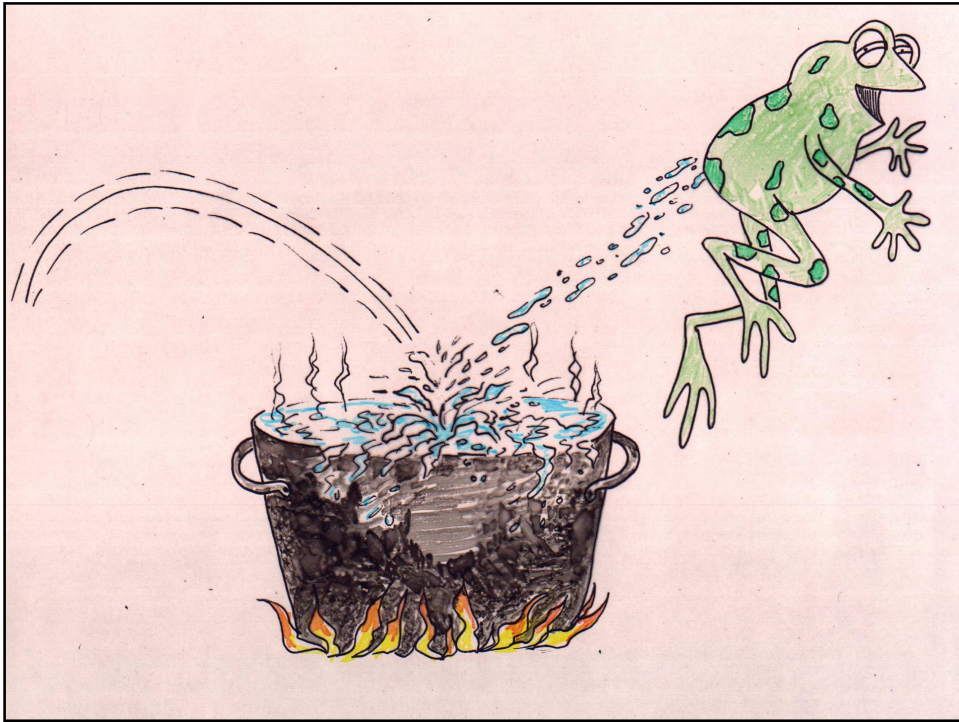




...the world has changed....



clients are monsters....



Credits: J. Barja & Boris Vallejo



Credits: J. Barja & Boris Vallejo



Credits: J. Barja & Boris Vallejo



Credits: J. Barja & Boris Vallejo



Credits: J. Barja & Boris Vallejo

Credits: J. Barja & Boris Vallejo

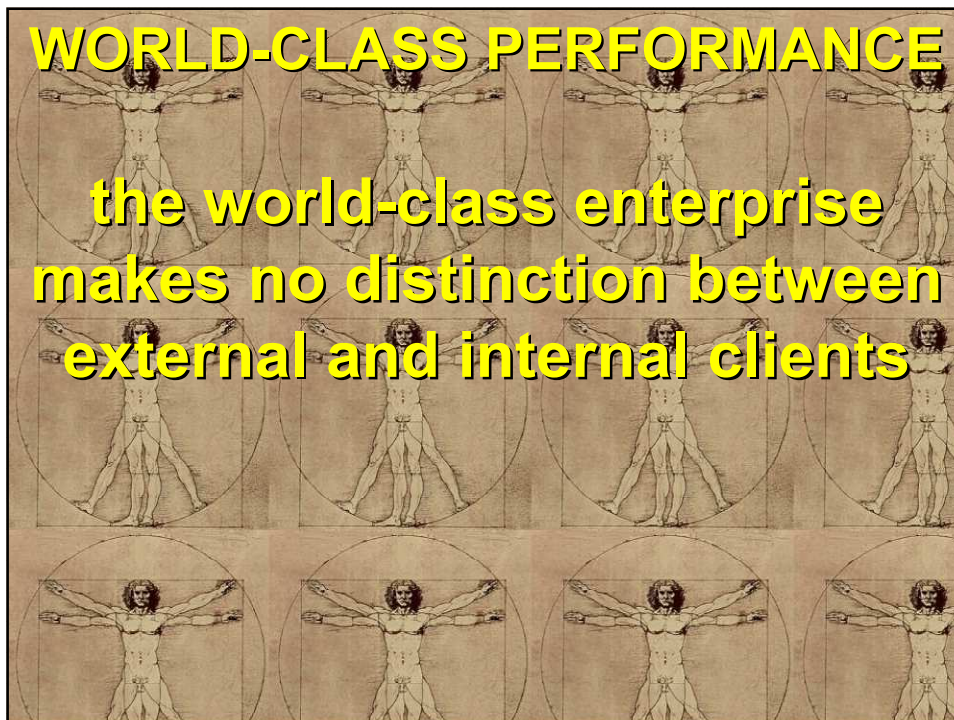
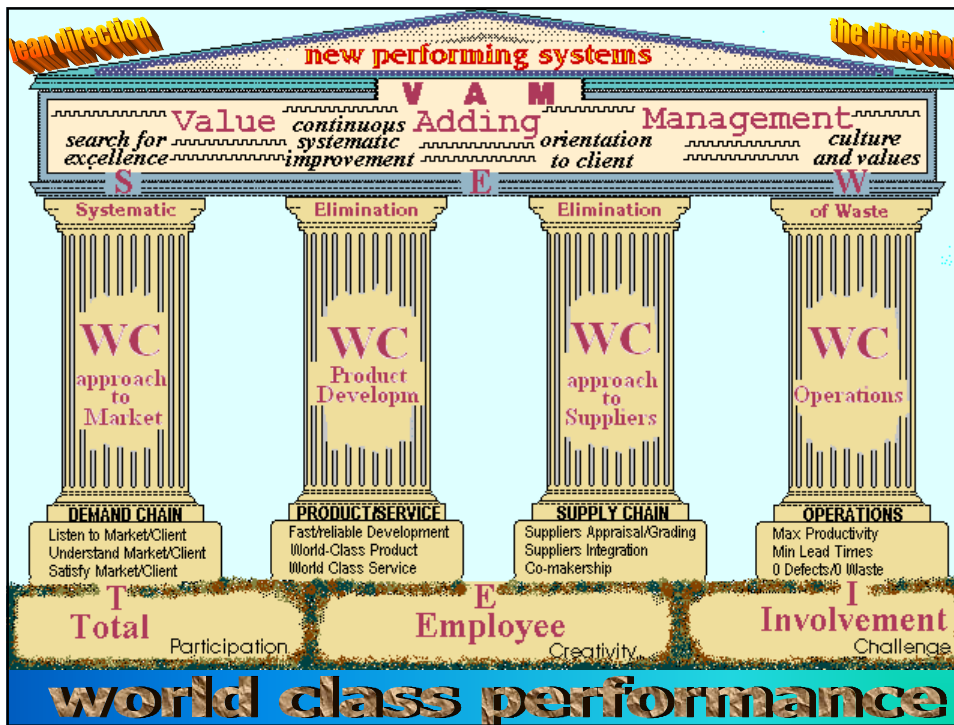
why enterprises don't "perform"...

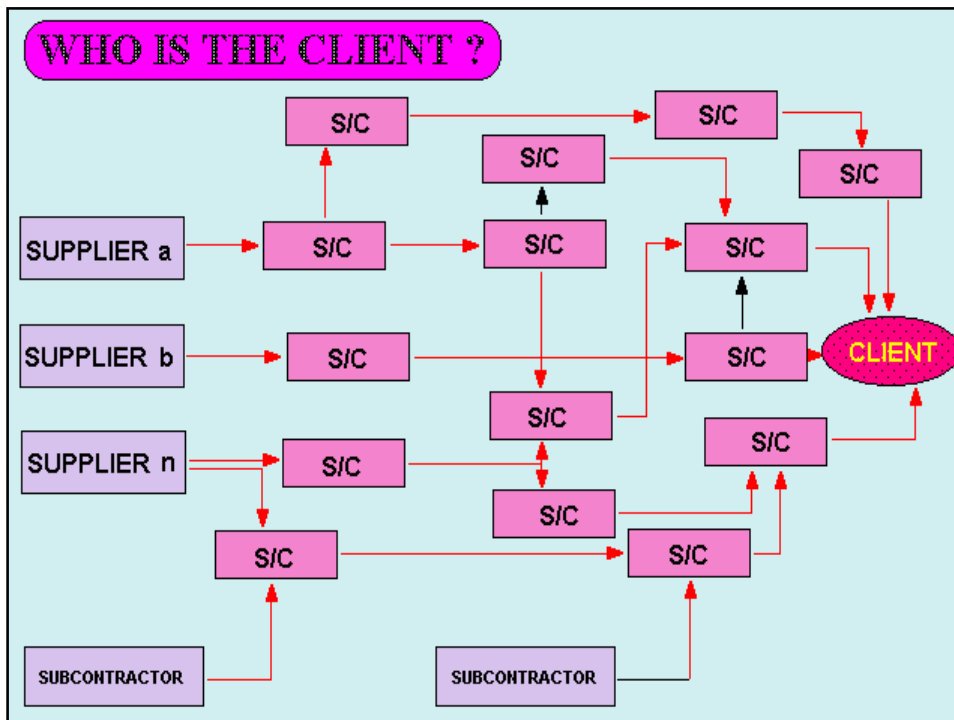
....the root causes of poor performance date

back to over 2 centuries ago.....

***....we have gone into the
21st century, with
enterprises designed in the
18th and 19th centuries to
perform well in the 20th.....***







EXERCISE??

...oh, yes!!!

Identify clients...

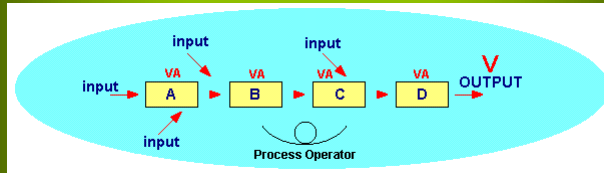
WORLD-CLASS PERFORMANCE

**the world-class enterprise
operates “per process”**

**PROCESS
PROCESS
ENGINEERING
ENGINEERING**

basics

TODAY'S ULTIMATE SECRET FOR EXCELLENCE AND COMPETITIVENESS:



FLOW PROCESS

FLOW PROCESS

THE SECOND INDUSTRIAL REVOLUTION

from

to

internal attention

attention to client

attention to task

attention to process

simple tasks

simple processes

function units

process units

**world-class,
“lean”**

performance

performance management

performance management

4 necessary steps

1 - MEASURE PERFORMANCE

2 – IDENTIFY THE GAP

3 - SET PATH TO IMPROVEMENT

4 - MAKE IT HAPPEN

Step 1

HOW TO MEASURE PERFORMANCE

.....know where you stand!!!
.....know where you are!!!

Enterprise Performance



THE MAIN COMPONENTS OF ENTERPRISE'S PERFORMANCE

examples

(KEY PERFORMANCE COMPONENTS – KPC)

COMMERCIAL PERFORMANCE

Market penetration – Market share/expansion

Effectiveness of Marketing Activities

Sales Force Effectiveness

Customer Loyalty

Rate of Acquisition of New Customers

Dealers/Wholesalers Performance

Brand Identity Level

Communication Effectiveness

Reputation – Image

THE MAIN COMPONENTS OF ENTERPRISE'S PERFORMANCE

examples

(KEY PERFORMANCE COMPONENTS – KPC)

OPERATIONAL PERFORMANCE

Operational Efficiency (Labour, Machines, Materials, Indirect Areas)

Economical Efficiency (Labour, Materials.....)

Productivity

Quality of Product and Service

Value Added

Plant/Equipment Performance

Personnel Performance

THE MAIN COMPONENTS OF ENTERPRISE'S PERFORMANCE

examples

(KEY PERFORMANCE COMPONENTS – KPC)

ECONOMICAL PERFORMANCE

Turnover

Profitability

CULTURAL PERFORMANCE

Industrial Culture Level/Modernity

Effectiveness of Change Management

THE MAIN COMPONENTS OF ENTERPRISE'S PERFORMANCE

(KEY PERFORMANCE COMPONENTS – KPC)

Rather than to Functions and Departments, Performance Components should preferably be attached to **Processes** and **sub-Processes**

very important!

SOME EXAMPLES OF COMMERCIAL INDICES

$I_{ms} = \text{Market Share Index} = 100 \times \text{Sales (\$)} / \text{Overall Market Value (\$)}$

$I_{nc} = \text{New Clients Index} = 100 \times \text{number of new clients} / \text{total number of clients}$

$I_{lc} = \text{Lost Clients Index} = 100 \times \text{number of lost clients} / \text{total number of clients}$

$I_{ci} = \text{Clients Increment Index} = 100 \times (\text{number of year end clients} - \text{number of year start clients}) / \text{number of year start clients}$

$I_{asc} = \text{Average Sales per Client Index} = \text{sales (quantity or \$)} / \text{total number of client}$

$I_{cpc} = \text{Commercialisation of Productive Capacity Index} = 100 \times \text{sales (quantity)} / \text{productive capacity (quantity)}$

SOME EXAMPLES OF OTHER INDICES

$I_{sr} = \text{Stock Rotation Index} = \text{sales (at cost)} / \text{average stock (at cost)}$

$I_{se} = \text{Sales per Employee Index} = \text{total sales (turnover)} / \text{total number of employees}$



MAIN DIFFERENCES BETWEEN FINANCIAL ACCOUNTING AND INDUSTRIAL ACCOUNTING	
Application Field	
FINANCIAL ACCOUNTING	INDUSTRIAL ACCOUNTING
<p>Detects all administrative affairs which are associated with financial revenues or expenditures (purchases, sales, payments for expenses of various nature, etc.)</p>	<p>Detects all operational aspects of the Enterprise's Economic Process. It does not consider Enterprise's Financial results.</p>

MAIN DIFFERENCES BETWEEN FINANCIAL ACCOUNTING AND INDUSTRIAL ACCOUNTING	
Purpose	
FINANCIAL ACCOUNTING	INDUSTRIAL ACCOUNTING
Interprets a <u>set of accounts</u> for statutory (taxation) and proprietary (shareholders) purposes. It produces a <u>Balance Sheet/P&L Account</u> .	Determines in great detail Costs and Earning, e.g. <u>the results of the Enterprise's Economical Performance</u> in all its steps.

MAIN DIFFERENCES BETWEEN FINANCIAL ACCOUNTING AND INDUSTRIAL ACCOUNTING	
Nature of detected/collected data	
FINANCIAL ACCOUNTING	INDUSTRIAL ACCOUNTING
Considers Enterprises <u>Financial facts</u> once they are <u>ascertained</u> .	Considers Enterprise's <u>Economical facts</u> when they <u>happen</u> .
Detects Costs and Earning according to their <u>nature</u> .	Detects Costs and Earning according to their <u>destination</u> .
Detects <u>only historical data</u> .	Detects <u>historical</u> and also predetermined (<u>estimated</u> or <u>standard</u>) data.

MAIN DIFFERENCES BETWEEN FINANCIAL ACCOUNTING AND INDUSTRIAL ACCOUNTING

example of SIMPLIFIED P&L ACCOUNT

ULTRAPRODUCTS LTD - PROFIT & LOSS ACCOUNT FOR THE YEAR ENDED 31.12.XX

Dr.	\$	Cr.	\$	\$
Materials	25.000	Sales: Product A	17.000	
Wages	10.000	Sales: Product B	16.000	
Factory Overheads	5.000	Sales: Product C	17.000	
Gross Margin (20%)	10.000			50.000
	-----			-----
	50.000			50.000
	=====			=====
Administrative Overheads	3.000	Gross Margin		10.000
Selling Overheads	2.000			
Net Profit	5.000			
	-----			-----
	10.000			10.000
	=====			=====

APPLYING COST (Industrial) ACCOUNTING TO THE ABOVE

MANAGEMENT ACCOUNTING REPORT FOR THE YEAR ENDED 31.12.XX

	A	B	C	TOTAL
	\$	\$	\$	\$
Materials	7.000	6.000	12.000	25.000
Wages	2.800	2.800	4.400	10.000
Factory Overheads	1.500	1.500	2.000	5.000

<i>Cost of Production</i>	11.300	10.300	18.400	40.000
Administrative Overheads	1.000	1.000	1.000	3.000
Selling Overheads	700	700	600	2.000

<i>Total Cost</i>	13.000	12.000	20.000	45.000
Sales	17.000	16.000	17.000	50.000

<i>Net Profit (Loss)</i>	4.000	4.000	-3.000	5.000

% Net Profit	24%	25%	-	10%

COSTS DEFINITION & CLASSIFICATION

COSTS: DEFINITION & CLASSIFICATION DIRECT & INDIRECT COSTS

DIRECT COSTS

A cost identifiable with a **specific** product or saleable service, and incurred **specifically** for the fabrication of that product (or for a batch of that product, or for a process associated with the production of that product) – or for the generation of that service (or for a process or sub-process associated with that service).

COSTS: DEFINITION & CLASSIFICATION DIRECT & INDIRECT COSTS

DIRECT COSTS

Direct Costs are generally classified in three categories:

➤ **DIRECT MATERIALS COSTS**

➤ **DIRECT LABOUR COSTS**

➤ **DIRECT EXPENSES** (like in the case of a Sub-Contractor).

COSTS: DEFINITION & CLASSIFICATION DIRECT & INDIRECT COSTS

INDIRECT COSTS

A cost which cannot be identifiable with any particular product or saleable service, but has to be **shared indirectly** over a number of products or services produced because it is **common** to or **jointly incurred** by them.

Indirect Costs are also called **Common Costs** or **General Costs** (or **Expenses**)

➤ **Overheads**, for instance, are Indirect Costs

COSTS: DEFINITION & CLASSIFICATION DIRECT & INDIRECT COSTS

INDIRECT COSTS

Indirect Costs are generally classified in four categories:

➤ PRODUCTION OVERHEADS

Also called **FACTORY** or **INDUSTRIAL OVERHEADS**

➤ ADMINISTRATIVE OVERHEADS

➤ SELLING (or COMMERCIAL) OVERHEADS

➤ GENERAL OVERHEADS

FEATURES OF AN INDUSTRIAL COST CONTROL SYSTEM

FEATURES OF AN INDUSTRIAL COST CONTROL SYSTEM

ALLOCATION

Allocation is the allotment of whole items of cost to pertinent areas of cost

Costs must be:

- **identified and defined**
- **collected**
- **accumulated into appropriate areas**

FEATURES OF AN INDUSTRIAL COST CONTROL SYSTEM

ALLOCATION

Areas of cost allocation may be:

- **Cost Centres (Operational Centres)**

obsolete!

Cost Centre: elementary Enterprise's Unit like a **Department** or part of it, a **Machine** or Item of Plant, a **Worker**, a **group of Workers**, a **group of Workers and Machines**, etc.

- **a job – a contract – a special order**
- **a product lot/batch – a cost unit** (e.g. one ton of milk)
- **a specific service or part of it**
- **a process, a sub-process, part of a process**

FEATURES OF AN INDUSTRIAL COST CONTROL SYSTEM

COSTING METHODS

The methods adopted are determined by the nature of the Enterprise's activities

There are two main groups of methods:

A] SPECIFIC ORDER COSTING

B] CONTINUOUS OPERATION COSTING

FEATURES OF AN INDUSTRIAL COST CONTROL SYSTEM

COSTING PRINCIPLES AND TECHNIQUES

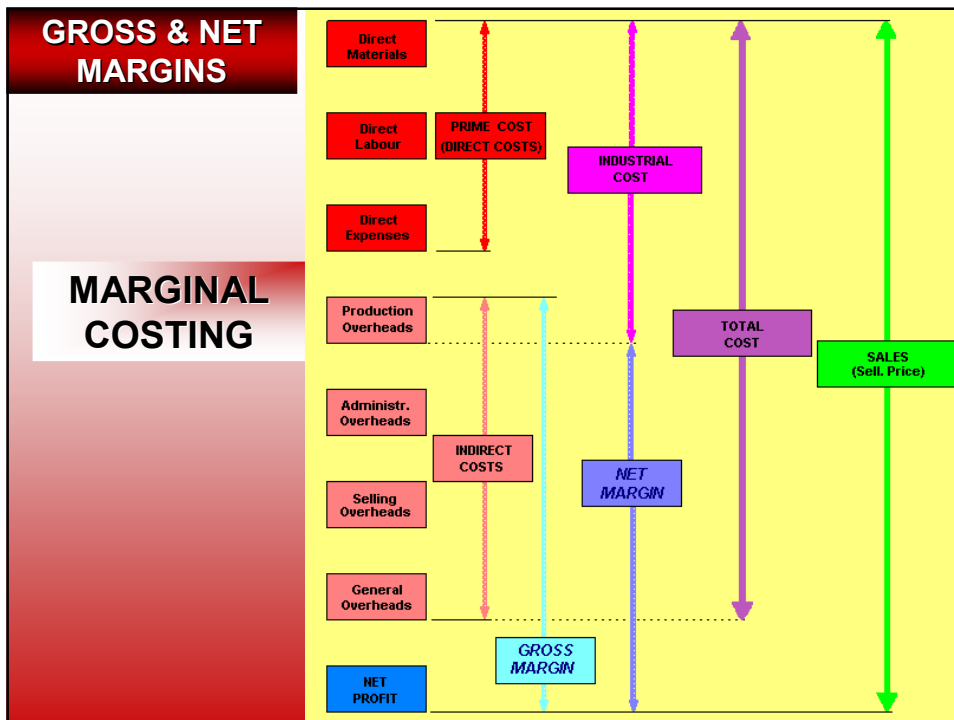
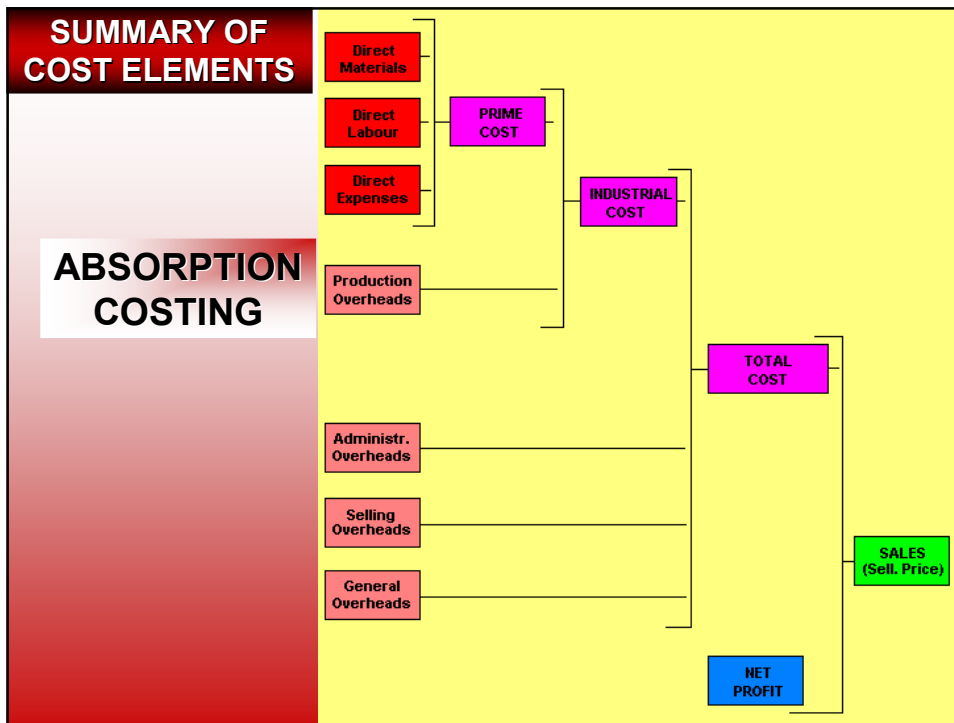
These are determined by the purpose for which Industrial Cost Control is required

the final target is always to **know** in sufficient details and in appropriate time the **cost structure** of a product or service

Amongst others (ACTIVITY-BASED COSTING – BUDGETARY CONTROL – STANDARD COSTING – THROUGHPUT ACCOUNTING), 2 main principles:

A] ABSORPTION COSTING (TOTAL COSTING)

B] MARGINAL COSTING



FEATURES OF AN INDUSTRIAL COST CONTROL SYSTEM	
	COSTING CRITERIA
Three main ones plus an hybrid one:	
➤	COSTING AT “STANDARD” COSTS
➤	COSTING AT “REAL” COSTS
➤	COSTING AT “ESTIMATED” COSTS
➤	MIX “REAL/ESTIMATED” COSTING

FEATURES OF AN INDUSTRIAL COST CONTROL SYSTEM	
	COSTING CRITERIA
➤	COSTING AT “STANDARD” COSTS Very effective when applicable, but... <i>obsolete!</i>
➤	COSTING AT “REAL” COSTS Identifies and elaborates Real Costs - both Direct and Indirect (effectively incurred and already recorded in the Bookkeeping System) <i>inadequate!</i>
Pro: “Real” picture	
Con/s: <u>delay</u> in the elaboration of the Industrial Costs – <u>no real-time comparison</u> with reference costs (estimated, average, standard...) – unsuitable for fast decision-making <i>inadequate!</i>	

FEATURES OF AN INDUSTRIAL COST CONTROL SYSTEM

COSTING CRITERIA

➤ COSTING AT “ESTIMATED” COSTS

Identifies, detects and allocates **Direct Costs** **immediately** after they are generated

Indirect Costs are “**estimated**” at the beginning of each reference period (on the basis of past experience and forecasts), and are allocated to Cost Areas on the basis of some Absorption criteria.

Estimates of Indirect Costs are **verified regularly** during the reference period, and necessary **adjustments** are made.

Pro: eliminates all previous disadvantages

Con/s: very limited effectiveness if the estimates are far out of reality and/or necessary adjustments are not made at appropriate intervals.

SETTING UP AN ICC SYSTEM IN THE SME

SETTING UP AN ICC SYSTEM IN THE SME

general recommendations

- **Try to make “direct” any possible cost**
but in an efficient way from its “administration” point of view
- **Stick to a mixed “Estimated/Real” Costs ICC system**
at least in a Project/Contract/Order Manufacturing environment
- **Test the ICC System**
verify regularly, modify, adapt, perfect
- **Keep out from “ready made” ICC software packages**
your own, home-made, is often worth much more

SETTING UP AN ICC SYSTEM IN THE SME

preliminary steps

✓ **Identify your Business – identify your Outputs – identify your Processes (core and support)**

✓ **Choose an ICC Method/Technique**

Forget Standard Costing

Forget Cost Centres

✓ **Opt, whenever possible, for an integrated ICC System that considers both the output Product/Service AND the Process behind it**

SETTING UP AN ICC SYSTEM IN THE SME

preliminary steps

✓ Stick to the rule: in a valid ICC system, all costs (Direct and Indirect) are detected/allocated “on commitment”

Achtung!

✓ Define Indirect Costs Apportionment Methods and Criteria

✓ Stick to the rule: take into consideration ALL costs and ALL income/revenue of any nature

Achtung!

✓ Define an ICC PERIOD

SETTING UP AN ICC SYSTEM IN THE SME

operational steps

16) PREPARE APPROPRIATE **CARDS** FOR CALCULATING **INDIRECT COSTS**

e.g. Depreciation Cards, Leasing Cards, Shipping/Transport Cards, etc. (paper/electronic)

➤ Many Indirect Costs should be **elaborated** to suit the ICC system

➤ Plant/Machines/Buildings, Leasing and Transport/Shipping are the main delicate areas

SETTING UP AN ICC SYSTEM IN THE SME

operational steps

16) **PREPARE**, where practical, **APPROPRIATE CARDS FOR CALCULATING INDIRECT COSTS**. Key points:

For Leased items, it is essential to split Capital Repayment Costs and Interests, if a realistic picture of the Indirect Costs is to be reflected.

Vehicles is another delicate areas.

Example of the Vehicles Class Indirect Costs Master Card. In this particular example the SE Owner decided to apply a personalised Conservative Amortisation Rate = 2 x Replacement Value/Expected Life – Trad. Amortisation Rate

	A	B	C	D	E	F	G	H	I	J	K	
1	COMPANY LOGO		ICC YEAR 1999							Total	Total	
2	VEHICLES AMORTISATION MASTER CARD										TAR	CAR
3										9.961.600	13.877.085	
4			Totals	91.312.000		112.200.000						
5			Year of	Purchase	N	LI	FE	Utilis.	Traditional	Conserv.		
6	N.	Description	Purchase	Cost	U	Repl. Cost	Tot	Remain.	Coef.	Amort. Rate	Amort. Rate	
7	1	Truck OM 1,5 Ton	1984	13.590.000	N	30.000.000	15	0	1	906.000	3.094.000	
8	2	Peugeot 205	1995	13.950.000	N	15.000.000	8	4	1	1.743.750	2.006.250	
9	3	Autobianchi Y10	1993	11.000.000	N	15.000.000	8	2	1	1.375.000	2.375.000	
10	4	Land Rover Discovery	1997	48.872.000	N	49.000.000	8	6	0,9	5.498.100	6.076.710	
11	5	2way Radio for Discovery	1996	3.900.000	N	3.200.000	8	5	0,9	438.750	325.125	

SUPERPROMOTION Ltd

SUMMARY INDIRECT COSTS 2003 - REAL

1.	Production (Industrial) Overheads	\$219.399,84
2.	Administrative Overheads	\$270.573,00
3.	Commercial Overheads	\$162.236,00
4.	General Overheads	\$350.313,00

Total year 2003

\$1.002.521,84

Absorption Criterion

\$ 1.002.521,84 shared over 39.768 effective Direct Hours

\$25,21

Unit Hourly Incidence of Indirect Costs 2003 (rounded)

\$25,20

SUPERPROMOTION Ltd

prep: 17.12.2003

SUMMARY INDIRECT COSTS 2004 - ESTIMATED

1. Production (Industrial) Overheads	\$228.950,70
2. Administrative Overheads	\$329.683,00
3. Commercial Overheads	\$187.165,00
4. General Overheads	\$359.920,00
=====	
Total year 2004	\$1.105.718,70
=====	
Absorption Criterion	
\$1.105.719 shared over 39.547 Estimated Direct Hours	\$27,96
Unit Hourly Incidence of Indirect Costs 2004 (rounded)	\$28,00

SETTING UP AN ICC SYSTEM IN THE SME

operational steps

19) AT SET INTERVALS IN EACH ICC PERIOD VERIFY THE INCIDENCE RATE/S AND ADJUST/UPDATE WHEN NECESSARY

Adjust inaccurate Indirect Costs Estimates - recalculate their total - recalculate the **Incidence Rate/s**

➤ Normally a three-monthly adjustment is adequate.

Target: set-up a simple, practical, flexible and easily adjustable system that allows to know **Incidences** and **Absorptions** in Real Time

SETTING UP AN ICC SYSTEM IN THE SME

operational steps

20) PREPARE A MODEL OF ECONOMICAL RESULT CARD

Per Job, Contract, Project, Production Batch/Lot, Service Item
 In which all items of **Direct Costs** are cumulated and classified
 In which **Incidences of Indirect Costs** are introduced and charged

➤ The Result Card will resume all items of cost, show the selling price, and highlight the margin or (preferable) profit

This Card represents the base for analysing the **Economical Performance** of each Job (Contract, Batch, etc.) and making operational decisions

ENTERPRISE LOGO		SUMMARY JOB ECONOMICAL RESULTS		Offer N.	Date			
Job Code		Client		JOB-Description				
DIRECT LABOUR		MATERIALS FROM STOCK						
Activity	Hours (total)	Hourly Rate	Cost	Code & Description	UM	Qty	Unit Cost	Total Cost
GI) Graphics								
PI) Pre-pressing								
SI) Printing								
SA) Sub-screening								
PA) Printing								
CI) Cutting								
TC) Template Cutting								
WT) Weaving								
PP) Preparation								
WE) Weaving								
IF) Ironing/steam								
RV) Reeling								
AS) Assembly								
PK) Packaging/Dispatching								
RD) Reprints								
RE) Revisions								
NS) New Special								
MS) New Material								
MA) Special Machines								
DI) Direct Labour								
DIRECT LABOUR TOTAL COST								
EXTERNAL SUBCONTRACTS								
Description	Cost							
EXT. SUBCONTRACTS TOTAL COST								
OTHER DIRECT EXPENSES		OFFCUTS & LEFTOVERS UTILISED						
Description	Cost	Description	UM	Qty	Remarks			
DIRECT EXPENSES TOTAL COST		DIRECT MATERIALS TOTAL COST						

PRIME COST (PC)	
DIRECT LABOUR TOTAL COST	
DIRECT MATERIALS TOTAL COST	
EXTERNAL SUBCONTRACTS TOTAL COST	
OTHER DIRECT EXPENSES	
PRIME COST	PC
OVERHEADS INCIDENCE (OI)	
Direct Labour Total Hours () x Unit Hourly Incidence Rate	OI
OTHER DIRECT COSTS	
OTHER & UNFORESEEN COSTS	OC
INCIDENCE REJECTS/DEFECTS	RD
REWORK UNDER GUARANTEE (after despatch)	G
TOTAL JOB COST (TC)	
TOTAL COST (PC + OI + OC + RD + G)	TC
SELLING PRICE (SP)	SP
NET PROFIT (P)/LOSS (L)	P/L
REMARKS & CALCULATIONS	

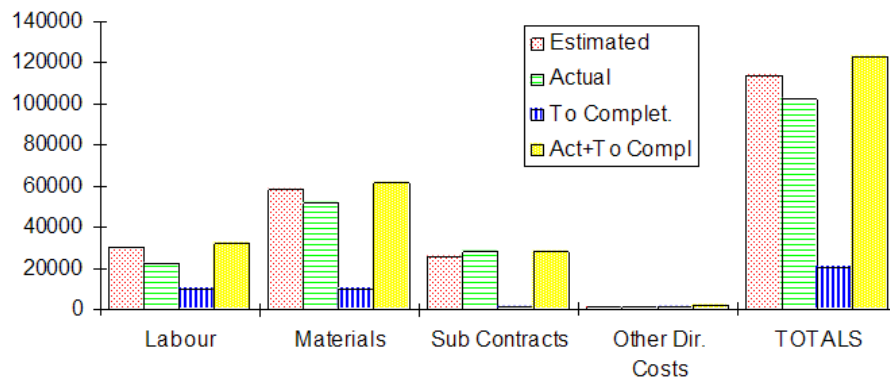
Benefits of an ICC system at “full costing”

- Costs of each Job are seen against its selling price --- > each job is a separate entity that contributes to the generation of the Enterprise’s overall Economical Performance
- As a consequence, more attention is given to each individual Job
- Estimating the costs of similar future Jobs becomes easier and more effective
- The overall operational performance of the Enterprise comes under scrutiny: weak areas may now be identified and care taken of
- when the ICC system is “in real time” and Jobs are of a significant duration, it is possible to intervene with corrective actions for those jobs showing excessive “deltas” between estimates and reality

SETTING UP AN ICC SYSTEM IN THE SME

the analysis stage

PROJECT 113 - ICC REPORT AS AT dd.mm.yyyy



PREPARING OFFERS & QUOTATIONS

PREPARING OFFERS & QUOTATIONS

Benefits of the Absorption/Total Costing method

- ▶ You know ALL costs associated with an Offer
- ▶ You know the **Net Profit** associated with every Offer
- ▶ You may introduce "*tailored*" and *differentiated mark-ups* -f.i. on labour and materials - and see the consequences. At a glance.

PREPARING OFFERS & QUOTATIONS

Benefits of the Absorption/Total Costing method

- ▶ During negotiations, you can evaluate the impact associated with **discounts** requested by or offered to a Client
- ▶ It is easier to introduce electronic **forms/schemes** for preparation of Offers and Quotations in a "driven" mode
- ▶ Your **Estimation abilities** increase

PREPARING OFFERS & QUOTATIONS

Benefits of the Absorption/Total Costing method

- ▶ **Standardisation**: whoever has to prepare an offer follows a well understandable "scheme"
- ▶ **Estimated vs. Real** comparisons are more effective and meaningful
- ▶ Offers made over a certain period can be analysed statistically
- ▶ **Indices** can be introduced

live demo

Preparation of Offers with MS Excel

supermoulds
ultrapromotions

operational

performance

Traditional methods & approaches

Traditional Indices

operational performance

Operational Efficiency

Economical Efficiency

Productivity

Quality Effectiveness

Value Added

Traditional methods & approaches

Traditional Indices

operational performance

definitions

Operational Efficiency

ratio between real, **actual yield** and “**standard**”
(theoretical – maximum – normal) **yield**

The concept of **Efficiency** applies to **all productive resources**
(labour, plant/machines, materials and indirect areas such as
maintenance, internal transports, etc.).

Efficiency in practice:

**comparison between “what has been”
and “what should have been”**

operational performance

main indices **Operational Efficiency**

Production Yield (Kg/hr, Tons/day, etc.)

Labour Yield (Production/Man-hour)

Machine Yield (Production/Machine-hour)

Materials Yield (e.g. Kg of butter/Kg of milk)

Indirect Areas Yield (Maintenance, Internal Transport, Stores, QC, Administration.....)

These Indices are very difficult to establish with a traditional approach.

Inefficiency Indices (Rejects, Scrap, de-Graded Product, Off-cuts, Waste of any nature.....)

operational performance

definitions **Productivity**

$$\text{PRODUCTIVITY} = \frac{\text{OUTPUT}}{\text{INPUT}}$$

(INPUT = LABOUR + OTHER RESOURCES)

Meaningful only in measuring changes over time, or differences among plants, firms, or units producing the same range of goods or services, or among the same industries in different countries.

operational performance

in practice... **Productivity**

generally and commonly Productivity is related to human work, but...

productivity is invisible

individual workers know what they are doing, but the exact relationship between their activities and the efficiency and the effectiveness of the entire process that delivers value to customers is more than often remote and blurred

visibility has to be established.....

operational performance

main traditional indices **Quality Effectiveness**

DPPT = Defective Parts Per Thousand

OR

DPT = Defects Per Thousand

inadequate!

inadequate!

operational performance

Value

Operational Efficiency, Economical Efficiency, Productivity and Quality are integrated concepts, and the main components of **Value**

so, the main issue is to understand **Value** and to measure it

operational performance

traditional definition

Value Added

Value (in monetary terms) of **Production Output** (Products, Services), less **Value** of **Materials** utilised and of **Services/sub-Contracts** provided by external enterprises

obsolete!

operational performance

main traditional indices **Value Added**

Value Added/Turnover

Value Added per Employee

Value Added per hour worked

All Value-Added-Tax-related Indices

The above Indices have very little meaning in the modern Enterprise, except for (traditional) accounting purposes

obsolete!

operational performance

Modern methods & approaches

Modern Indices



VALUE ADDED – MODERN CONCEPT

Value (in monetary terms) of Production Output (Products, Services),

less Value of Materials utilised and of Services/sub-Contracts provided by external enterprises,

less “Waste”

SEW
SYSTEMATIC
ELIMINATION OF WASTE

WASTE
VALUE!

VALUE ADDED – MODERN INDICES

$\Sigma VA \text{ Time} / \text{Throughput Time}$

$\text{Waste} / \text{Value Added}$

**MEASURING, MONITORING,
ANALYSING THE MAIN OPERATIONAL
PERFORMANCE AREAS**

...and taking the road to improvement...

1- PRODUCTIVITY

RECOMMENDED PRODUCTIVITY-RELATED INDICES

ΣVA Time/Throughput Time

Good Output per person per unit of time

Good Output per machine per unit of time

TPM Indices

**MEASURING, MONITORING,
ANALYSING THE MAIN OPERATIONAL
PERFORMANCE AREAS**

...and taking the road to improvement...

2 - QUALITY

MONITORING COSTS ASSOCIATED WITH INADEQUATE QUALITY

The NON-QUALITY COSTS Method

NQC (or CNQ) Method

The NQC method does not tackle the Total Quality subject nor does set up a Total Quality System

The NQC method is merely a tool to understand the entity of Quality related problems, to detect areas needing improvement and to measure progresses

Therefore it must be associated with a Continuous Improvement Program (essential component of a Total Quality Management System)

COSTS OF NON-QUALITY	
DIRECT NQC	
DIRECT NQC	
All the Costs that an Organization Bears because fears that people will make mistakes- Bears to train people, hoping they will perform better- Suffers because people make mistakes- Bears to buy equipment that will help people to avoid/monitor errors	
A- CONTROLLABLE COSTS (Controllable by Management- directly linked to Management decisions)	A.1] PREVENTION COSTS- Costs borne to allow people to work "well" and to prevent them from making errors- Financially are to be considered, rather than costs, investments made to avoid, eliminate, or reduce other costs- ROI often difficult to assess
	A.2] EVALUATION COSTS- Costs borne to verify the "output" produced (Products, Sub-Assemblies, Services) and the "production" process, and to assess "conformity" with set standards, criteria, procedures- Unavoidable costs, as total effectiveness of PREVENTION Costs (Investments) is always doubtful
B. RESULTING COSTS (Consequent to Errors- Not directly linked to Management decisions)	B.1] INTERNAL ERRORS COSTS- Costs consequential to errors "discovered" internally, before delivery to acceptance by Client
	B.2] EXTERNAL ERRORS COSTS- Costs consequential to errors "discovered" externally, by Client (after delivery/during acceptance)
NET LOSS	
C. EQUIPMENT COSTS	Concerning investments in equipment, instruments, tools, etc. used to check, measure, control, verify conformities of Products/Services- Plus cost of space occupied by such equipment, its maintenance, calibration, etc.- Plus costs of equipment used to process and transmit data concerning Quality

CONTROLLABLE COSTS - PRELIMINARY CONCLUSIONS

Evaluation actions are necessary only because Prevention might prove not to be 100% effective

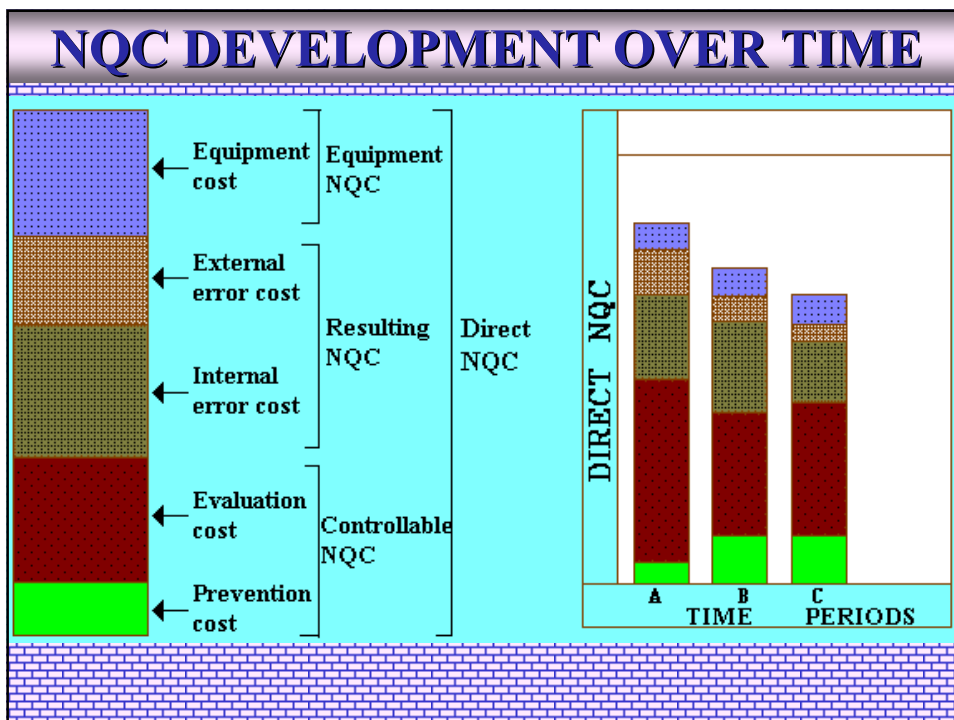
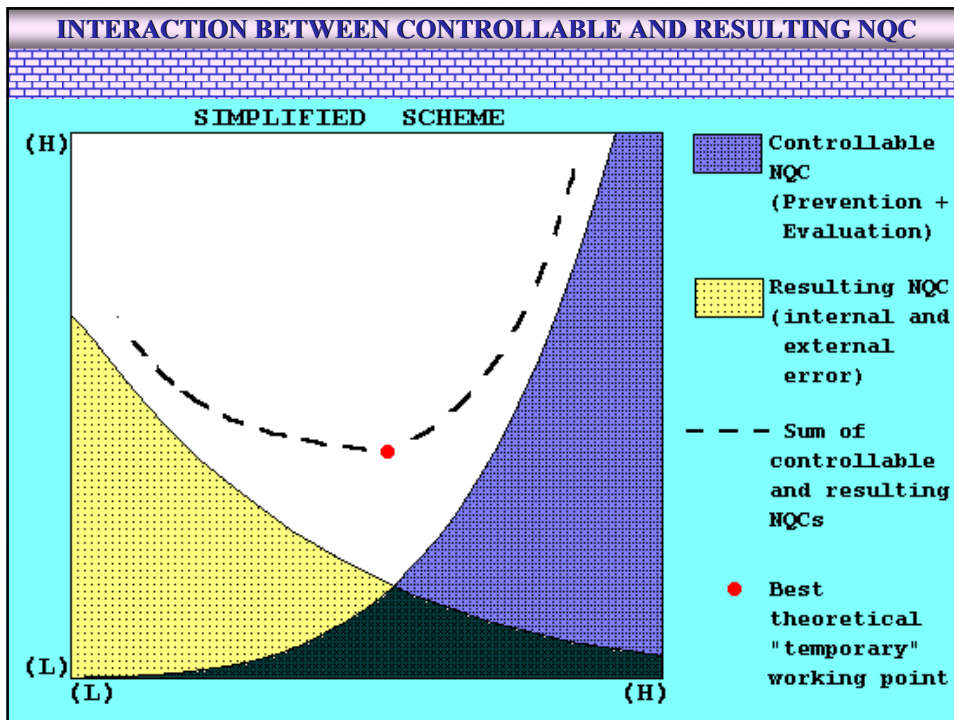
To maximise the benefits of Evaluation actions it is necessary not only to define quality problems (which is a typical **QC task) but also to implement corrective actions addressed to solve the problem and to prevent its re-appearance (**task of a TQM system**)**

EXAMPLES OF INTERNAL ERROR COSTS

- ✓ **Rejected works** and **non-conformities**
- ✓ **Waste** (of any nature)
- ✓ **Re-works** (of any nature), fixing-ups and touch-ups
- ✓ **New inspections** and new tests consequential to discovery of defects
- ✓ **De-rating** of finished products
- ✓ Analysis of rejects, waste, etc.
- ✓ **Rejected supplies** - returns of supplies
- ✓ Technical variations and modifications – **design changes**

EXAMPLES OF EXTERNAL ERROR COSTS

- ✓ Dealing with **rejections**/non-acceptances of supplied goods or services (Enterprise + Client's costs)
- ✓ Dealing with **claims** (Enterprise + Client's costs)
- ✓ Dealing with **Guarantee issues** (Enterprise + Client's costs)
- ✓ **Repairs** (man-hours + materials + logistics) and corrective actions
- ✓ Re-engineering/re-design costs (Enterprise + Client's costs)
- ✓ Analysis of non-compliance (Enterprise + Client's costs)
- ✓ Reporting (Enterprise + Client's costs)



COSTS OF NON-QUALITY

“Non-Quality costs dear to Clients... but even more to the Supplier.....”

INDIRECT NQC

“Today, when a Client is satisfied with Quality, he speaks well to 8 people.... whereas, when he is dissatisfied, he speaks (ill) to 22...”

QUALITY TOUGH MATHEMATICS

22 >> 8 !!!!!

COSTS OF NON-QUALITY - INDIRECT NQC

- 1 - Costs borne by Client**
- 2 - Costs of Client's dissatisfaction**
- 3 - Costs of Loss of Reputation**

RECOMMENDED QUALITY-RELATED INDICES

DPPM = Defective Parts per Million

Sigma Level or Process Yield

Prevention Index

Evaluation Index

Customer Satisfaction Indices

TAKING

**TAKING THE
PERFORMANCE
IMPROVEMENT ROAD**

TAKING THE PERFORMANCE IMPROVEMENT ROAD

No fixed rule or method exists, and every method available is as good as many others

the secret is
“personalisation”

Step 2

HOW TO IDENTIFY THE GAP

.....know where you can get!!!
(...and set the gap!!)

SETTING THE GAP

1. ABSOLUTE METHODS

(defining internal criteria to set the 100% score.....)

2. RELATIVE METHODS

(comparing enterprise's performance in a given area with that of other enterprises....)

3. COMBINATION

1. ABSOLUTE METHODS

two risks

ENTITY MISTAKE

(too mild or too unrealistic targets)

DIRECTION MISTAKE

(..the black & white TV set mistake....)

Step 3

HOW TO IMPROVE PERFORMANCE

.....plan the trip!!!
.....plan the trip!!!

Step 4

HOW TO MAKE IT HAPPEN

.....get there!!!
.....get there!!!

IMPROVING PERFORMANCE: THE LEAN KAIZEN APPROACH

the bottom-up approach to Performance Improvement has a name:

kaizen

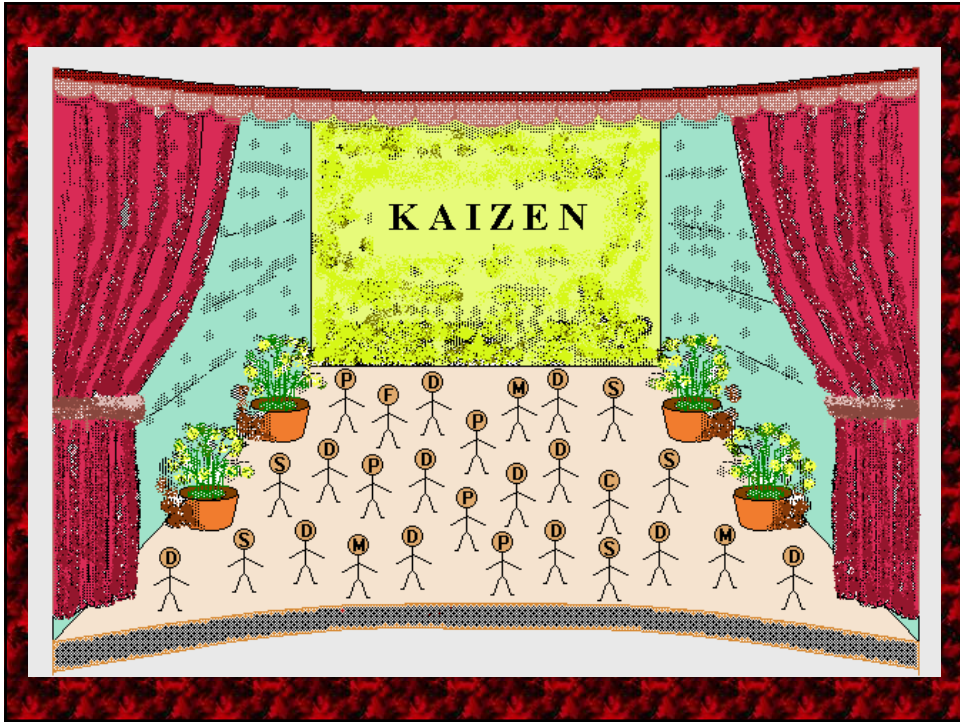
today's KAIZEN

systematic and methodical approach, top-driven, co-ordinated and supported,

to continuous improvement towards an "excellent, lean status" target in various organisational and operational areas;

in a "step-by-step" fashion;

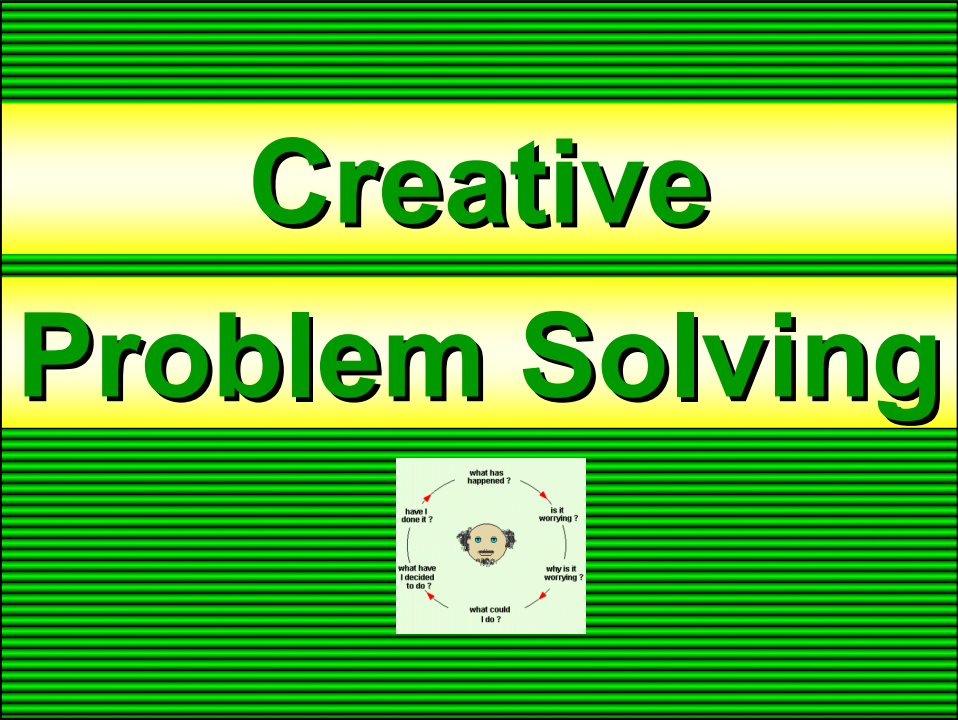
and with deep, active involvement of those concerned in each improvement area



team-work

does it work?

team-work



Kaizen Tools

Tools
overview

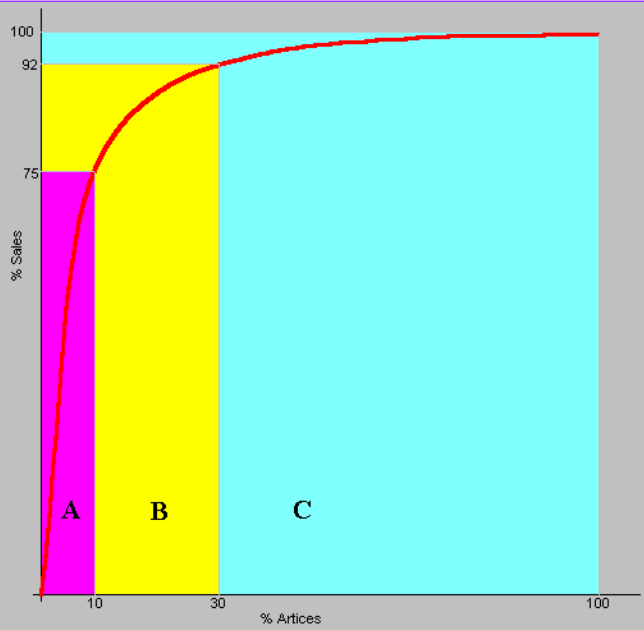
Kaizen

UNDERSTANDING PHENOMENA

THE PARETO ANALYSIS/ABC METHOD

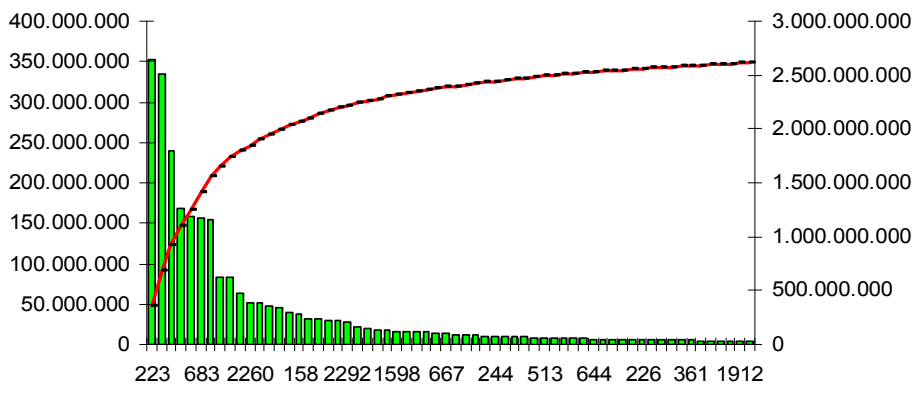
- ❖ In every lot of factors to be controlled it is possible to identify a small number of factors which have a great influence on effects
- ❖ Vice-versa, the majority of factors have small significance in terms of effect.

THE PARETO ANALYSIS/ABC METHOD



THE PARETO ANALYSIS/ABC METHOD

SALES 2004 - ABC ANALYSIS

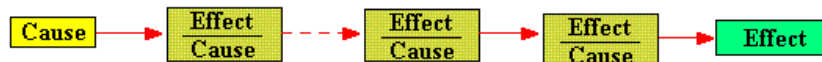


CAUSE-EFFECT DIAGRAM

CAUSE-EFFECT DIAGRAM (ISHIKAWA DIAGRAM - FISHBONE DIAGRAM)

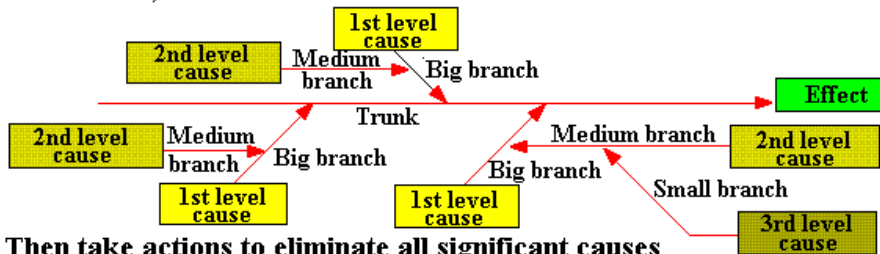
THE MAIN RULE

Choose the adequate level in the CONTINUUM Cause-Effect regarding the Problem being studied (= avoid wide-angle and tele-lens)



THE PRINCIPLE

Determine, for the problem being studied, the Causes, and the Causes of the Causes, and the Causes of the Causes of the Causes.....



How to tackle Improvement Projects

PROJECT MANAGEMENT



basics

**THE MESSAGE :
LIFECYCLE OF PROJECT WITH POOR PLANNING**

Project initiation

Wild enthusiasm

Disillusionment

Wild chaos

Search for the guilty

Punishment of the innocent

Promotion of non-participants

Definition of the requirements (Planning)

**change and
innovation
management**

change and innovation management

in a rapidly changing world, enterprises that do not change and innovate on a regular basis are condemned to stagnation and possibly failure (the “frog” sad story.....)

change and innovation management

Essential!

- **Include - within the monitored Performance areas - also some significant Indices catering for the “change” and “innovation” factors**

keep separate the two factors “change” and “innovation”

change and innovation management

Example of the main factors contributing to influence a “Change” Index:

❖ **Readiness and ability of Top Management to “change” and “learn”**

❖ **Top Management “Drive” towards change**

number, frequency and entity of stimuli to personnel

❖ **Readiness of Personnel to change**

curiosity, readiness to “learn”, dynamism...

these factors could be monitored through individual scoring cards, questionnaires, etc.

change and innovation management

Example of main factors contributing to influence an “Innovation” Index:

❖ **“Density” of Innovation**

how many innovation projects per year

which should take into consideration: innovation of products/services – innovation of methods – innovation of plant/equipment/tools/jigs/etc.

❖ **“Speed” of Innovation**

time-to-market for new products/services – speed of implementation of improvement projects – etc.

❖ **“Effectiveness” of Innovation**

“validity”, or market acceptance of new products/services – real benefit achieved through improving methods or renovating plant/equipment – etc.

performance performance management

performance management

EPI

The intelligent “aggregation” - through a personalised formula - of the various performance indices selected allows to create one and one only **Enterprise Performance Index** that Management can practically use, year after year, to monitor at a glance the overall situation.

the essential Toolbox for Performance Measurement, Monitoring & Improvement in the SME

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