14-MAY-2021

ASSIGNMENT - 1

QUESTIONS :-

1. What is supply chain Management (SCM)? What/who constitutes a typical supply chain? Write a neat flow diagram, explain the flow of materials, information and finance in a typical supply chain. Explain supply chain surplus. (K2)

2. Briefly explain supply chain fundamentals. Explain the decision phases in a supply chain. (K2)

3. Explain the importance of supply chain Management, use real time examples where it is deemed necessary. (K2)

4. What factors are the enablers/drivers of supply chain process? Explain with relevant Examples. (K2)

5. With relevant graphs and examples explain supply chain strategies. (K2)

6. With relevant formulas and terms explain supply chain performance measures. (K2)

7. Explain the need for a firm to identify its core processes. Explain briefly the make Vs buy continuum. (K2)

8. What are the critical factors on which a firm decides to go for "Market Vs Hierarchy", explain with relevant examples. (K2)

9. With the help of a flow diagram explain product architecture route. (K2)

10. Apply the Kraljic matrix to explain sourcing strategy. (K3)

ANSWERS:-

1. Supply Chain Management (SCM) is the ~~flow of~~ management of flow of goods and services and includes all process that transform materials into final products.

The entities such as manufacturer, suppliers, transportation, retailer, warehouse and customer constitute a typical supply chain.

Each stage in a supply chain is connected through flow of products, information and funds. These flow often occur in both directions may be managed by one of the stages or intermediatar

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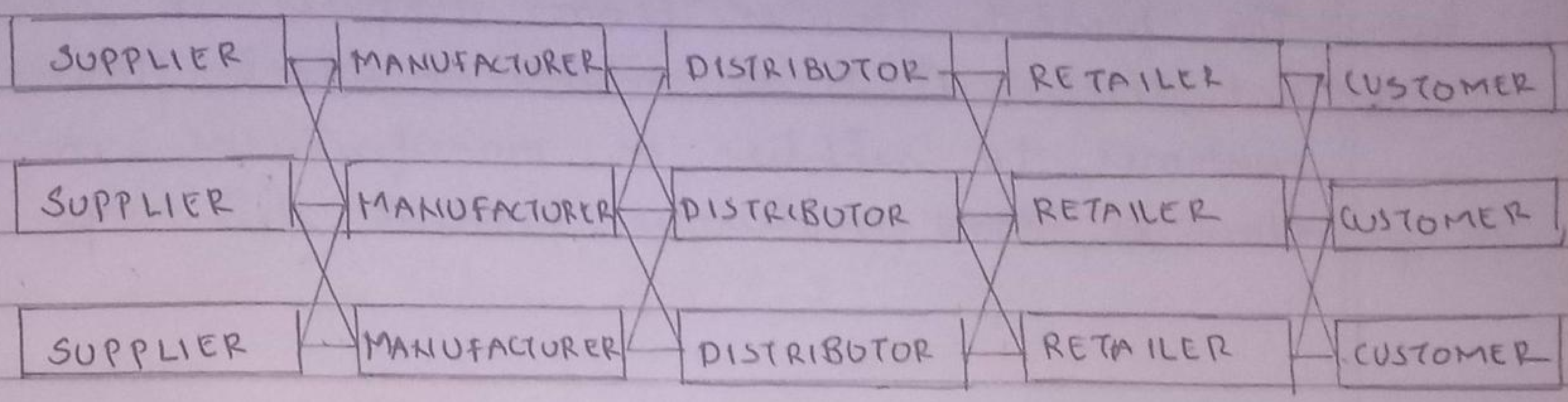


← INFORMATION FLOW →

← FINANCE FLOW →

← MATERIAL FLOW →

Supply chain surplus = customer value − supply chain cost.

Supply chain surplus is defined ~~between~~ as difference between final value of the product and the cost of supply chain incurs in filing customer request.

2. INFORMATION FLOW: The information in a supply chain flows in both direction, the suppliers communicate all the way to customer and vice versa.

FINANCE FLOW: The flow of finance is from customer to supplier.

MATERIAL FLOW: The material flow is both ways.

The product flow is from supplier to customer. But there will be a reverse product flow from customer to supplier or manufacturer in case there is some malicious product delivery.

2. A typical supply chain involves planning, design and control of flow of materials, information and finance among supply chain to deliver superior value to the end customer in a effective and efficient manner.

The supply chain may involve a variety of stages such as

i> Customers.
ii> Retailers.
iii> Wholesale / Distributors.
iv> Manufacturers.
v> Component / Raw material supplier.

The decision phases in a supply chain are,

a> Supply Chain strategy.
b> Supply Chain planning.
c> Supply chain Operation.

SUPPLY CHAIN STRATEGY:

A> In this phase company decides how to structure supply chain over a period of time for a several years.

B> How the resources will be allocated, what process each stage will perform is decided.

C> strategic decisions like outsourcing or in-house is also decided.

SUPPLY CHAIN PLANNING:

A> Here the firm decided what supplies will be supplied and from which location, the manufacturing sub-contract and what the inventory policies should be.

B> The firm choses time period from quarter to an year.

SUPPLY CHAIN OPERATIONS:

A> Here firms that are allocated inventory or productions, decisions like setting date, generating pick lists at warehouse are made here.

3. IMPORTANCE OF SCM:

i> SCM BOOSTS CUSTOMER SERVICE:

a> customers expect the correct product assortment and quantity to be delivered.

b> customer expect products to be available at the right location.

c> customer expects products to be delivered on time.

d> Right after sale support.

ii> REDUCE OPERATING COST
a> Decreases purchase cost.
b> Decreases production cost.
c> Decreases total supply chain cost.

iii> IMPROVE FINANCIAL POSITION
a> Increase profit leverages.
b> Decreases fixed assets.
c> Increases cast flow.

4. Enabler / drivers are useful aspects of a typical supply chain management, they can help in minimizing the cost or reducing the cost of a supply chain.
The enablers for reducing supply chain costs are attributed as.
i> Improvement in communication and IT.
ii> Enhanced intern firm co-ordination. capabilities.
iii> Entry of third party Logistics provides.

Let us consider a scenario before the 90's the industries used to work manually but in the earlier 2000's companies started offering mobile phones to avoid miscommunication and save time.

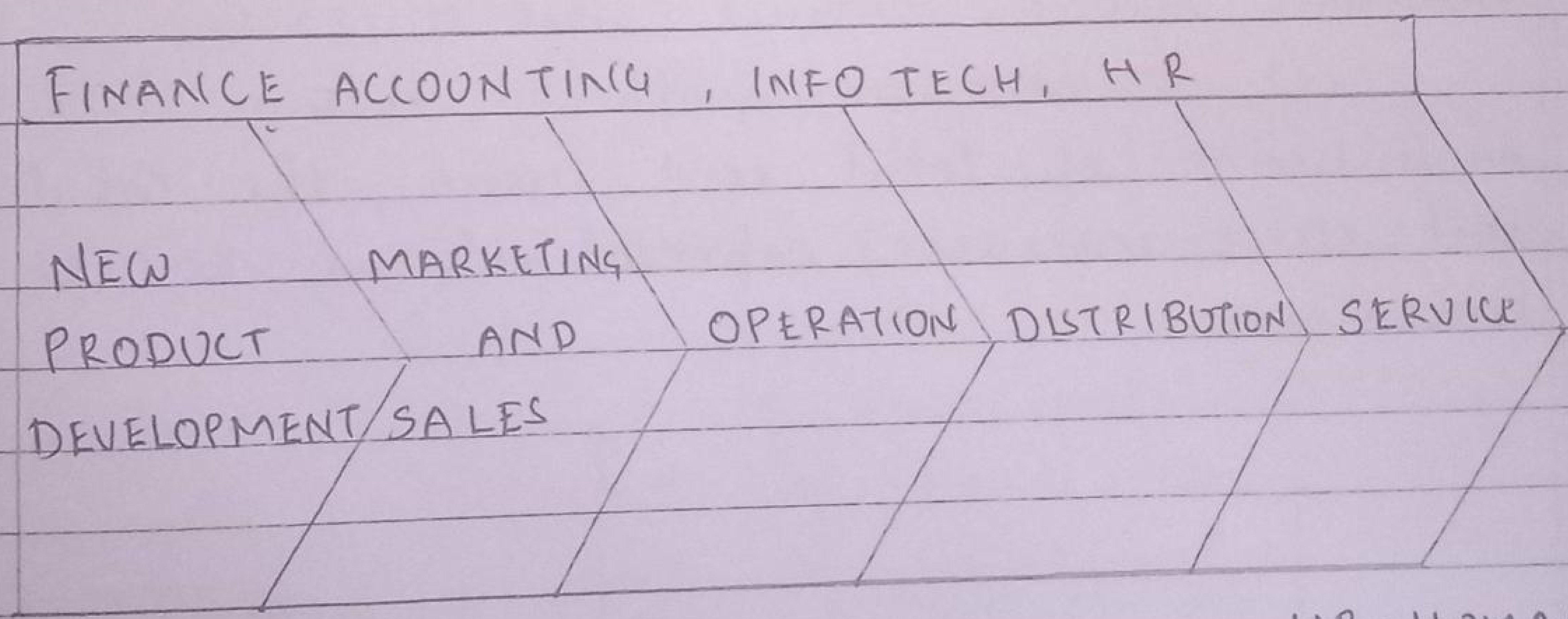
5. SUPPLY CHAIN STRATEGIES :

i) A companies complete competative strategy defines relative to its competitors, the set of customer needs that it seeks to satisfy through its products and services.

ii) The competative strategy is defined based on how customer prioritize the product cost, delivery, time variety.

Eg:

Wal-Mart focuses on providing high availability of products at low price. A walmart customer places greater emphasis on cost

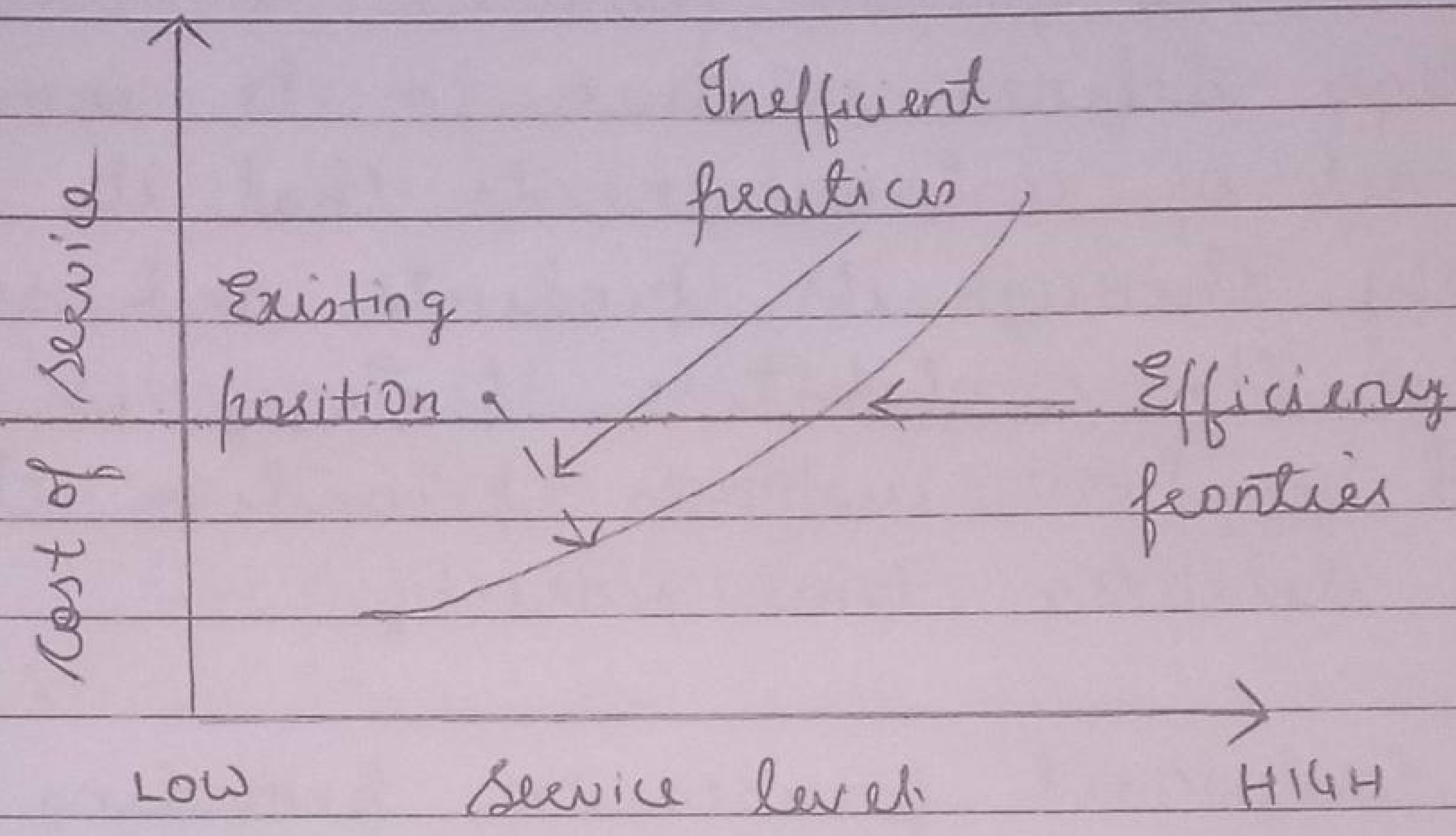


HR - HUMAN RESOURCES

CUSTOMER SERVICE OR COST TRADE OFF

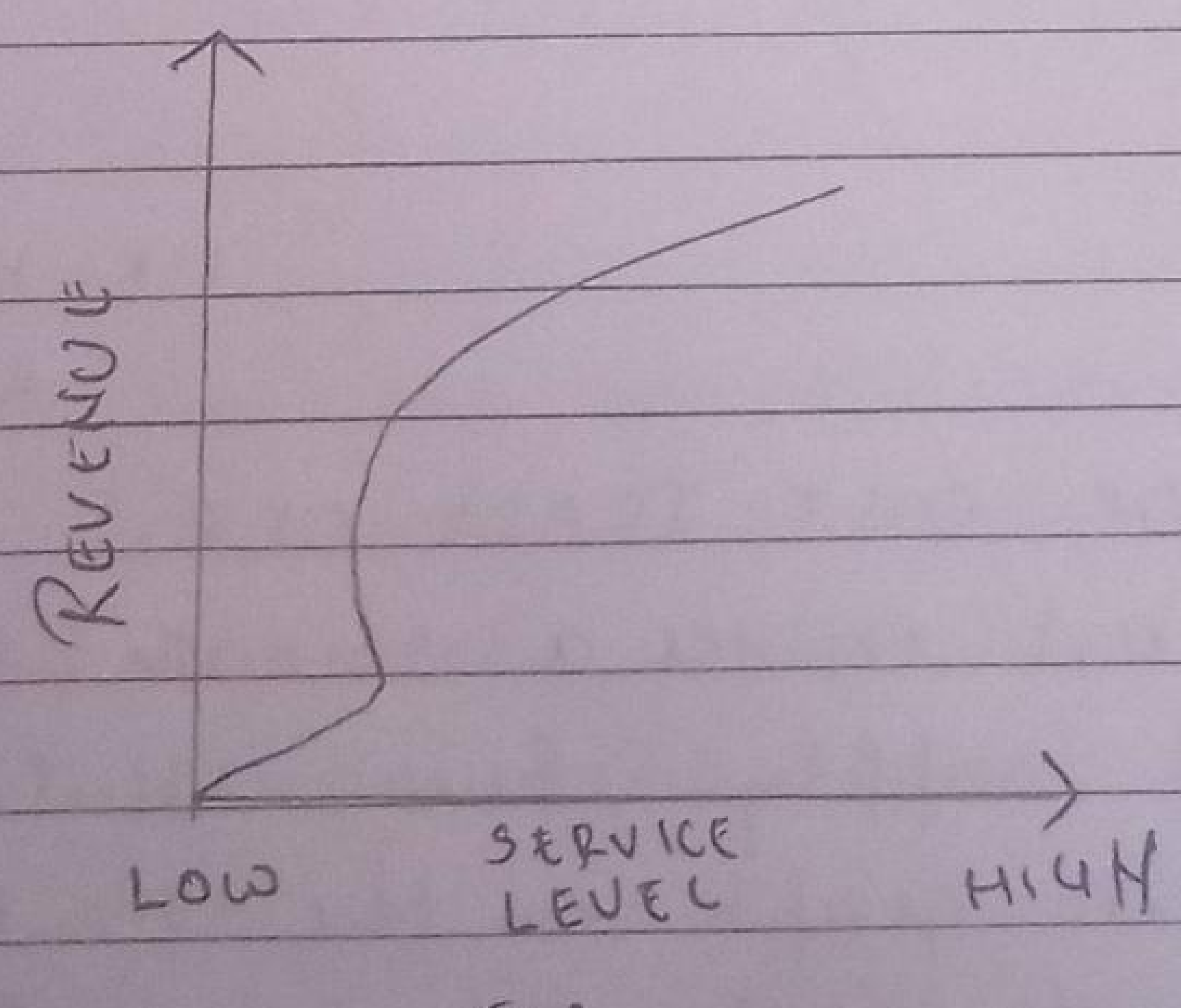
i) A firm must ensure a smooth fit between business and supply chain strategy.

ii) As seen in graph on the next page customer service can be improved by improving the cost associated with it.

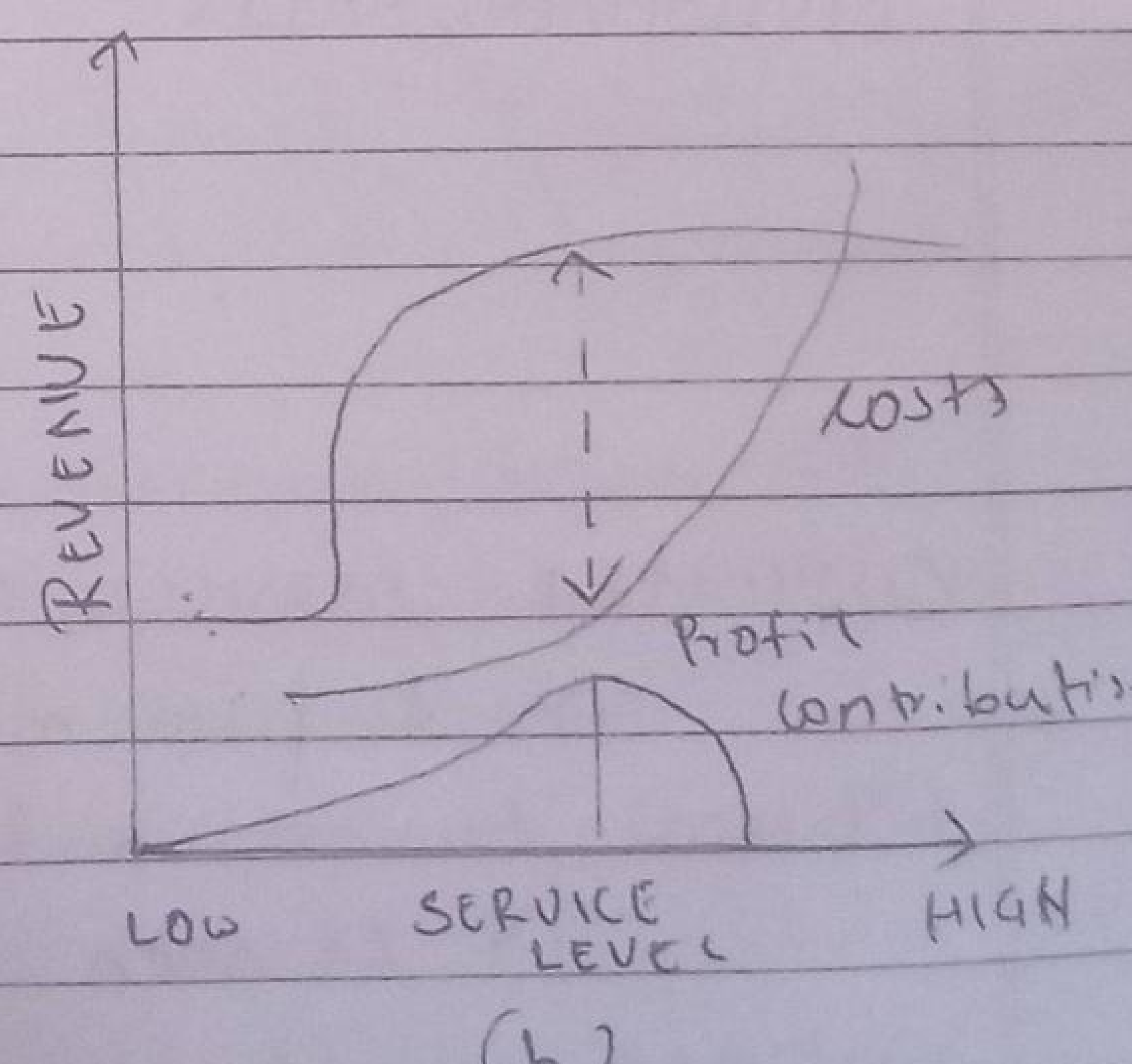


iii> As seen in graph (a) below the revenue curve is shaped S, it means that initially there is minimal service, but as the firm increases service, revenue also increases.

iv> As seen in graph (b) below there is an inclusion of total cost curve, the total cost curve increases exponentially as service increases.



(a)



(b)

6. SUPPLY CHAIN PERFORMANCE MEASURES:

i> The supply chain council has ~~on~~ developed supply chain operation ~~(SCOR~~ reference (SCOR) model as the industry standard for supply chain management. Supply chain vendors such as SAP have adopted SCOR in performance management.

ii> As per SCOR model, supply chain performances measures a fall under the following four categories.

a> Costs
b> Assets
c> Reliability
d> Flexibility.

TERMS FOR FINANCIAL STATEMENTS:

SYMBOL	TERMS from income and expenditure statement
CRM	Cost of Raw materials.
CP	Cost of production.
DC	Cost of distribution.
CS	Cost of sales.
NS	Net sales.
INV	Inventories.
RM	Raw material inventory.
SFG	Semi-finished goods inventory.
FG	Finished goods inventory.
AR	Account receivables.
AP	Account payables.

FORMULAE to calculate various lengths.

i> $DRM = RM \times \frac{365}{CRM}$

ii> $DWIP = SFG \times \frac{365}{CP}$

iii> $DFG = FG \times \frac{365}{CS}$

iv> Total length of chain in days = DRM + DWIP + DFG

where,

DRM - Days of raw material.
DWIP - Days of work in progress.
DFG - Days of finished goods.

Efficiency of SCM is calculated as,

$SSC = DC + INV \times ICC$

$SCI = \frac{SCC}{NC}$

where,

SSC - SCM cost
ICC - Inventory carrying cost
SCI - supply inefficiency ration

Supply chain working capital is calculated as,

$SWC = INV + AR - AP$

$SWCP = \frac{NS}{SWC}$

where,

SWC - supply chain working capital
SWPC - supply chain working capital productivity.

7. NEED FOR IDENTIFYING CORE PROCESSES:

i> All firms must identify selected processes at core processes and must focus on improving those process.

ii> Identification of core process is a crucial decision.

iii> short term goals should not endanger long term stability.

iv> Hence first step is for a firm to develop capability to identify core activities, once identified it has to keep certain activities in house.

MAKE Vs BUY CONTINUUM:

i> This decision evaluates all supply chain activities as primary activities and support activities.

ii> Primary activities are inbound logistics, operations, outbound logistics, sales and services.

iii> secondary activities procurement technology human resource management and firm infrastructure management.

8. The critical factors on which a firm decides to go for Market vs Hierarchy are,

i> Economics of sales.
ii> Agent cost.
iii> Transaction cost.
iv> Incomplete contracts.

ECONOMICS OF SALES:

a> They are cost advantages for companies when production becomes efficient.
b> Higher volume allows firm to choose more efficient technologies.
c> Learning effect.
d> Polling of buffer capacities.

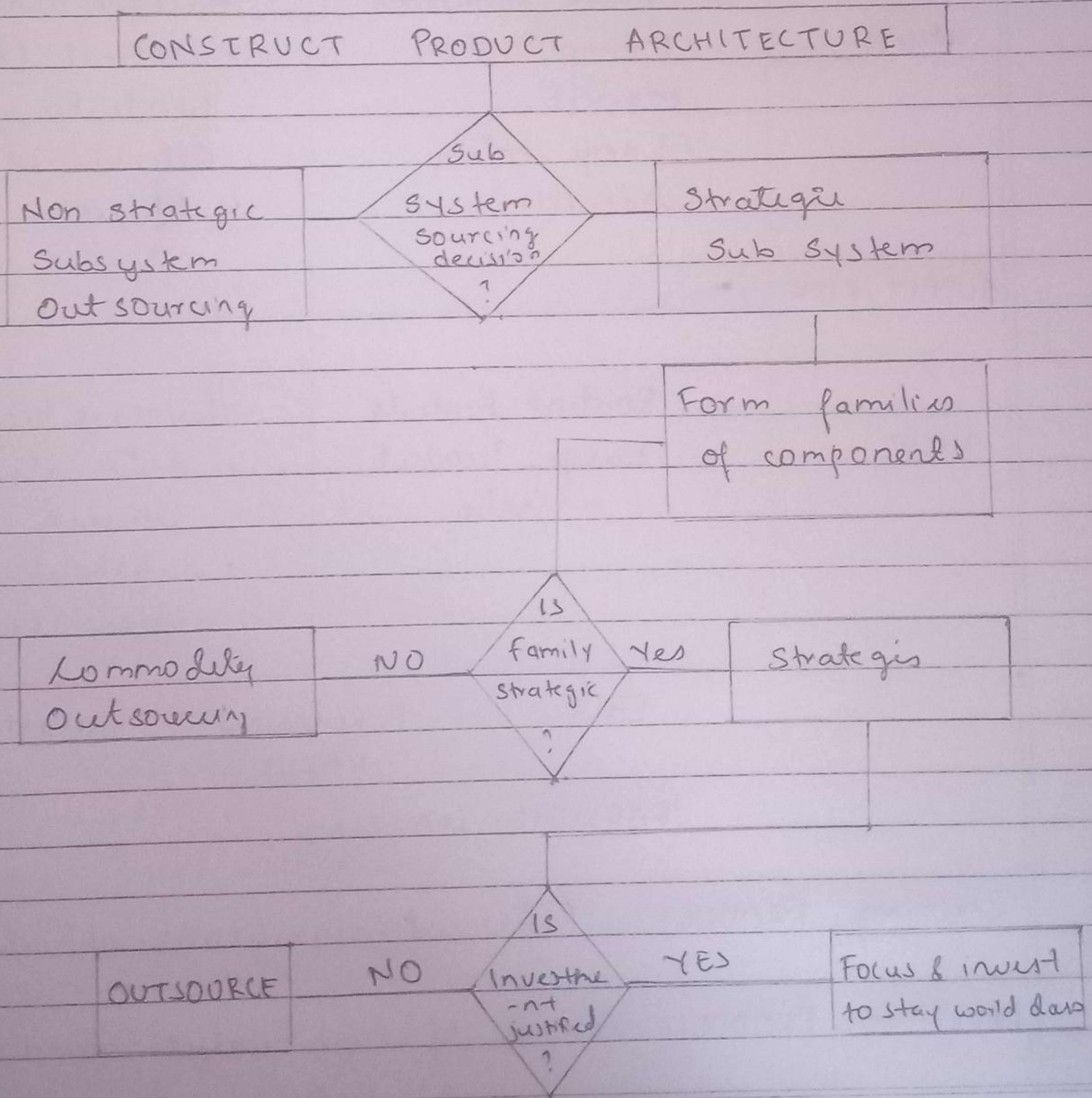
AGENCY COST: The cost involved in controlling and co-ordinating internal supplies is termed as agency cost.

TRANSACTION COST: The cost incurred in the control and co-ordination of external supplies is termed as Transaction cost.

INCOMPLETE CONTRACTS: A complete contract can cover each party's responsibility but in reality it is impossible to write a complete contract.

9. PRODUCT ARCHITECTURE ROUTE:

i> In this approach focus is on sub-system and components A sub system is strategic if it involves technologies that change rapidly when required special skills and can impact performance of product on attributes that are considered important by customers



10. KARLIJIC MATRIX:

i) The popular portfolio approach developed by Karlijic classifies item based on importance of item in terms of value of purchase and associated supply risk in supply market.

SUPPLY RISK	LOW PURCHASING VALUE	HIGH PURCHASING VALUE
HIGH	Bottleneck products · Monopolistic Market · Large entity barriers	Strategic products · Critical for product. · Dependence on supplier.
LOW	Routine products · Large product variety	Leverage products · Alternative source · substitution possible

(KARLIJIC MATRIX)

ROUTINE PRODUCT: Represent significant opportunity.

LEVERAGE PRODUCT: Consists of high value standard products.

STRATEGIC PRODUCT: High value products.

SUBSTITUTION PRODUCT: Lower value products.

——— X ——— X ——— X ———