

Standard Costing

Notes

Date / /

31) Market Share Variance

$$= (\text{Actual Mkt. Share \%} - \text{Budget Mkt Share \%}) \\ \times \text{Actual Sales Qty in units} \times \\ \text{Avg. Budgeted Contribution / unit}$$

Market ^{Size} ~~Share~~ Variance

$$= \text{Budgeted Mkt. Share \%} \times (\text{Actual Industry Sales Units} - \text{Budgeted Industry Sales Units}) \\ \times \text{Avg. Budgeted Contribution / unit}$$

32) Sales Mix Variance

$$SP \times (AQ - RAQ)$$

[-Ans. can be +ve / favourable or -ve / unfavourable]

$$\text{Standard Price (-)} (\text{Actual Qty} - \text{Revised Actual Qty})$$

33) Sales Quantity Variance

$$= SP \times (RAQ - BQ)$$

$$\text{Std. Price} \times (\text{Revised Actual Qty} - \text{Budgeted Qty})$$

34) Throughput Accounting Ratio

$$= \frac{\text{Throughput per bottleneck Minute}^{\rightarrow \text{or contribution}}}{\text{Factory Cost per bottleneck Minute}}$$

$$35) \text{ Break-even Point (units)} = \frac{\text{Fixed Cost}}{\text{Contribution p.u.}}$$

$$36) \text{ Learning curve coefficient} \rightarrow y = ax^b$$

a = time to manufacture ^{1st} unit

x = ~~time to~~ " asked no. of units

b = learning curve co-efficient

y = avg. time taken to manufacture 1 unit

then, multiply y with x units to get total time.

Ex = $x = 250$ units

Now if asked for time taken to produce 250th unit

cal. y_1 with $x = 249$.

then $y_1 - y = \text{time taken to make 250th unit.}$

$$29) \text{ ROI} = \frac{\text{Controllable Profit of Division}}{\text{Net Assets / Op. Assets / Inv. of Div}} \times 100\%$$

$$\text{Cont. Profit of Div.} = \text{PBIT (ignore HO)}$$

$$\text{Net Assets} = \text{NCA} + \text{CA} - \text{Liabilities (ignore HO)}$$

$$\begin{aligned} \text{RI} &= \text{Residual Income} \\ &= \text{Cont. Profit} - \left(\text{Investment of Division} \times \text{Overall Cost of Company} \right) \end{aligned}$$

$$30) \text{ Full Cost Method} = \text{Total Cost} + \text{Desired Profit} \\ (\text{FC} + \text{VC})$$

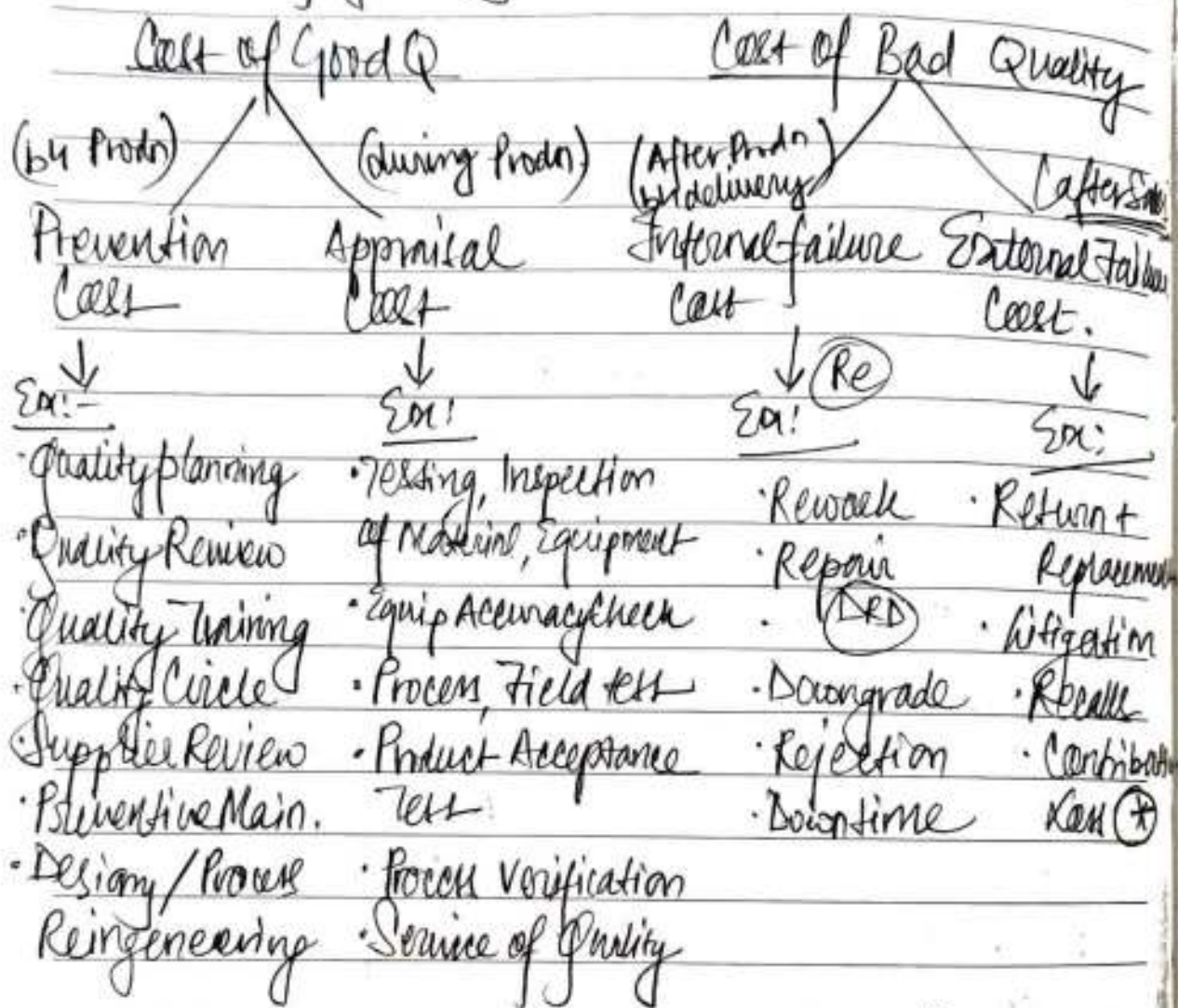
$$\begin{array}{lcl} \text{Full Cost Method} & = & \text{Total Cost} + \text{Desired ROCE/ROI} \\ (\text{ROI/ROCE Method}) & (\text{FC} + \text{VC}) & \downarrow \end{array}$$

$$\text{CE} \times \text{ROI/ROCE}$$



$$\text{CA} + \text{FA.}$$

28) Cost of Quality (COQ) :-



= Cost of Bad Quality

Measures to reduce Non-confirmation Cost:-

- Total Quality Management (TQM)
- Total Productive Maint. (TPM)

25) EVA = Economic Value Added

$$= \text{NOPAT} - (\text{WACC} \times \text{CE})$$

$$\begin{array}{l} \text{OP} \\ (-) \text{Int} \\ \text{PBT} \\ (-) \text{Tax} \\ \text{PAT} \\ (+) \text{Int. (Net of Tax)} \\ \text{NOPAT} \end{array} \quad \begin{array}{l} \downarrow \\ (\text{W} \times \text{K}_e) + (\text{W} \times \text{K}_d) \\ \downarrow \quad \downarrow \\ \frac{\text{Sh.} + \text{Res}}{\text{Sh.} + \text{Res.} + \text{Debt (long)}} + \frac{\text{Debt (long)}}{\text{Sh.} + \text{R} + \text{Debt.}} \end{array}$$

$$\text{CE} = \text{Op. (Sh.} + \text{Res.} + \text{Long T Debt.)}$$

* Adj. NOPAT

OPBIT

- (+) Non-Cash Exp.
- (+) Def. Rev. Exp.
- (+) Accing Depⁿ

(-) Economic Depⁿ

(-) Tax paid

(-) Tax paid on Int.

Adj. NOPAT

* Adj. CE

CE

- (+) (last year)
- (+) (")
- (+) (")
- (-) (")

Adj CE

$$ROCE = \frac{\text{Op. Profit}}{\text{Cap. Emp. (last year)}} \times 100\%$$

26) Target Costing :-

$$\text{Target Cost} = \text{Target SP} - \text{Target Profit}$$

27) Transfer Pricing :-

Indian Division	Foreign Division
Transfer Pricing Rate	Selling Price Rate
↓	↓
Revenue	Revenue
(-) Cost	(-) Cost
Profit	* (-) Import duty in Cost
(-) Tax	4P
<u>NP</u>	(-) Tax in foreign
	<u>NP</u>

22) Balanced Scorecard :-

4 dimensions (FC + IPV)

↓
1 Financial 3 Internal Business

2 Customer 4 Learning and Growth

23) Manufacturing Cycle Efficiency (MCE)

$$= \frac{\text{Processing time}}{\text{Inspection time} + \text{Process} + \text{Queue} + \text{Move} + \text{Wait}} \times 100\%$$

Non Value added time = $100\% - \text{MCE}\%$

Total delivery cycle time = Sum of all 5

also, $OEE = \frac{\text{Std. time taken to produce good units}}{\text{Planned Prodn. time}}$ $\rightarrow \frac{\text{Std. time} \times \text{Good units}}{\text{per batch}}$

Notes

24/ $OEE = \text{Overall Equipment Effectiveness}$

$$OEE = APQ$$

= Availability $\times$ Performance $\times$ Quality

$$A = \frac{\text{Actual Time Worked}}{\text{Planned Time available}} \times 100 = \frac{A}{P} \times 100$$

Actual time worked = Total time available - time lost
Planned time = Total time available - Planned time loss

$$P = \frac{S}{A} \times 100 = \frac{\text{Std. time req. for output produced}}{\text{Actual time worked}} \times 100$$

Std. time to produce 1 unit = $\frac{\text{Cycle time}}{\text{Ideal cycle time}}$

$$Q = \frac{A}{P} \times 100 = \frac{\text{Output Accepted} \rightarrow \text{good units}}{\text{Output Produced} \rightarrow \text{total units}} \times 100$$

Best performance = 85% or more
if $OEE < 85\%$, reduce - time loss, speed loss, quality loss.

21) Performance Measures.

(7) Financial Indicators

(4) Non FI

ROI

Building Block Model

RI

Triple bottom line

EVA

Performance Pyramid

ROCE

(74)

* Balanced Scorecard

CF

EBIT

NPV

20) Performance Pyramid:

↓ SMART

↓
Strategic Management Analysis and Reporting Technique.

↓
Focus on 2 categories only ← Stakeholders Customers (etc)

U = Objective ↓



X₂ =

Market

Financial

X₃ =

Customer Satisfaction

Flexibility

Productivity Increase

X₄ =

Quality

Delivery

cycle time

Waste

↑
Measure

Operations

External Effectiveness

Internal Efficiency

19) Triple Bottom Line:

↓
Sustainable development:

↓
Dimensions/Sets of TBL: 3Ps

1) Planet - Environment

2) People - Social

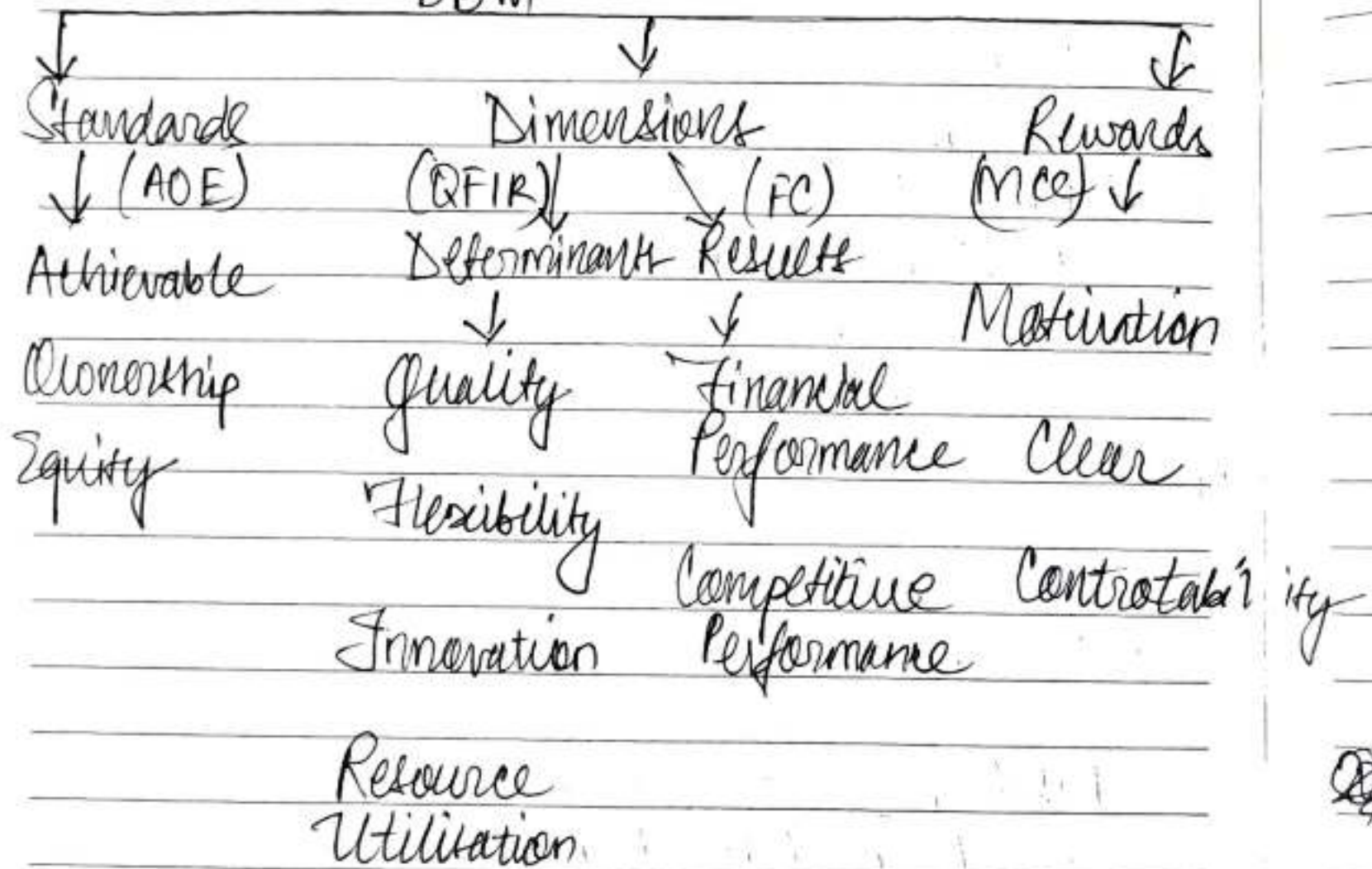
3) Profit - Economic

Sustainable Decision

Q1 Planet	People	Profit	Performance
✓	✓	x	Bearable
x	✓	✓	Equitable
✓	x	✓	Viable
✓	✓	✓	Sustainable

18) Building Block Model.

BBM



13) PDCA

P - Plan

D - Do : 5th fit in which stage.

C - Check

A - Act

14) Six Sigma - quality improvement technique
- gets things right 99.99966%
- Total bad quality cost = 0

2 methodologies

DMAIC - DMAIC

Define - problem

Measure - performance

Analyse - cause

Improve - eliminate cause

Control - process.

↓
use to improve existing
business/process/product.

DMADV - DMADV

Define

Measure

Analyse

Design

Verify

↓
use to develop new
business/process/product.

11) Types of Supply Chain Management.

↓
Push Model

→ Stocks produced on basis of anticipated demand.

↓
Pull Model

→ actual demand

→ ability to forecast demand

→ Product customisation

→ Sufficient working cap. req.

→ Customer requirements.

12) 5S:

→ Sort - remove unnecessary items

→ Set in Order - systematic arrangements

→ Shine - clean and safe work area

→ Standardise - Standardised processes

→ Sustain - maintain discipline

Notes

15) DPP - Direct Product Profit

↓
Sales

(1) COGS

Gross Margin

(2) DPP Cost *

Direct Product Profit

Cost of ① Warehouse, ② Transport, ③ Storage.

(711) →

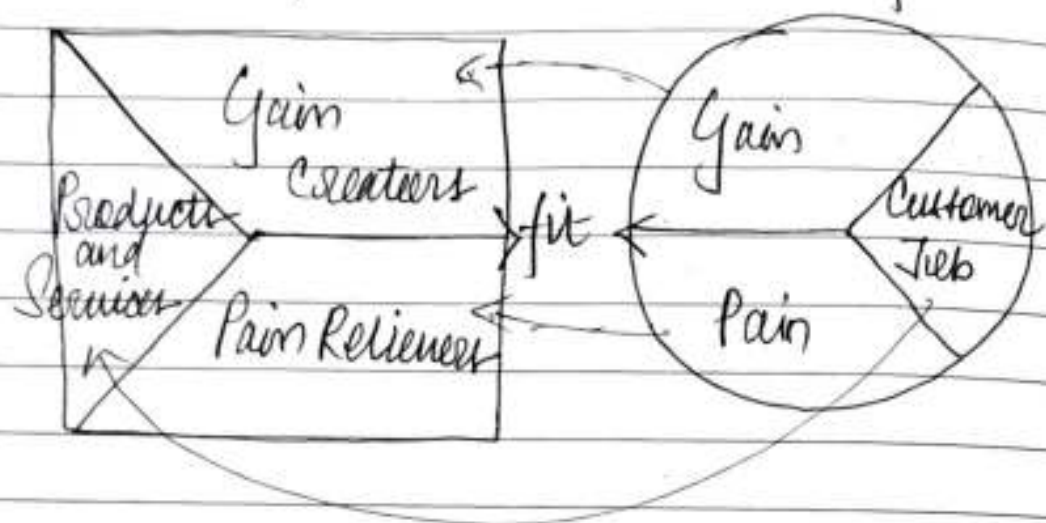
16) Pareto Analysis

- based on Law of Diminishing Returns.
- shall be performed periodically.
- Can be applied in = Inventory Control, Quality Control, Customer profitability Analysis, ABC Analysis Pricing the product.
- Vital few need to be responded first.

9. Value Proposition Canvas

Value Map :

Customer Profile :-



10. Value for Money framework: - NPO performance measurement.

[3E] :-

Effectiveness

Efficiency

Economy.

- delivery process

- Negotiate

[2 other E] :

Equity

- Spend fairly

Ethics

- Code of conduct.

Notes

Date / /

3) KANO Model

KANO attributes

Positive att.

M - Must req. (threshold)

D - One dimensional
(performance)

A - attractive
qualities (delight)

Negative att.

I - indifference

R - reverse

Q - Questionable

4) Argentina's A Score $\rightarrow$ lower the better.

Dimension of A score = D/M/S

interrelated $\rightarrow$ Defects $\leftarrow$ Mgmt. defects
 $\rightarrow$ Mistakes $\leftarrow$ Acting defects
 $\rightarrow$ Symptoms of failure

$$A = D \Rightarrow 10 (\text{max})$$

$$B = M \Rightarrow 15 (")$$

$$C = S \Rightarrow 0 (")$$

$$\underline{25 (")}$$

} if all conditions fulfilled
 then "healthy"
 otherwise "silly".

5) Profit Maximisation Model:-

$\rightarrow$ also called Variable cost.

Q Marginal Cost (MC) = Marginal Revenue (MR)

$$\hookrightarrow = a - 2bQ$$

a = Price at which demand is 0

$$b = \frac{\Delta P}{\Delta Q}$$

Q = Quantity demanded.

$$P = a - bQ$$

P = Price at which Profit is max.

6) Cloud Computing:

SaaS - Software as a Service

PaaS - Platform as a Service

IaaS - Infra as a Service

BaaS - Backend as a Service

Xmas - Anything as a Service } BA7) Business Model:

In 2008, Johnson along with ... (3) components.

1) Customer Value proposition

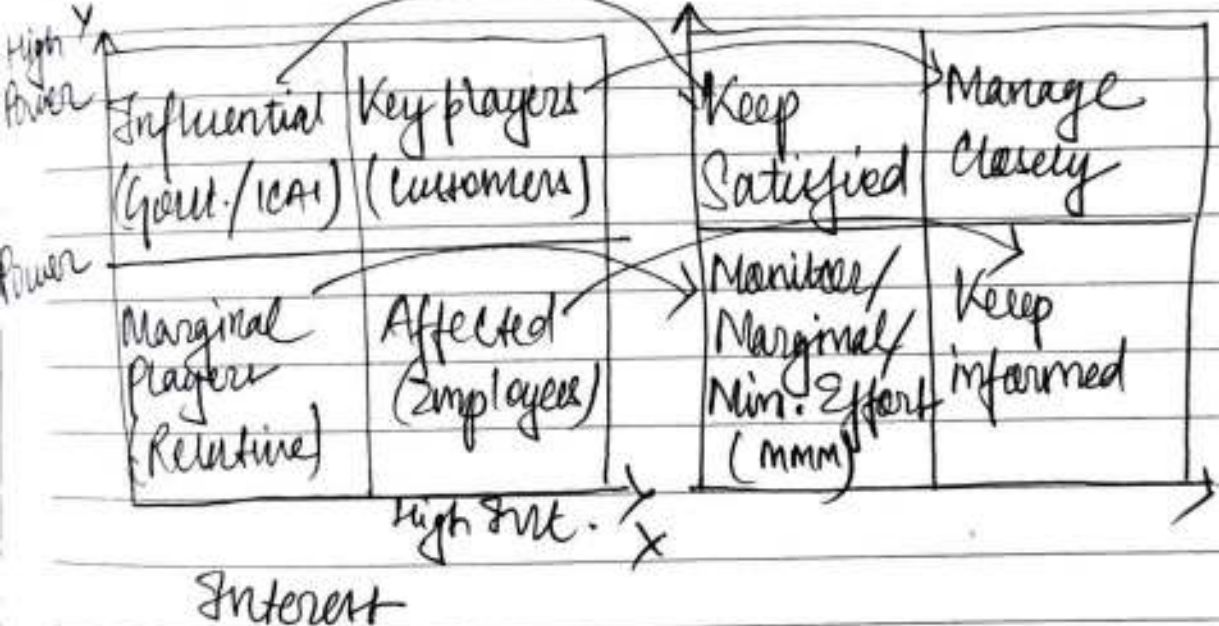
2) Profit formula.

3) Key resources and processes.

↓
In May 2013. Alexander Osterwalder name changed to.↓
Osterwalder Business Model Canvas.↓
(9) elements →4 relating to cost
4 relating to Revenue.

Notes	Key Activities	Value Proposition	Customer Relationship	Customer Segments
Key Resources			Channels	
Cost Structure			Revenue Strategy	

High Y
Power



Notes

Date

1) McKinsey 7S
Easy ~~Hard~~ to change
Strategy
Structure
System
↓
Hards

Hand (Soft ~~Hard~~ S)
Easy to change
Staff
Skill
Style
Shared Values

2) Altman Z-score.

Manufacturing firms = Z-score =

$$\begin{aligned} &1.2 \times X_1 \\ &+ 1.4 \times X_2 \\ &+ 3.3 \times X_3 \\ &+ 0.6 \times X_4 \\ &+ 1 \times X_5 \end{aligned}$$

< 1.81 = distressed
 1.81 to 2.99 = Grey
 > 2.99 = Safe

Private firms: Z-score =

$$\begin{aligned} &0.717 \times X_1 \\ &+ 0.847 \times X_2 \\ &+ 3.107 \times X_3 \\ &+ 0.42 \times X_4 \\ &+ 0.998 \times X_5 \end{aligned}$$

$$X1 = \frac{\text{Working Cap.}}{\text{Total Assets}}$$

$$X4 = \frac{\text{Mkt. Value of Equity}}{\text{Total Liabilities}}$$

$$X2 = \frac{\text{Retained Earnings}}{\text{Total Assets}}$$

$$X5 = \frac{\text{Sales}}{\text{Total Assets}}$$

$$X3 = \frac{\text{EBIT}}{\text{Total Assets}}$$

< 1.81 = distress
 1.81 to 2.99 = Grey
 > 2.99 = Safe

bankruptcy
 investigation
 financially sound

± - Score helps in prediction of bankruptcy.

$$\begin{aligned}
 &7 \times X1 \\
 &47 \times X2 \\
 &07 \times X3 \\
 &42 \times X4 \\
 &998 \times X5
 \end{aligned}$$