilitates increase in process efficiency
- Supports achievement of effectiveness
- Lower cost of production, but increase productivity
- Quest for zero waste: sugar industry, paper industry, tanneries, plastics

II) BASED ON UNIVERSAL FACTS AND PRINCIPLES

- Standards in civil construction
- Natural forms and properties of materials
- Presentation of cases in legal suits

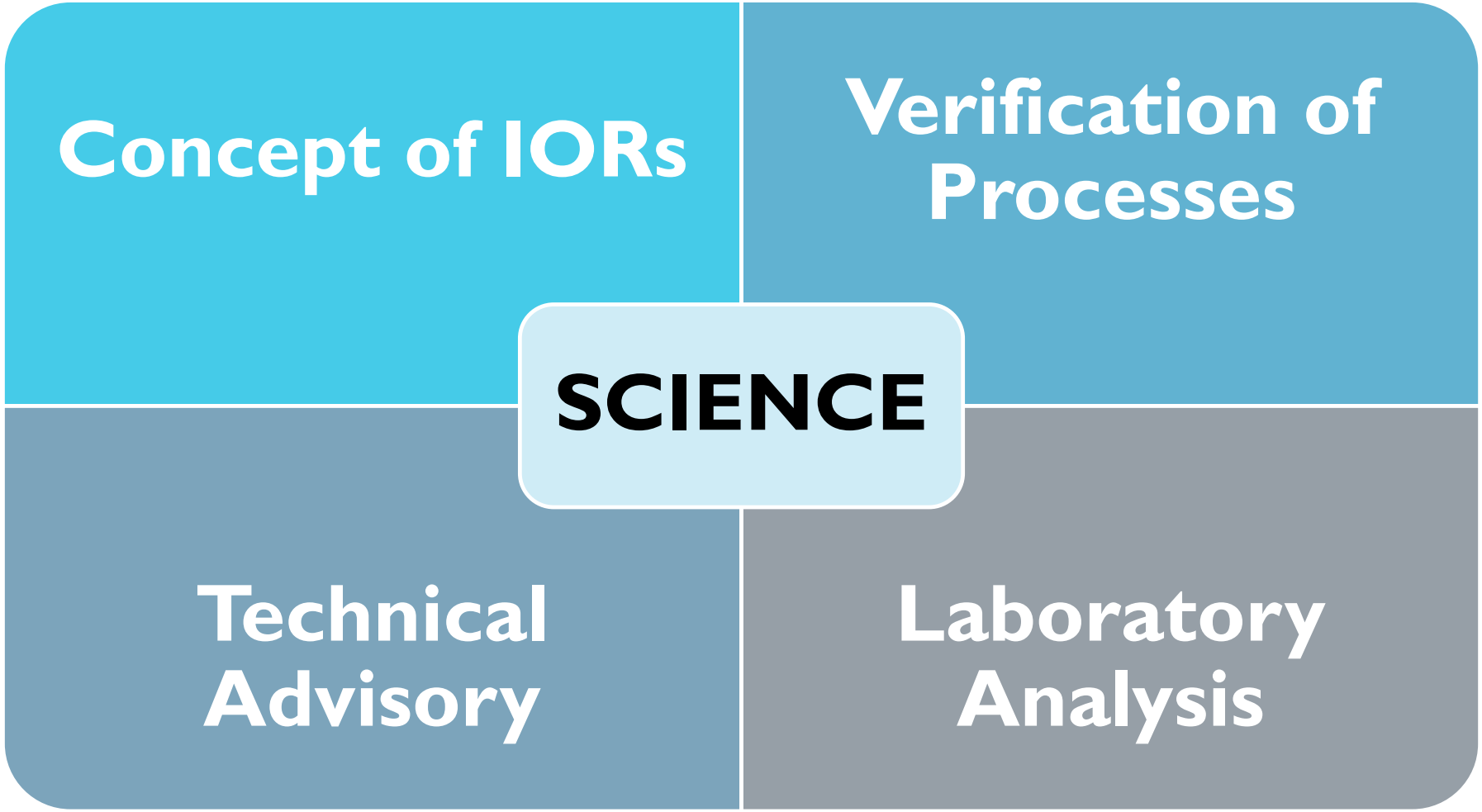


- Based on scientific facts and principles, we can establish difference between two similar items.

III) SCIENCE PROVIDES FOR BETTER USE OF DATA

- Imports data, Weigh bridge data
- Raw material and finished products stocks
- Sales data, Financial statements, Tax returns
- Quality control data, Product specifications
- Certificates of analysis and MSDS
- Product label information
- Research information e.g industrial averages

ELEMENTS OF SCIENCE IN TAX ADMINISTRATION



POINTS TO NOTE

- The applications may be used independently or in combination → depends on the case at hand.
- Need legal enablers to support their use. Otherwise, they may be rendered null and void.
- Require well established procedures, otherwise may be faulted in case of legal suits.
- Are enshrined in the established laws and principles of Science. As such, they can stand when challenged on matters of principle.

INPUT – OUTPUT RATIOS CONCEPT

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- Input – Output Ratio: **Input** is material injected into a system whereas **output** is material that comes out of the system.

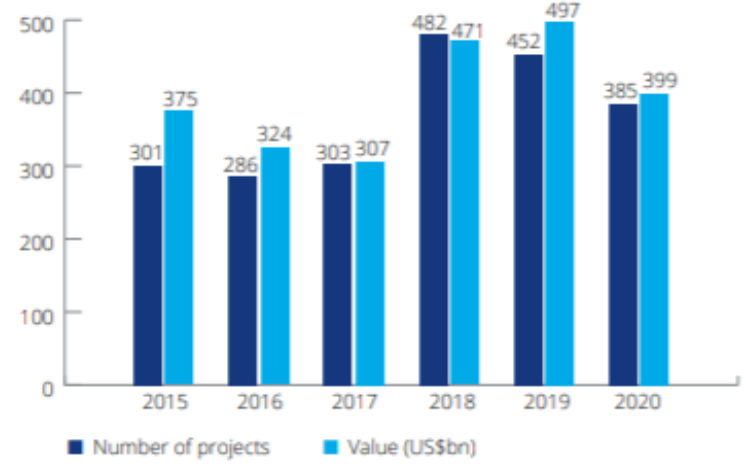
- Traditionally applied in: Engineering, Biological, Chemical and Environmental systems. But now applied in tax audits and investigations for construction and manufacturing sectors.

- Context differs from input – output analysis in Economics.

AFRICA'S CONSTRUCTION INDUSTRY

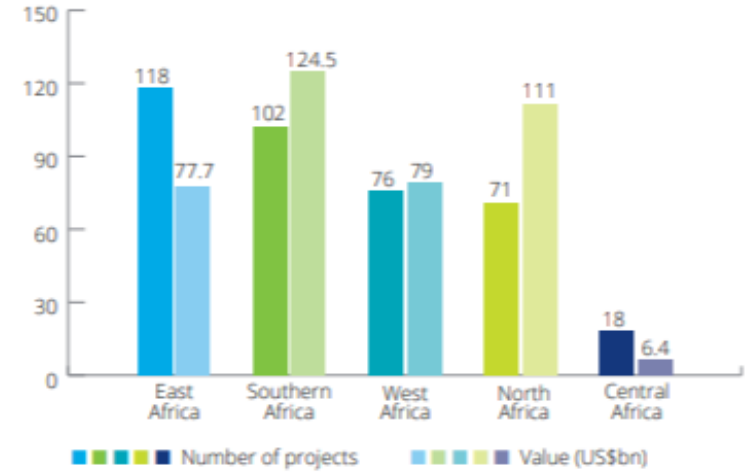
- 2013 – 2017, $77bn was average investment in infrastructure for African countries, Expected to exceed $150bn by 2025 [1]
- Some are donor funded projects → tax exemptions
- Great investment projects, with target profit of at least 30%

Continental statistics



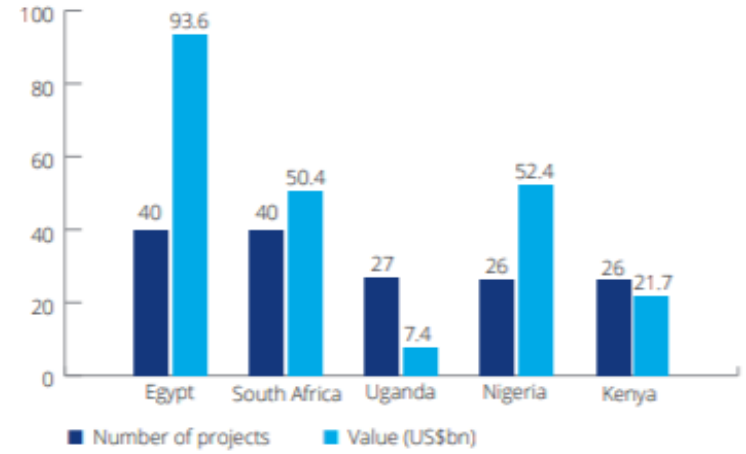
Source: Deloitte analysis, 2020

Regional split



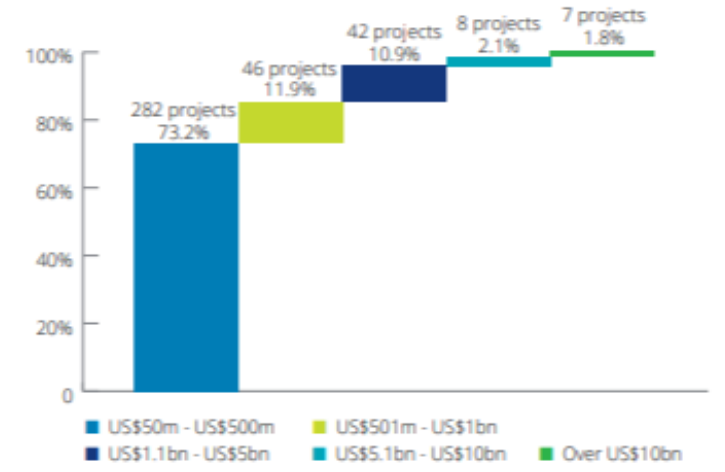
Source: Deloitte analysis, 2020

Top 5 countries by number of projects



Source: Deloitte analysis, 2020

Number of projects by value



Source: Deloitte analysis, 2020

Stats – number and value of construction projects

FRAUD ASSOCIATED WITH CONSTRUCTION SECTOR

- Inflation of expenses esp. building materials
- Diversion of materials from tax exempt projects
- False claim of loss position
- Bribery and Corruption, especially in award of tenders, compensations

POINTS FOR CONSIDERATION

1. Technical Capacity

The sector is specialised, thus a need for competence and knowledge to successfully audit or investigate its players

2. Process Automation

Manual processes such as granting of tax incentives eases commission of tax fraud

3. Collaboration

Investigation of the sector requires enhanced inter-agency collaboration and timely sharing of data across government.

4. Political Economy

Sector is characterized by some level of political interference

AFRICA'S MANUFACTURING INDUSTRY

- Robust manufacturing sector, with projected growth of over $200 Bn from 2015 – 2030

- How much does the manufacturing sector contribute to Government revenues in Africa?

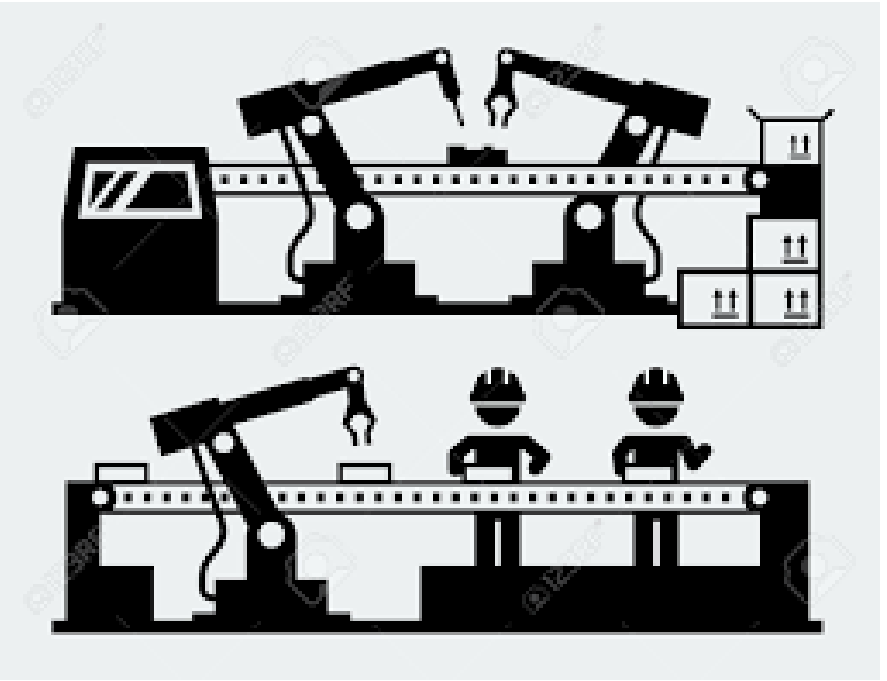
- Uganda's case: contributed an average of 21.71% for FYs 2017/18 to 2019/20

FUNDAMENTALS OF INPUT – OUTPUT CONCEPT

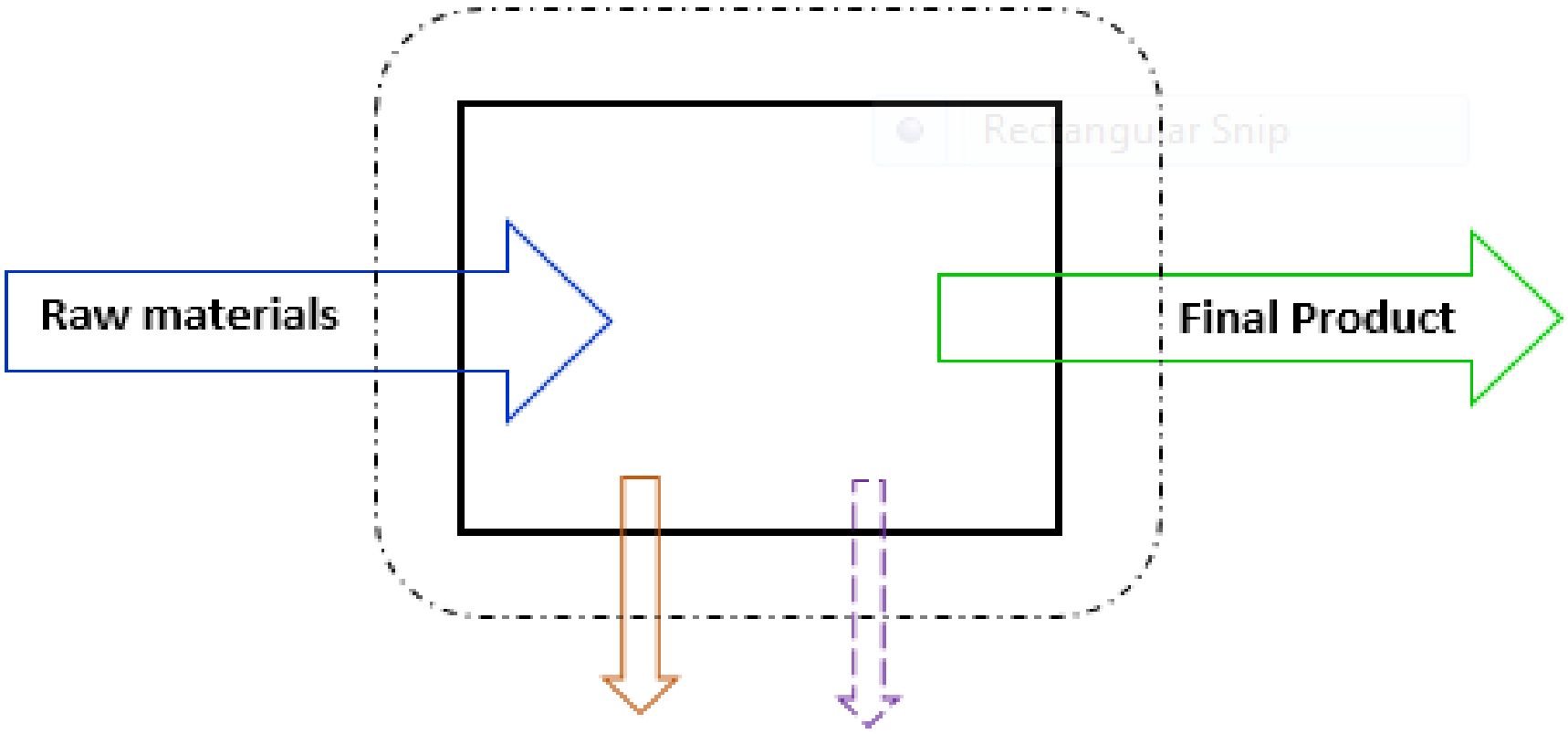
- Based on the concept of mass balance

- Governed by the law of conservation of matter.

In a system, "Matter can neither be created nor destroyed, but only changes from one form to another over a given time."

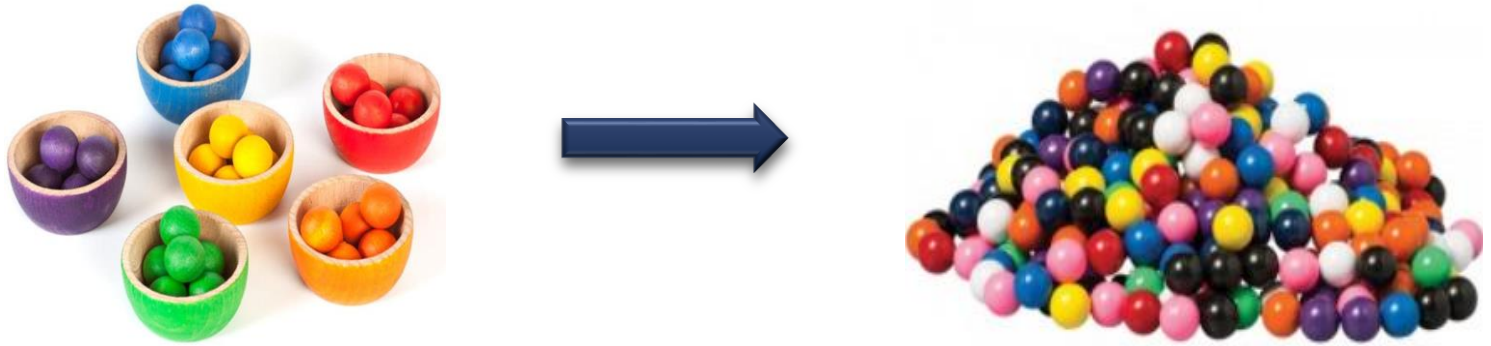


CONCEPT OF MASS BALANCE

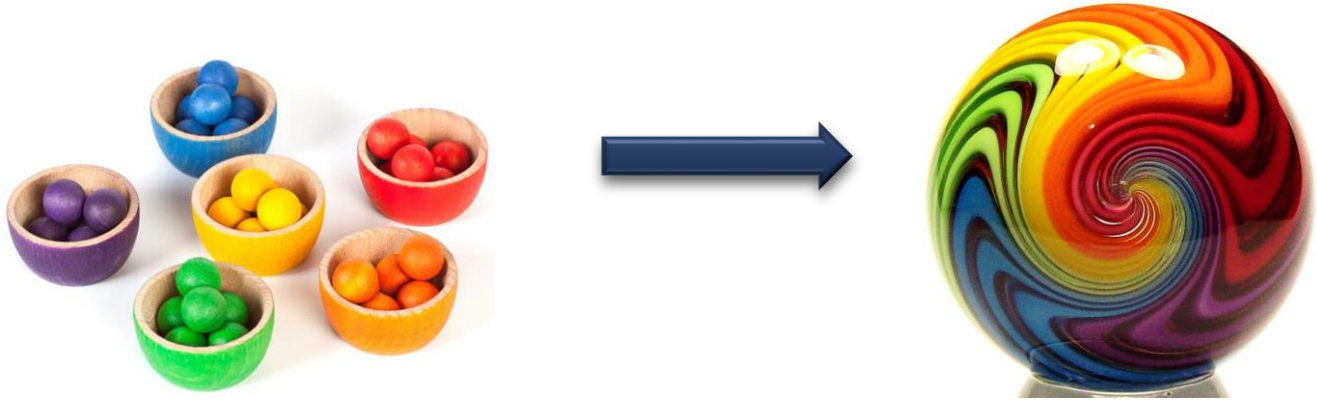


*Key consideration: What type of manufacturing system are you dealing with?

TYPES OF MANUFACTURING SYSTEMS



Non-Reactive (steady state) Systems



Reactive Systems

STEADY STATE SYSTEMS

- Comprise of most traditional manufacturing processes with less technical contexts
- Products are manufactured by simple unit operations like mixing, dilution, evaporation, separation, size reduction or combination of these.
- Usually, there is no formation of components which are substantially different from the input materials.

Examples

- Plastics moulding
- Grain milling
- Production of dairy products
- Manufacture of paints and varnishes
- Steel rolling

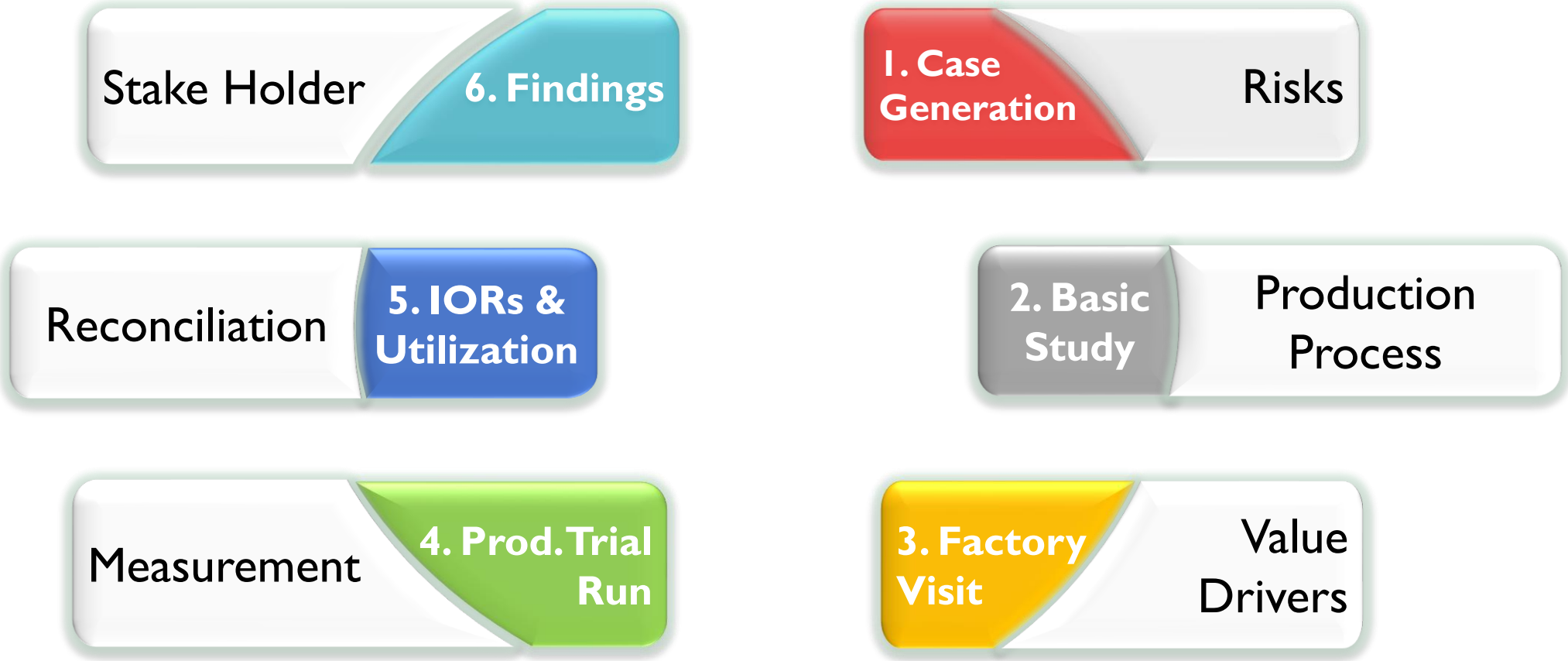
REACTIVE SYSTEMS

- Inputs undergo a form of chemical reaction, in part or wholly to have the final product
- Determination of IORs involves comparison of the reaction ratios of the inputs and the resultant products
- There is formation of products which are substantially different from the input materials.

Examples

- Manufacture of foam mattresses
- Manufacture of cement
- Brewing

HIGH LEVEL VIEW OF IORS PROCESS



PARAMETERS AND ASSOCIATED TOOLS

- Mass/ Weight
- Volume
- Density / Specific gravity
- Length / Area
- Sugar content (TSS)
- Alcohol content

PAINTS AND VARNISHES

- Made through a simple mixing process
- Inputs are measured in units of mass (kg), whereas finished product is quantified in volume (litres)
- Need to harmonize parameters between raw materials and products. **[Use: Mass = Density X Volume]**

Note: There may be apparent gains

SPIRITS (ALCOHOLIC BEVERAGES)

- Made through a dilution process, where neutral spirit (about 96% ABV) is mixed with treated water to a desired alcohol content, usually 37 – 40% ABV

- Implication: Increase in bulk volume; DTS, LED, VAT and CIT

- Determine alcohol content of product, obtain data on alcohol content and volumes of neutral spirit used.

$$C_1V_1 = C_2V_2$$

If 30,000ltrs of 96%ABV ENS was used in production. What volume of 40% ABV spirit beverage was produced by the entity?

BOTTLED WATER

- Water is consumed for other uses despite being the raw material for product in such an industry. Therefore, consideration of meter readings is not accurate to determine volume of production.
- Solution: Consideration of amount of resin used to make the bottles

- Track stock movement of resin, know mass of resin that would make a bottle to package 1L. And weight of bottle is not proportional to the volume of water packaged.

If 1litre bottle weighs 25g, how much drinking water was packaged in 1ton of PET resin?

IMPORTANCE OF DATA IN IORS

- Success of the IORs approach is highly dependent on data

- Especially, production data and quality control data

- What indicators would show that the data obtained is not reliable?

INDICATORS OF UNRELIABLE DATA

- High and unreasonable production process losses
- Uniform figures in raw material stock movement
- Negatives in stock movements, especially closing stocks
- Unreasonable product formulation when compared with relevant literature
- Sudden inconsistent drop in closing stock

Note: Do not be deceived by percentages, look at absolute figures

EXAMPLES

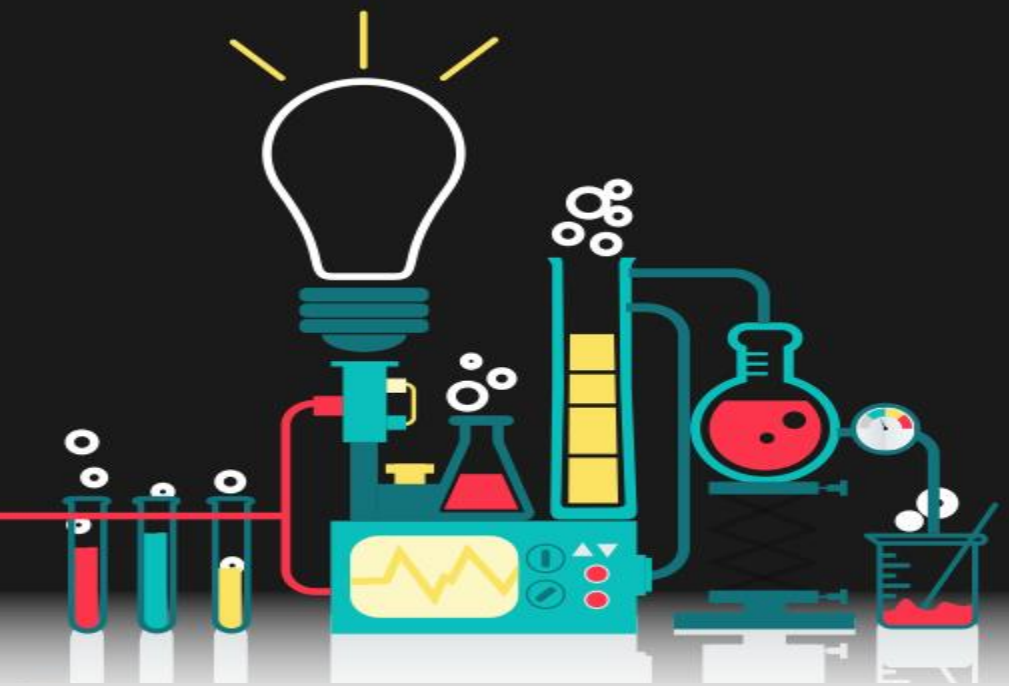
1. During a tax investigation, a cement manufacturing entity claimed that they lost about 5% of the total clinker due to poor handling. According to data in the customs system, the entity had imported 800 million tonnes of clinker during the period under consideration. The finished cement product contained 75% clinker and each cement bag weighing 50kg was sold for $10. Does a loss of 5%, more so due to poor handling make business sense?

2. A soft beverages manufacturer claimed to incur a production loss of 3%. Based on the quantity of sugar consumed in production, the company was expected to have produced 10 million litres. If each litre of product is $0.5 exfactory price, how much revenue did the company lose due to claimed production loss? Do the figures of such financial loss make business sense to you?

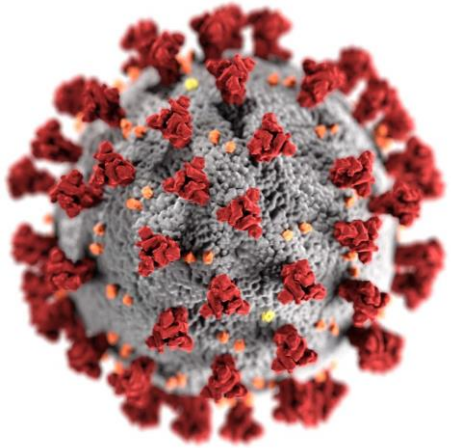
KEY POINTS ON IORS CONCEPT

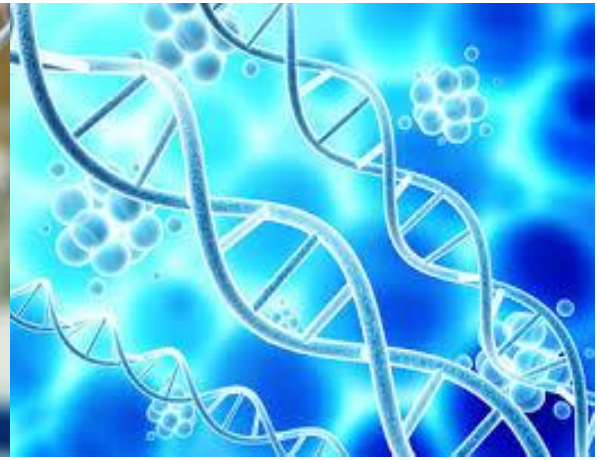
- Aim is to relate the quantities of raw materials to quantities of finished product
- Remember finished products culminate into the sales for the entity
- Type of manufacturing system (steady state or reactive) determines how you relate inputs to outputs

LABORATORY ANALYSIS



GENERAL PERSPECTIVE





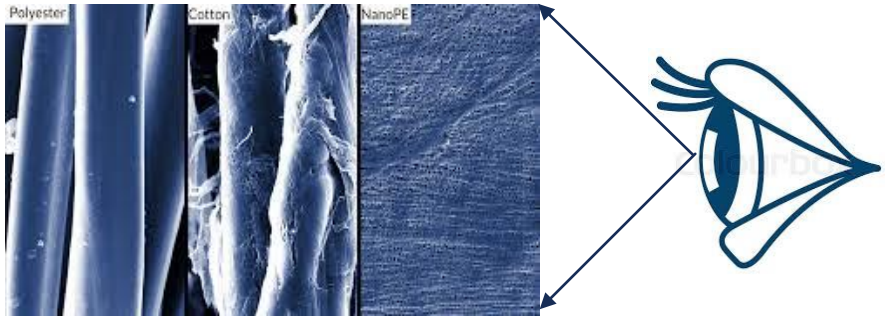
LABORATORY ANALYSIS_ TAXATION CONTEXT

- Laboratory Analysis: Scientific process of examining an item to ascertain what it is or consists of
- Objective: measure selected properties of items to ascertain the correct identity or composition
- Composition and identity of items form the basis for assessment of taxes payable on certain goods i.e customs value, IDR and other applicable import taxes

RATIONALE FOR REVENUE LAB ANALYSIS

- Goods may look similar, but are different in material composition or identification.
- Challenge: Misidentification and Tariff misclassification

- Our senses cannot be the basis to determine what an item is or contains



GOALS OF REVENUE LAB ANALYSIS

EAC COMMON EXTERNAL TARIFF - 2012.pdf - Adobe Reader

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32.04		**Synthetic organic colouring matter, whether or not chemically defined; preparations as specified in Note 3 to this Chapter based on synthetic organic colouring matter; synthetic organic products of a kind used as fluorescent brightening agents or as luminophores, whether or not chemically defined.**		
		- Synthetic organic colouring matter and preparations based thereon as specified in Note 3 to this Chapter :		
	3204.11.00	-- Disperse dyes and preparations based thereon	kg	0%
	3204.12.00	-- Acid dyes, whether or not premetallised, and preparations based thereon; mordant dyes and preparations based thereon	kg	0%
	3204.13.00	-- Basic dyes and preparations based thereon	kg	0%
	3204.14.00	-- Direct dyes and preparations based thereon	kg	0%
	3204.15.00	-- Vat dyes (including those usable in that state as pigments) and preparations based thereon	kg	0%
	3204.16.00	-- Reactive dyes and preparations based thereon	kg	0%
	3204.17.00	-- Pigments and preparations based thereon	kg	0%

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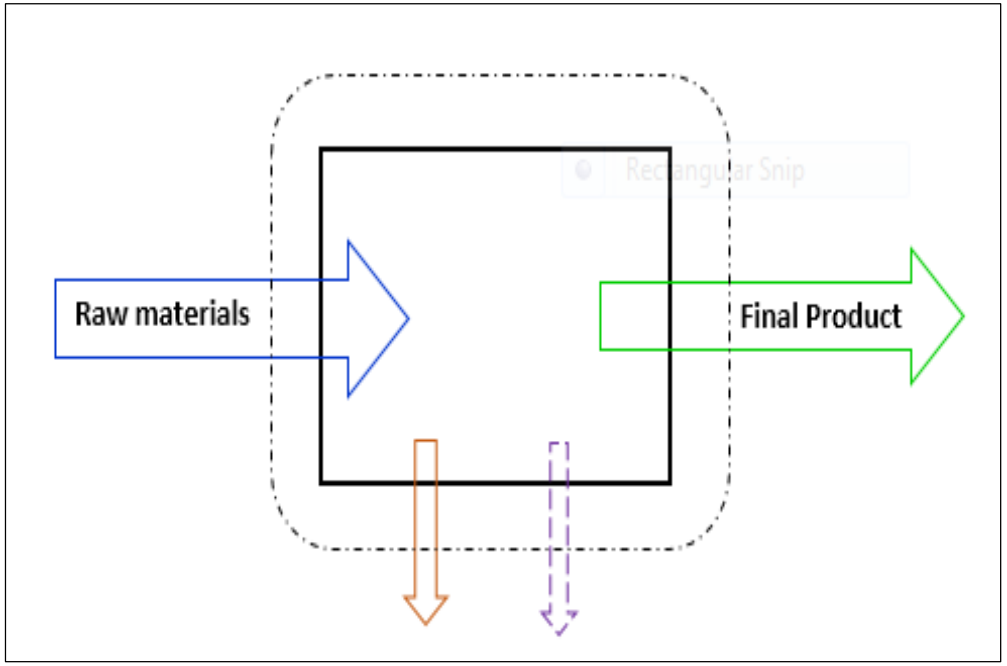
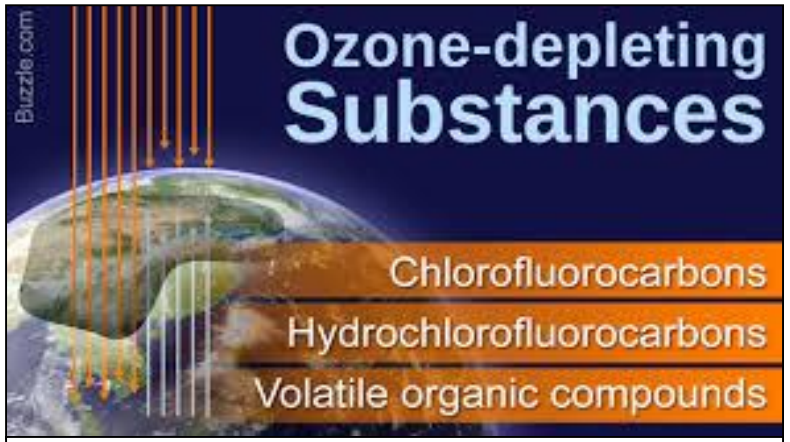


GOALS OF REVENUE LAB ANALYSIS



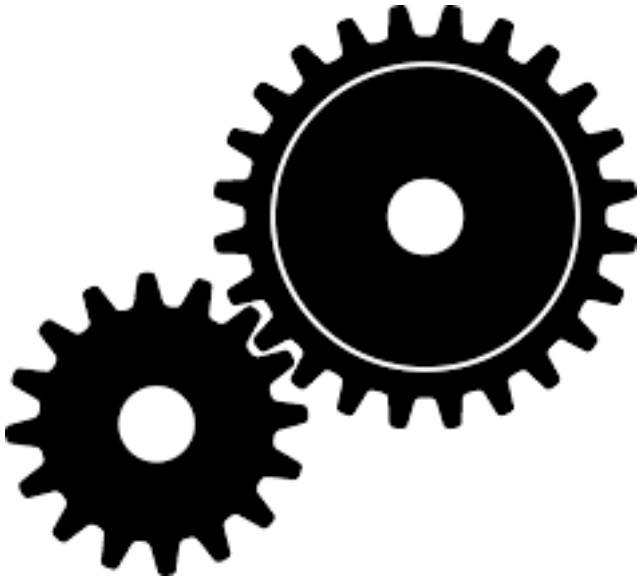
SELECTION OF ITEMS FOR ANALYSIS

- Impractical and probably wastage of resources to conduct analysis on the numerous consignments of imported goods

- Better to have a logical and objective approach of determining from which consignments to obtain samples for analysis.

- Risks are dynamic due to several factors

POINTERS FOR RISK ANALYSIS



*Aim of clients: reduce tax payable

POINTERS FOR ITEM RISK ANALYSIS

- Consignments having inconsistences in accompanying documentation



- Items presented without clear or misleading labelling

- Nature of product → appear similar but actually differ in composition e.g white refined sugar and salt, textiles, lubricants

CRITERIA FOR PARAMETERS TO BE ANALYSED

- Several parameters may be analyzed, but not all of them are important to answer the question about the intrinsic nature of the item.

- Select a parameter whose result will distinctively answer the question about the composition and identity of the item.

POINTS FOR CONSIDERATION

- Let the client own the sample obtained for analysis.
- Pay attention to chain of custody.
- Communicate the result in a way that can be comprehended by the unit requesting for support.
- Be prepared for any eventuality → appeals and disputes
- Collaborate with external facilities where you do not have in-house capacity

KEY POINTS ON LAB ANALYSIS

- Items may look similar, although they are different in their material composition or identification.
- Risk: Tariff misclassification and misidentification, ultimately resulting in revenue leakage
- Select tests relevant to resolve the issue at hand

VERIFICATION OF MANUFACTURING PROCESSES

BRIEF NOTES ON VMP

- Aims at: validation of claims by the client, informing policy formulation, confirmation of use of certain materials, ascertaining technology used and nature of product obtained

- Involves a physical inspection and observation of manufacturing process → step wise from raw materials end to product.

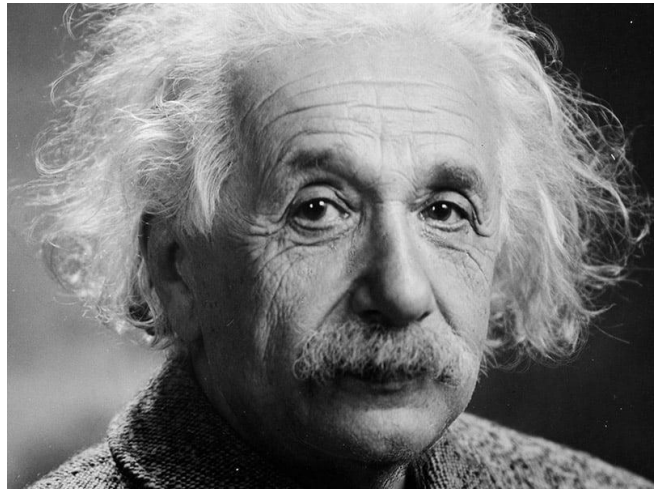
- Examples: Lubricant additives, Natural fruit juice, artificial hair

TECHNICAL ADVISORY

BRIEF NOTES ON TECHNICAL ADVISORY

- Can be rendered by Applied Science or Analytical Science.
- Usually the question is about a product or process. So, science uses product or process information and literature to advise the requesting unit about the issue at hand.
- Examples: Food supplements or medicaments, dietary creams, tax policy proposals, incorporation of definitions in tax law, whether a process culminates in value added products.

ROLES OF SCIENTISTS IN TAX ADMINISTRATION



- Propose and advise on changes in tax policies.
- Expert witnesses in legal suits
- Give technical support in interpretation documents
- Give technical opinions for tariff classification
- Guide on handling and modes of disposal for goods
- Undertake tax investigations using techniques such as derivation of input – output ratios and utilization values.
- Support enforcement against prohibited and restricted substances

ESTABLISHING SCIENCE SUPPORT FUNCTION

- Realize the relevance of Scientific approach to tax compliance
- Determine what to begin with e.g IORs concept is easier to start
- Determine the Science disciplines you need: Chemistry, Geologists, Quantity Surveyors, Chemical Engineering, Lab Scientisits
- Plan for resources: monetary, infrastructural, human
- Establish collaboration with other agencies e.g outsource laboratory services
- Bench marking at Tax Revenue Authorities with existing Science functions

OPEN DISCUSSION

- Considering what we have covered today, select a case you have worked on (whether successful or failed), which involved or you think should have involved scientific approaches.
  - State the form of tax fraud and how it was manifested
  - Briefly describe how you went about the case. What scientific approaches did you use or think you could have used?
  - What helped you to succeed or otherwise caused you to fail?

CONCLUSION

- Fraudsters do not stay in the trap of comfort

- We need to keep ahead
  - Rethink our strategies
  - Explore opportunities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