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**e-courses**

Key-words: e-course distance learning e-learning course training education continuing lean performance measurement monitoring SME small medium enterprise world class components indicators index Pareto ABC analysis economical industrial cost control accounting direct indirect total marginal costing operational efficiency productivity value adding waste quality non-quality



e-book: The essential toolbox for Performance Measurement & Monitoring in the SME  
December 2008

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## PREVIEW BEGINS

Omissis..

Because the change is so fast that what is true today, might be obsolete tomorrow....

Yet, we cannot keep guessing how we should structure enterprises to operate well in the new world. So, we have some models and we keep developing them, bearing in mind that what seems excellent today may have to be touched up radically tomorrow....

## WORLD-CLASS PERFORMANCE

There is new terminology used today, sometimes abused, sometimes mis-used.

The term “**world-class**”, for instance, has become very fashionable. Airlines use it, Insurance Companies use it, Car Manufacturers use it... in fact it is widely used.

To indicate what?

To indicate a “standard”, a “level” which seem to be the *best under the circumstances*.

So there are world-class enterprises, world-class services, world-class products...

Meaning: that enterprise, that service, that product, is of “world-class” calibre, or “of a standard comparable to that of the best in the classroom” where the classroom is the entire world.

So, the term “world-class” has silently become a sort of unit of measure, a non-always-clearly-defined way of attaching a label (a good label) to something, be it a enterprise, a product, or whatever.

Well, we shall go along with this fashion, obviously taking a note that a better definition might be given. And state that,

**today’s enterprises need to operate and perform in an adequate manner, following a “new model” – and, according to our knowledge of today, it would appear that the most fit model is that adopted by enterprises which consistently distinguish themselves for their overall performance - and as such it is a valid model, a model to be followed**

Like to say that: being unable to arrive at a theoretical model that could be valid for all enterprises of the new world, the best we can do is to look at excellent enterprises (those that are called “world-class” enterprises) and take hints from them in order to achieve a satisfactory or excellent level of performance in other enterprises.

Nothing wrong with this: all we are doing is adopting a “relative” approach, and trying to take examples from the best in the wider classroom: the world.

Having said that, we shall have to define another term in larger detail, the term “**performance**”.

Well, there is this entire course for that but still we have to understand each other (and the sooner the better) on the meaning of “performance”.

So, what do we mean by “enterprise’s performance”?

Preliminarily we can say that performance means the overall “show” of an enterprise. Like at a concert, or at a movie, we spectators face one or more performers (soloists, conductor, actors, director.....).

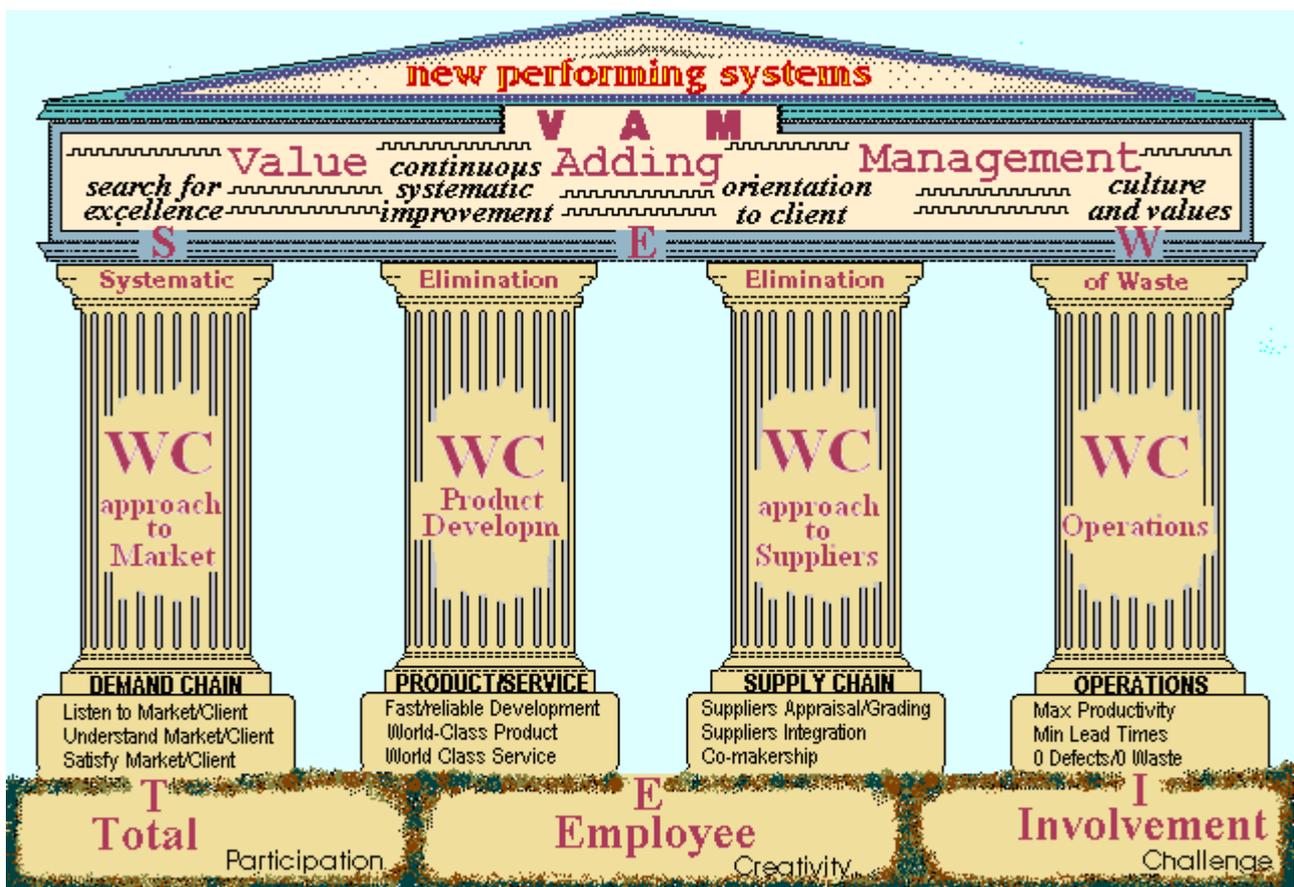
Well, in the industrial scene, we look at enterprises from outside, and consider their “show”: the way they produce results (economical results, wealth creation results.....) – the way they interact with their market and their clients – the way they interact with their suppliers – the way they operate to produce their products and/or their services – the “image” that surrounds them – and so on.

That’s their show, that’s their performance. It’s something dynamic, very dynamic. And, like in any good show, the overall performance results from quite a number of “ingredients”, or components.

During this course we shall have to identify the main, significant *ingredients of an enterprise’s performance*, and find ways of fine-defining them, of measuring them, of evaluating them and, when necessary, of improving them. This is the spirit and nature of this course.

Are you OK with this?

But first, let’s give a more operational representation of a “world-class” enterprise performance:



It appears that the main parameters that classify and govern a world-class enterprise’s performance are, within others, the following:

- **World-Class approach to Market and Clients.** World-Class enterprises have well understood the importance of having the correct, overall approach to their market, and the correct relationship with their Clients (monsters).
- **World-Class Product (and Service) Development.** Not only the output products (and/or services) of these enterprises are of the highest calibre – but also the way they “develop” products and services is of the highest standard.

- **World-Class approach to relationship with Suppliers.** World-Class enterprises have 2 simple mottos: “*the productive process starts at supplier’s premises*” and “*our suppliers are our partners*”.
- **World-Class Operations.** Normally, the productive process that outputs products or services consists of a number of “operations” – and the term “operations” has become synonymous of “productive process”. Well, world-class enterprises perform their operational activities in a very high standard mode.

There is a basement in the world-class formula:

- **People. World-Class People.** Because only personnel capable of tackling creatively and with deep involvement the challenges of the new millennium can make the difference between failure and success.

And there is a ceiling:

- **World-Class Philosophy and Culture.** Based on healthy principles and beliefs, based on the re-discovered concepts of **value** and **value-adding**. It is rather obvious that a world-class performance in an enterprise cannot be produced unless there are – behind it – a very modern industrial philosophy and a very modern industrial culture.

So, here is another message coming up:

**The overall performance of an enterprise is not just a number of good, high level features, each contributing to the overall performance.**

**An enterprise’s performance is an integrated issue, a cocktail having a well different taste from the sum of tastes of its individual components.**

Yet, if we want to do something about enterprises’ performance, we have to use traditional analytical means – break it up in a number of composing parameters – manage each one of them in a proper way – and re-compose the whole picture, adding a secret ingredient that will amalgamate all components in such a way that the overall result will be “something more and different” than the sum of the various components.

This is like to say that a good Spaghetti Bolognese sauce is more and better - with regard to taste - than the sum of the taste of the mince meat, of the herbs, of the olive oil, of the peeled tomatoes, etc. Stirring up that sauce while cooking it and taking care of the right equilibrium of quantities, of temperature, of time, etc. adds a secret ingredient, the ingredient that characterise a “good Spaghetti Bolognese sauce”, and makes it different from an ordinary Spaghetti Bolognese sauce (or a bad one....).

We shall come back to this point a bit later.

So, what is our target? Our target is to understand performance – to measure it – to set a gap between the actual level of performance and the wanted, desired or necessary level – and then, to get there. These entire approach goes under the name of

## PERFORMANCE MANAGEMENT

The world-class enterprise knows, at any moment in time, its actual performance.

This means there is a system for Performance Management, by which the main parameters of enterprise's performance are identified and defined - measured - monitored - indexed - and diffused; the gap between actual performance and potential, ideal performance is detected, known and dynamically defined; systematic actions/initiatives addressed to improve overall enterprise's performance through the improvement of its main parameters are taken, on a regular and continual basis; improvement results are monitored, evaluated and critically assessed for possible deficiencies; further improvement actions are undertaken; and so on, in an endless search and striving for excellence.

Yes, striving for excellence. This is the secret ingredient, the factor that makes the difference between an ordinary performance and a good performance, between an ordinary Spaghetti Bolognese sauce and a very good one...

Many years ago, my mother used to prepare the "Sunday" sauce for the Sunday lunch pasta. I remember this was a sort of "rite". It started on the Saturday morning, when she went shopping for the best meat, the best vegetables and herbs, the best, ripe tomatoes.... It continued on the Saturday afternoon, when she used to prepare the actual sauce – chopping and trimming, preparing the right quantities, and setting up the sauce pan – and then monitoring carefully the timing of all operations: the olive oil warming, the onions browning, the meat frying gently, and adding the cloves and black pepper at the right time, and adding a bit of white wine at the right time, and stirring, and.... – and then checking the cooking process: it had to be gentle, slow enough and long enough according to a secret, unspoken formula... - and stirring, and tasting, and stirring again...

And after resting it overnight, on the Sunday morning she would check the sauce again, and remove some of the excess fat, and give it the final touches...

Eventually, lunch time came: and while we had lunch, she was watching all of us (the monster clients!!), monitoring satisfaction, requesting comments, making sure that everybody was really happy. That closed the "performance" circle: through the measurement of the actual client's "satisfaction".

That sauce was really good, a world-class sauce.

Not only her approach, aiming at utmost customer satisfaction was world-class – not only the way she had developed her sauce was world-class, resulting in a product world class – not only her "operations" were world-class – but also the "culture" behind the entire process was world-class. The secret ingredient? My mother passion for excellence, and her pleasure of being really "excellent".

Hence the next message:

**Aiming at excellence is valuable and beneficial "per se".**

**It is the most precious asset in the balance sheet of the world-class enterprise.....**

Now, as I was saying, the road to excellence goes through a number of essential and conditional check-points, including (but not limited to) the following:

- **Measuring actual Performance**. Or, ".....know where you are....", at any moment in time.
- **Setting the gap**. Or, "know where you can get....".
- **Making it happen**. "....get there....".

# PERFORMANCE MANAGEMENT – 3 ESSENTIAL STEPS

The 3 steps are essential. Skipping any of them would impair the overall Performance Management system. One by one:



## MEASURING ACTUAL PERFORMANCE.

This is the starting point of Performance Management. Nothing will happen in those enterprises that do not know where they stand. No real improvement can take place...

Because they stand in soft, loose ground, or even quicksand.... so that any attempt to improve will most probably make them sink even more...

Knowing the present level of performance by measuring it creates a solid launch pad and an associated tension from which subsequent improvement initiatives can get powered and take-off.

However, performance is a brilliant, but also very vague word. What is it, and how can one actually measure it ? The only way to grasp it and then to measure it is to break it up in a number of significant components, that I call **key performance components**.

One can zoom-in as necessary: at macro level it is always possible to identify **classes of performance** (or categories of performance) such as Commercial Performance, Economical Performance, Operational Performance, e-Performance.... and even Cultural Performance.

Each class of performance can in turn be broken up in a number of **key performance components**, personalised to suit that enterprise.

For instance, under Commercial Performance, it is viable to identify many key performance components. Some examples, in random order: Market Penetration/Market Share - Sales Force Effectiveness - Customer Loyalty - Acquisition of New Customers - Dealers/Wholesalers Performance - Brand Identity - Communication Effectiveness - Reputation/Image - etc.

Identifying key performance components is a delicate and rather hard task. It cannot be done by a consultant! It can only be carried out by enterprise's people, because they know their enterprise (obviously they have to take into due consideration all sorts of external inputs and ideas.....).

This tasks involves also the definition of the **measuring criteria** for the selected key performance components (other delicate issue).

What are the rules of this game? There are no rules! You have to set your own rules!  
But I will give you some examples.

## **THE MAIN COMPONENTS OF ENTERPRISE'S PERFORMANCE**

(KEY PERFORMANCE COMPONENTS – KPC) - Some examples:

### **COMMERCIAL PERFORMANCE**

- Market penetration – Market share/expansion
- Effectiveness of Marketing Activities
- Sales Force Effectiveness
- Customer Loyalty
- Acquisition of New Customers
- Dealers/Wholesalers Performance
- Brand Identity Level
- Communication Effectiveness
- Reputation – Image
- 

### **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
- 

### **INNOVATION PERFORMANCE**

- Reactivity – Ability to Innovate
- Time to Market
- Level of Acceptance of New Products/Services
- 

### **FINANCIAL PERFORMANCE**

- ROI: Return on Investment
- ROE: Return on Equity
- ROTA: Return on Total Assets
-

## ECONOMICAL PERFORMANCE

- Turnover
- Profitability
- 

## CULTURAL PERFORMANCE

- Industrial Culture Level/Modernity
- Effectiveness of Change Management
- 

Yes, I know that there are a number of thoughts buzzing around in your mind:

- “....wow, but that is a major task.....”
- “....who is going into the trouble of doing that?....”
- etc. etc.

Well, let me tell you. It is not an impossible task: it has been done, it can be done, it must be done. It's the only way to start doing something serious about enterprise's performance, to know where actually you stand. It's a matter of deciding that it is worthwhile doing it – of putting some key persons around a table – of thinking – and of coming to conclusions. Which will be easier than anticipated. After all it's just a matter of identifying the relevant **classes of performance** for your enterprise and the relevant **key performance components (KPC)** for each class. Those that are important for your enterprise. Those that key people of your enterprise consider significant and relevant.

Then, you will have a list of classes and a list of KPC. Done! That's your starting point.

And now,

## HOW TO MEASURE PERFORMANCE COMPONENTS: “PERFORMANCE INDICATORS”

All significant Performance Components (Key Performance Components - KPC) should be measured in an adequate way. Whenever feasible, significant and practical, a **Key Performance Indicator (KPI)** (or **Key Performance Index**) should be associated with a KPC to monitor it. Let's go step-by-step.

So, it's a matter of measuring the chosen *key performance components*.

Things are rather straight-forward for *mathematically measurable components*. For instance, the “Acquisition of New Customers” component, over a defined period of time, can easily be measured through a mathematical expression.

Things are a bit tricky when we have to measure components such as “Reputation”, or “Image”.

These and similar immaterial or intangible components are rather difficult to measure.

Yet, it is possible to measure them with a pretty high degree of accuracy by means of questionnaires and associated scoring tables. One –by-one.

## MEASURING QUANTIFIABLE PERFORMANCE COMPONENTS

Certain Performance Components may be mathematically measured.

For instance, the Overall Equipment Effectiveness (OEE) of Plant/Equipment is measured through the formula:

$$\text{OEE} = \text{OR} \times \text{PR} \times \text{QR} = \text{VALUABLE OPERATING TIME/ACTIVE TIME}$$

where:

OR = Operativity Rate

PR = Performance Rate

QR = Quality Rate

The above is rather straight-forward: there is a discipline, **TPM – Total Productive Maintenance**, that tells us the right mathematical expression to be used for this purpose.

Another simple example:

A Project-driven Company makes many Offers, every year, but only some of them are actually converted into Orders.

To measure the “Performance of the Proposal Department”, two key Components may be identified and associated with Indicators:

$$\text{Proposal Effectiveness} = \text{Number of Orders Received/Numbers of Offers issued}$$

This component gives us a good indication of how many offers prepared by the Proposal Department get actually converted into Customers’ orders.

Even more significant

$$\text{Proposal Economical Effectiveness} = \text{Turnover generated/Total Offers Preparation Cost}$$

This component gives us a good indication of how much turnover is generated by every dollar spent in preparing offers and quotations.

## MEASURING UN-QUANTIFIABLE PERFORMANCE COMPONENTS

Any (apparently) un-measurable Performance Component may actually be measured with the aid of suitable *Questionnaires* and scoring methods. Questionnaires serve the purpose of presenting a variety of situations ranging from very negative/pessimistic status (lower scores) to very positive/optimistic status (higher scores) and stimulating answers which, associated with a pre-studied scoring method, furnish a mathematical measure of the situation itself. Scoring scales have to be set with rational criteria.

Just to give an example, let’s consider a rather enigmatic component of an enterprise’s performance such as its “company climate”.

What do I mean by Company Climate? I mean that un-tangible feeling one has when getting, for the first time, into an enterprise’s premises. What goes on? How is the “air” in this enterprise?

What are the initial impressions? How are people? Are they relaxed, lazy, dynamic, active, yelling, courteous? Do they look professional? How is the “environment”? Clean, functional, well set, neglected, dirty, impersonal....?

Well, that's the climate of that enterprise (or part of it...). You can almost "breath it", if you are an acute observer. And you can have a good idea of it.

Can a "climate" be measured? Of course it can. And there are enterprises that have gone into the trouble of actually measuring and monitoring it, year after year. Why? To make sure it's the right one, the right one for that enterprise, with its culture....

An example of measurement of an un-quantifiable Performance Component – such as Company Climate – is in the Enclosures section of this e-course, at the end of these Notes.

I am sure you realise what the implications of an approach like in the Company Climate example are:

**it is always possible to measure, with sufficient accuracy,  
any component of an enterprise's performance**

Dedicated Questionnaires can be filled internally or externally, by enterprise's people, by their clients, by their suppliers, by members of the surrounding community....

For instance, a Company Climate Questionnaire is completed by all employees.

An Enterprise Image Evaluation Questionnaire should be completed by employees, suppliers, clients, key members of the surrounding communities, etc.

When things are set up properly, the measuring process outputs a numerical score or a few (like in the Company Climate example), that may however converted into a single score (through the right mathematical expression).

This score is called **key performance component indicator**.

When the measuring scales are "homogeneous" it is possible to associate to each key performance component an **index** (or indicator).

**Indices are the best tool to monitor performance over time.**

## INDEXING METHODS

Indices (or Indicators, or - financially - Ratios) are useful to understand and to monitor Performance Components behaviours and trends.

They are *numbers* or *percentages* and represent mathematically figures, facts and situations of an Enterprise.

Monitoring Indices over periods of time is a very valid way of controlling Performance Components trends.

Indices are useful on their own and even more when put in relationship the one to the other.

It is also possible to create an Index representing the overall behaviour of a number of Indices, and it is even possible to create an overall Enterprise Performance Index.

## EXAMPLES OF COMMERCIAL INDICES

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

in a financial year.

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

in a financial year.

So, if an Enterprise had 420 clients at the beginning of a financial year and 42 new clients have been enrolled during the year, the  $I_{nc} = 100 \times 42/420 = 10\%$ .

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

in a financial year.

So, if an Enterprise had 420 clients at the beginning of the financial year and 21 old clients have been lost during the year,  $I_{lc} = 100 \times 21/420 = 5\%$ .

Such an Index may be somehow representative of the Component: Customer Loyalty.

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

So the same Enterprise had an  $I_{ci} = 100 \times (441 - 420)/420 = 5\%$

Like to say that the total number of clients has increased only of 5% during that financial year, since 10% new clients have been acquired but 5% have been lost. Like to say that for every old client lost two new clients have been acquired.

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

Significant index, both for quantity (Kg, m<sup>3</sup>....) and monetary sales.

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

So, if an Enterprise has a productive capacity of 1500 ton/year of a certain product and sales of that product amount to 1250 ton,  $I_{cpc} = 100 \times 1250/1500 = 83,3\%$

## EXAMPLES OF OTHER INDICES

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

in a financial year. So, if an Enterprise has an average stock, during a certain financial year, of \$ 200.000 and sales for the period are \$ 1.200.000,  $I_{sr} = 1.200.000/200.000 = 6$ .

Like to say that in the financial year considered stock has "rotated" 6 times. Like to say that the Enterprise has an average stock of  $365/6 = \pm 60$  days of sales.

It is very good practice to split the above Index into two (or more) Indices, respectively for Finished Products, Raw Materials and, where pertinent, Other Stocks (Commercial Components, Packaging Materials.....).

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

in a financial year. So, if an Enterprise has a turnover of \$ 1.500.000 and the total number of employees is 30 then  $I_{se} = \$ 50.000$ .

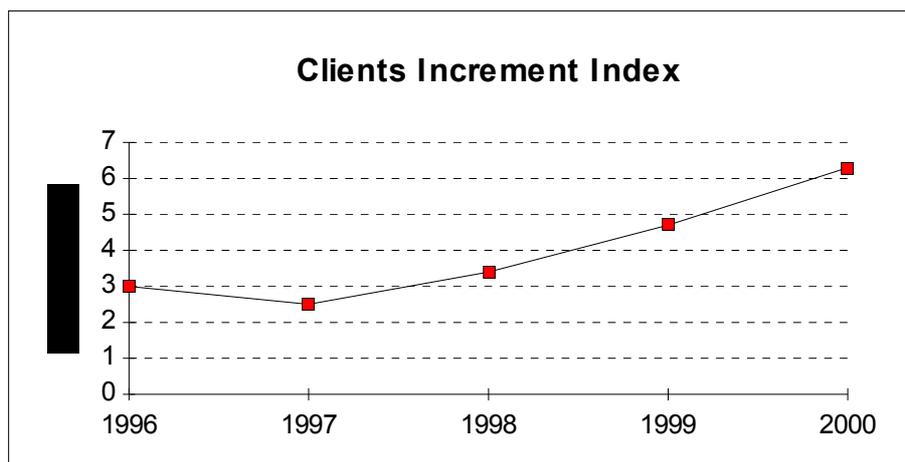
NB: the above examples are just examples of some (of many possible) Indices, and do not imply that those Indices are the most important ones for an Enterprise.

## GRAPHIC REPRESENTATION OF PERFORMANCE COMPONENTS

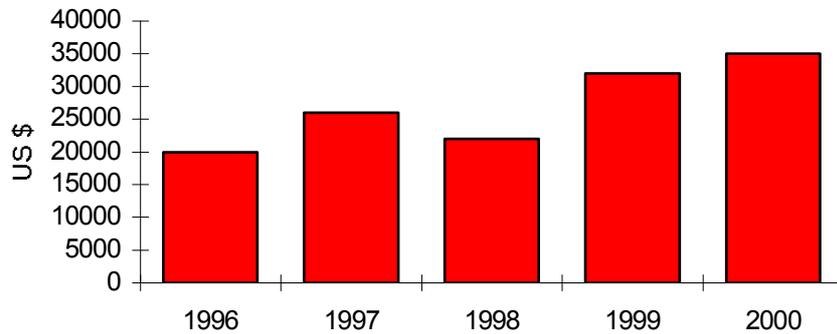
By representing graphically the behaviour of an Index over time, it is possible to have "at a glance" a view of the trend of a certain Component (or sub-Component).

This is normally obtained through Control Charts and Histograms.

Examples:



## Turnover per Employee



Besides, by representing graphically the relationship of a number of Indices pertinent to a certain Performance area or class, it is possible to view “at a glance” the overall situation of that area or that class in a certain moment in time.

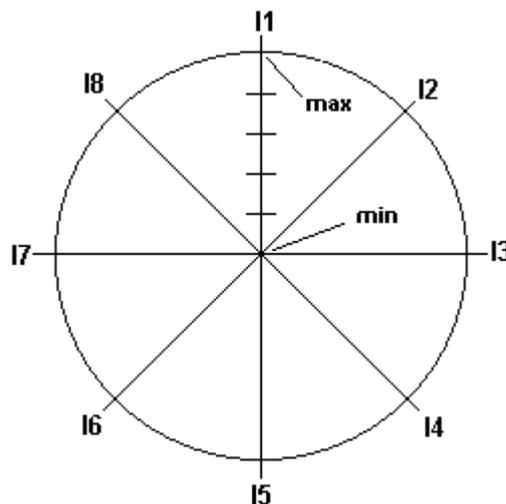
In fact, when all indices associated to the key performance indicators of a certain class of performance are known and made homogeneous, it is possible to produce (through some mathematical calculation) a **class of performance index**, a global index for that class. So, there is a “Commercial Performance Index”, an “Operational Performance Index”, etc.

Now the astonishing power of indices can be displayed at full screen by means of a **radar chart** (also called spider chart).

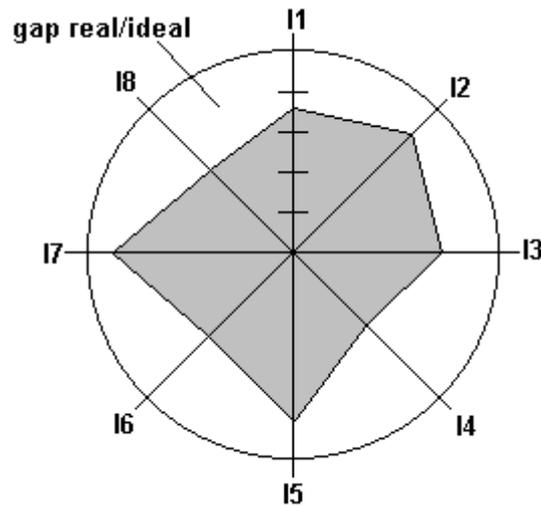
A Radar Chart displays the relationship between (and the combined action of) Indices pertinent to a certain Performance area. Indices must be “homogeneous” in their value. Besides, it is essential to select a common reference scale for all Indices under consideration. The scale must be realistic, and range from a minimum value to a maximum value.

Each value in the scale must be associated with a level of “goodness” or “positive-ness” (or their opposite).

Each radius of the Radar Chart represents an Index, with minimum value in the centre of the circle and maximum on the circumference. Example:



By plotting the numerical value of the various Indices on the RC and connecting the points obtained a graphical representation of the overall performance in a certain Performance area is displayed.



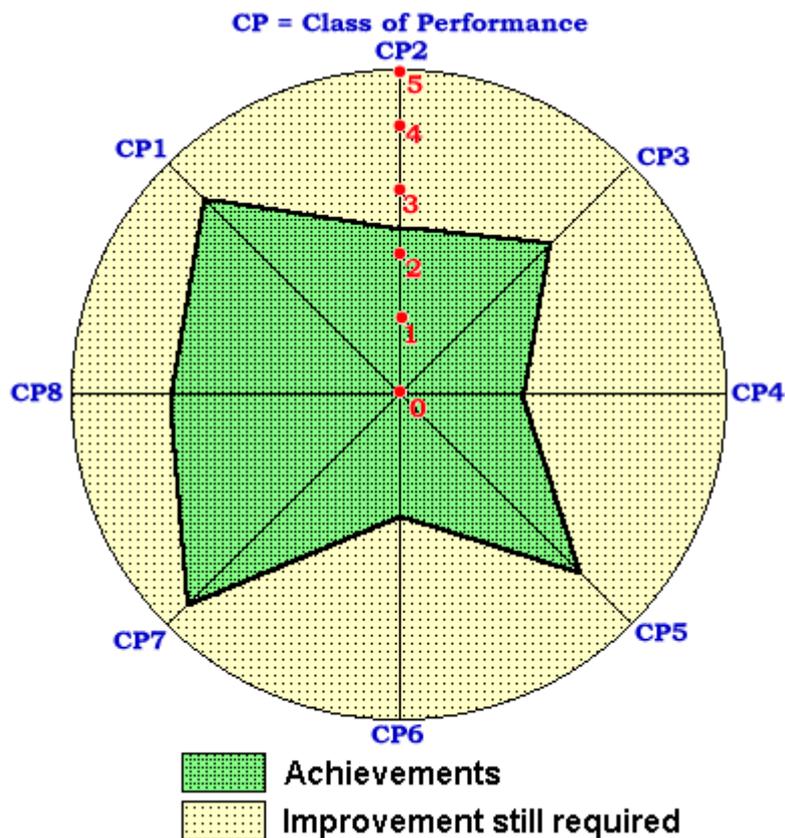
Example.

An enterprise has identified 8 main classes of performance

There is an index attached to each class

All indices are homogeneous in a certain scale (for instance in a scale 0 - 5, where 0 corresponds to the worst possible level of performance and 5 to the best possible one)

Its performance radar chart will look like this:



Through a radar chart it is possible to see phenomena at a glance, in this case the picture of an enterprise's performance. Isn't that a magic tool? A tool that managers, at all level, can use to see how things are going... At a glance....

Finally, it is even possible to create an **Enterprise Performance Index**, representative of the overall performance status. All is required is to find a suitable formula to correlate all Class Of Performance Indices together, to output a single Index (see further down).  
How many enterprises can boast an achievement of this nature ?

Now, let me make

#### **SOME REMARKS ON PERFORMANCE MEASUREMENT**

- Mathematics are mathematics. Only a tool. Great care must be taken not to confuse a tool with its effects.
- It is extremely important to keep an "aerial" perspective of the obtained scores and indices.
- In the world-class enterprise, the most important performance indices are those related to processes (*Central Process*, all *Critical Processes*, and many *Support Processes* – see below)
- The world-class enterprise dedicates particular attention and care to identifying, measuring, and then improving its **e-Performance**, or performance of the overall web-based enterprise's activities. This require a specialised set of tools and techniques, but the global approach is identical as in the case of real-world performance. No distinction is made.

So, by now you should be able to understand that Performance can be measured. In a personalised way. In a way that is significant to you.

If the measuring ground work is done properly all the rest can happen.

While we are on the subject of graphic tools, let me mention another tool that can be very hand to understand phenomena related to an enterprise performance.

## **UNDERSTANDING PHENOMENA THE PARETO ANALYSIS/ABC METHOD**

PARETO PRINCIPLE (1896)

“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 effects”.

For instance, Pareto noticed that 20% of Italians owned 80% of the nation's wealth.

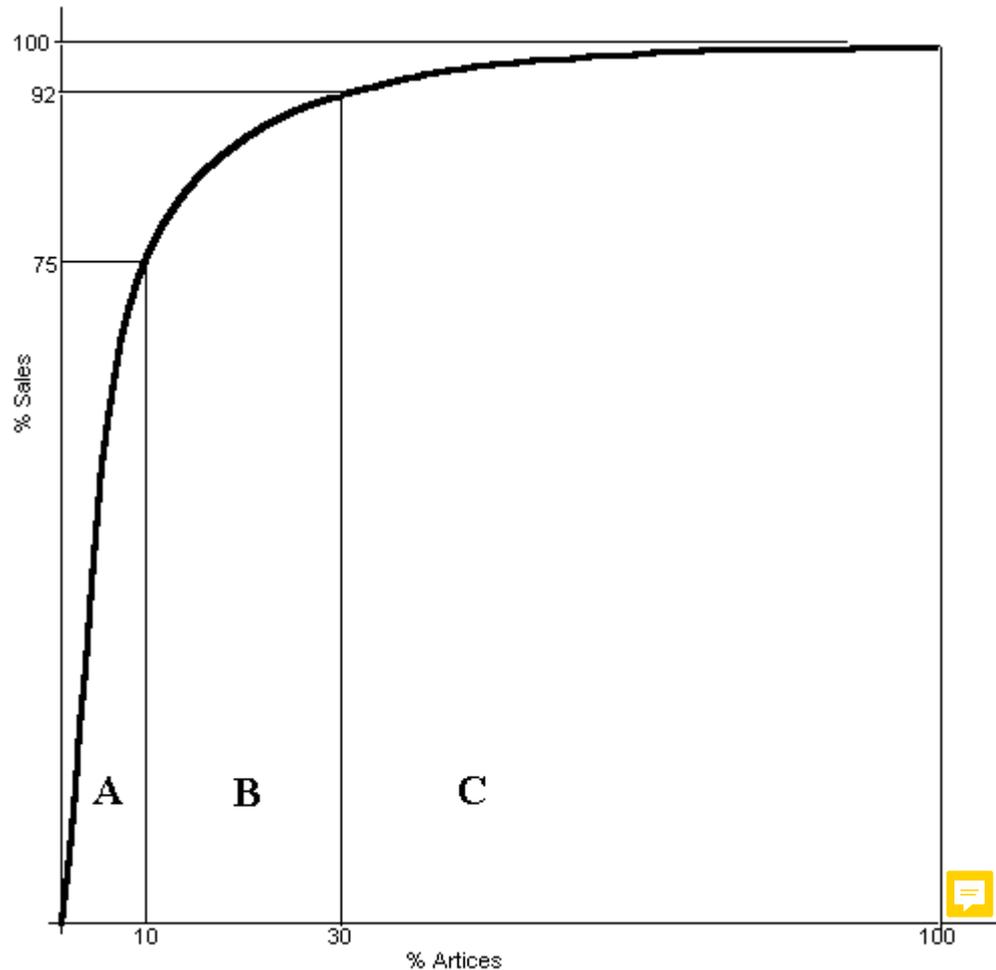
In many Enterprise, likewise, it is possible to note that the majority of the turnover is generated by a small percentage of clients – or that the bulk of purchases is made from a small number of suppliers.

The Pareto Principle is also known as the “80-20” rule (also called the “70-30” rule).

Associated to the Pareto Principle is the Lorenz Distribution Curve (known also as “Concentration Curve”, “Lorenz Curve” or “ABC Curve”) which gives origin to the **ABC Method** and, generally, to the discipline of “Management by Exception”.

As an example, an Enterprise manufacturing a large variety of products, may discover that a small % of the products contributes to the bulk of sales, and vice-versa.

A more detailed analysis may originate a curve as follows:



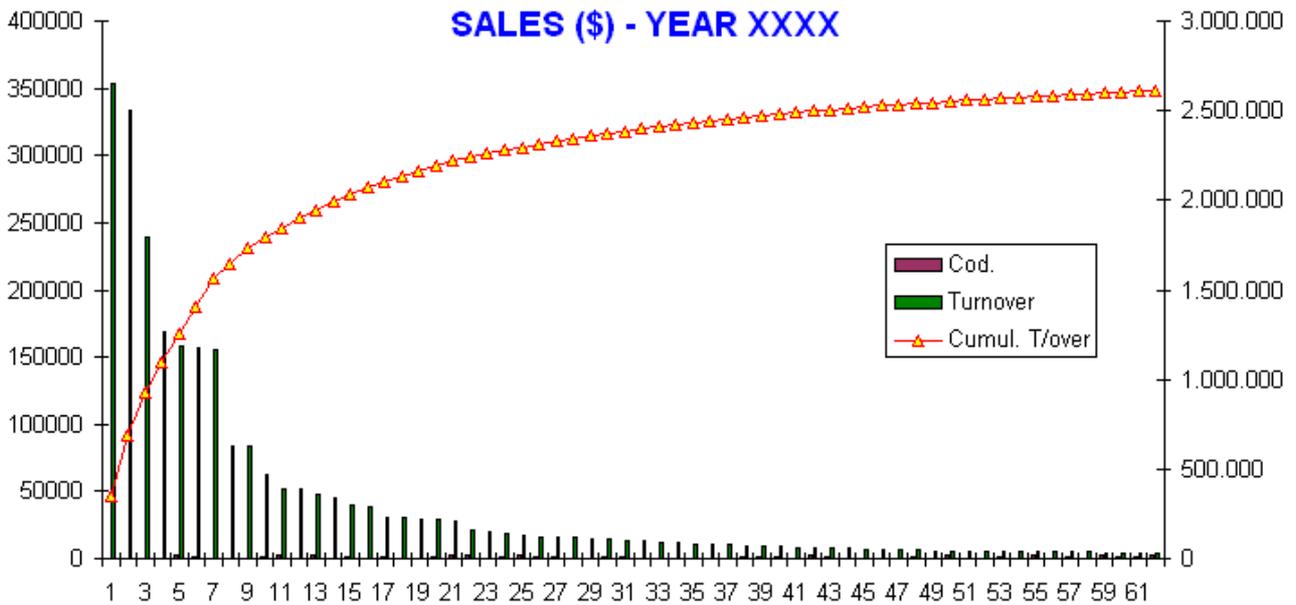
NB: Lorenz Curve is based on “cumulated” values.

Example. ABC Analysis of Sales: Superpromotions Ltd.

SUPERPROMOTIONS LTD -SALES ABC ANALYSIS YEAR XXXX (\$)							
Pos.	Cod.	Turnover	Cumul. T/over	Pos.	Cod.	Turnover	Cumul. T/over
1	223	353.000	353.000	32	153	12.700	2.398.300
2	568	334.000	687.000	33	331	11.600	2.409.900
3	3	239.000	926.000	34	448	11.500	2.421.400
4	212	168.600	1.094.600	35	605	10.600	2.432.000
5	2434	158.000	1.252.600	36	244	10.500	2.442.500
6	683	157.000	1.409.600	37	182	10.400	2.452.900
7	555	155.000	1.564.600	38	1280	9.800	2.462.700
8	184	84.000	1.648.600	39	1669	9.300	2.472.000
9	5	84.000	1.732.600	40	840	8.800	2.480.800
10	684	62.700	1.795.300	41	513	8.500	2.489.300
11	2260	52.200	1.847.500	42	2855	8.400	2.497.700
12	559	52.000	1.899.500	43	809	8.300	2.506.000
13	2107	47.300	1.946.800	44	203	8.100	2.514.100
14	30	45.000	1.991.800	45	574	7.100	2.521.200
15	1014	39.700	2.031.500	46	644	6.900	2.528.100
16	158	38.000	2.069.500	47	113	6.300	2.534.400
17	805	31.200	2.100.700	48	1566	6.000	2.540.400
18	91	31.000	2.131.700	49	84	5.900	2.546.300
19	142	29.900	2.161.600	50	2039	5.842	2.552.142
20	906	29.500	2.191.100	51	226	5.700	2.557.842
21	2292	27.800	2.218.900	52	603	5.700	2.563.542
22	2148	21.500	2.240.400	53	1056	5.600	2.569.142
23	351	19.500	2.259.900	54	337	5.500	2.574.642
24	1644	18.300	2.278.200	55	2609	5.200	2.579.842
25	2138	17.000	2.295.200	56	361	5.000	2.584.842
26	1598	16.200	2.311.400	57	1079	4.800	2.589.642
27	724	15.900	2.327.300	58	4	4.700	2.594.342
28	167	15.700	2.343.000	59	2172	4.400	2.598.742
29	199	15.100	2.358.100	60	1972	4.349	2.603.091
30	774	14.300	2.372.400	61	1912	4.030	2.607.121
31	667	13.200	2.385.600	62	2859	3.500	2.610.621

In this example we have listed the turnover and the cumulated turnover “per product code”. Products are listed in regressive order, i.e. we list first those products with higher sales and then those with lower sales.

Cumulated turnovers are simply the sum of all product sales up to that code.



When we plot the various entries in a graph, that's what we get: the histogram displays each individual product sales.  
The yellow/red curve displays the cumulated turnover.

It's easy to see that approx. 20% of the products contribute to approx. 80% of the overall enterprise turnover.  
Those products are the Class A products, the very important ones.

And now we are ready to tackle a bit in detail some very important areas of an enterprise's performance.

## MEASURING AND MONITORING ECONOMICAL PERFORMANCE COMPONENTS - INDUSTRIAL COST CONTROL



**XXXXXXXXXXXXX END OF PREVIEW**

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## *some excerpts from Carlo Scodanibbio Web Site*

### MY PHILOSOPHY, MY VISION, MY MISSION

I believe in Value and Lean.

I believe that in many decades of industrialisation we have somehow lost a key word and a key concept: value - value that Enterprises offer to Clients - value generated by productive processes - value produced by managers and employees in their daily confrontation with reality - value produced by plant, equipment, machines, and technology - value brought in by suppliers - value inherent in people know-how - value generated by continuous improvement.....

Today, World Class Performers are re-discovering the vital importance of this key concept, and build enterprises engineered to produce pure, abundant value. World Class Performers are Enterprises that build their competitiveness on the value parameter: their processes are waste-less, and under continuous improvement - their people understand value, and are extremely critical about the way they produce it - their plant and their technology are managed to generate extremely high levels of output value - customers' satisfaction is their primary target, and they achieve it by offering customers an ever increasing level of value - suppliers and sub-suppliers, clients and clients of clients become integral part of a "value-chain" ending only at end-user level - their vision, their mission, their strategies, their targets, their industrial culture, their corporate communication, their organisational structure..... are all focusing on this very, primary concept: value.

I believe that, in a rapidly changing world, featuring globalisation and vanishing borders, all Enterprises, of any size, must and can, today, perform as the "top of the class" by adopting the Value Adding Management discipline as their guiding light.

My philosophy rotates around the key concept of value, and my training and consulting services are structured to enable Small and Medium size Enterprises to achieve higher levels of performance by re-discovering "value" as key parameter for competitiveness and success.

I believe in Integration.

I believe that as specialisation has been the key feature of this century's industry, integration is going to be the key feature of years 2000's industry.

Industry has been built around the concept of "specialisation" from well over a century: processes, products, services, jobs, machine functions, etc. show, even today, a high degree of specialisation. Associated to specialisation, however, there is another feature, which is "fragmentation": fragmentation of processes, of work, of operations, of activities, of tasks.....

I believe that specialisation and fragmentation are enemies number one when aiming at high levels of performance. I believe that only integration sets the path to excellence and real industrial performance.

Integration is associated with flexibility, adaptability, government and control of change: all important features in our industrial world of today and tomorrow. Integration is associated with overall view, overall control, and overall, holistic approach to performance: for too long many Enterprises, especially of small and medium size, have tried to achieve competitiveness and performance by embracing the "fashion" management discipline of the time, be it Quality Assurance, Total Quality Management, Zero Defects, Productivity Improvement, Process Improvement and Management.... or effective Management techniques, or Leadership techniques, or a Continuous Improvement approach, or Management by Objectives..... and even One-Minute Management..... trusting they had come across the truth and the recipe to success, to discover eventually, in many cases, that the improvement in performance was not real, or consistent, or stable.....

I believe that real improvement in performance can only be obtained with an integrated approach, focusing on the key concept of "value" as guiding light, and powered by the use of a number of appropriate disciplines "in consociation" and simultaneous deployment: like to say that targeting at quality improvement without considering simultaneously the productivity aspect is not getting to real improvement, and it has never generated real improvement, because quality and productivity are always the two sides of the same medal - and vice-versa - like to say that focusing on process improvement or process re-engineering without considering simultaneously the primary importance of getting employees highly involved and without the simultaneous deployment of adequate technology-performance techniques can only bring very marginal results - like to say that going for a Kaizen style of continuous improvement without knowing priorities and targets that in certain instances only adequate Benchmarking can provide may fail, as it has failed - and so on: there are many more examples of possible failures due to lack of integration or to excessive focus on an individual, specialised technique.....

Only an integrated view (".....see the tree, not the leaves....." or, referring to my New Performing Systems architectural structure, ".....see the temple, not only the pillars....") can produce valid, high level results.

Because when, and only when, people, machines, methods, techniques and disciplines become an harmonic, integrated combination, in symbiosis one another, can an Enterprise aim at superior performance.

This "integration" key feature, besides, should not only be the task of top management of an Enterprise, but should, to my opinion, be a feature of the Enterprise as a whole, as it may be noticed in World Class Performers: I believe that all minds in an high performing Enterprise must be made aware of the strategic importance of "integration" and addressed to that very direction. I believe that processes must be integrated, work must be integrated (and not fragmented), and approaches must be integrated. Because only this way people may achieve real job satisfaction.

I believe in Simplicity.

I believe that being in business, performing well as an Enterprise, manufacturing products or providing services, is and should be simple, and, most of all, be kept simple, especially in a world in which a predominant feature is complexity. It is my view that if any process, situation, or problem is too complex to be understood, solved or managed, there is something very wrong behind it, and, rather than tackling complexity, complexity should be eliminated to begin with.

As I notice that, in many decades of industrialisation, things have gone more and more complex (I refer to: complex, fragmented processes - pyramidal, bureaucratic, complex, split-function organisational structures - processes built on waste rather than around value - complex management practices - complexity of communication - complex and even distorted thinking, at all levels - etc.), I believe that time has come to bring things back to basics, back to elementary shapes, back to reality, back to simplicity, back to value.

I believe that World Class Performers have well understood this basic concept, and I believe that Enterprises aiming at excellence or superior status must, first of all, re-simplify and make very practical their dynamics, their processes, and their approaches.

I often follow the trend and offer, to participants to my courses, the latest techniques in: communication - leadership - team building - self-improvement - etc.

However, I believe that practicality and simplicity are even more essential than techniques. I believe that what counts is the ability to simplify processes and to make them more linear, more human, more understandable. I believe that what is important is to assure value generation at every step of any process. I believe that is extremely important to give people well defined responsibilities, rather than trying to inject, with superior leadership and excellent communication abilities, doses of motivation that cannot get anywhere, just because the very task or the very activity is de-motivating and frustrating in itself. I believe that accountability for the output of a well-defined process gives more job satisfaction and more motivation than a salary increase or a performance bonus. I believe that people must return down to earth to simple, basic concepts of daily value generation through hard effort and acceptance of challenges. I believe that brain laziness is a public enemy to be fought very fiercely. And I believe that people must be responsible for providing their own motivation, their own security, their own quality of life.

I believe in Creativity.

I believe that Creativity (and not Products, Services, Finance, Technology, Management abilities.....) is and is going to be the only and real factor of competitiveness in the next millennium. As Creativity is the common denominator of all other factors of competitiveness. I believe that Creativity is essential for the Enterprise aiming at high levels of performance: Creativity is very important in problem solving, in decision-making, in planning, in team-work, in searching and generating opportunities, in continuous improvement practices..... Creativity is the ultimate secret for achieving high levels of Quality, Productivity and Customers' Satisfaction. Creativity is the spark that makes the difference between Enterprise's excellence or mediocrity.

I believe in the very high power of Creativity, channelled to the generation of value by integration-capable minds, and I stress its vital importance in all my consulting and training activities.

I believe in People.

And I believe that people is the most important resource of any Enterprise, as people may make the difference between its failure or its success.

I believe that people can improve considerably themselves, their performance and the performance of their Enterprise, and that a chance to generate such improvements must be given to people. I believe that it is Top Management primary responsibility to create an environment in which people are given the possibility of performing at high levels. And I believe that this can be obtained by critically (re)designing processes in which people work, and in which people are empowered to generate high levels of value through their efforts, their creativity, their commitment, and their thorough understanding of the process/es to which they are assigned and for which they have high levels of responsibility and accountability. I also believe that responsibility and accountability for a process are a major pre-requisite for people to obtain high levels of job satisfaction.

I believe that people work must be integrated and not fragmented, and that specialisation must gradually make space to multi-skill and multi-function situations.

And I believe that only this way people may re-gain that professional dignity somehow lost in many decades of specialisation and fragmentation.

I believe that work must be a very pleasant experience for all employees, a gymnasium in which people can practise, test and prove themselves, set challenges, improve, excel and be highly satisfied. And I believe that this is easily achievable.

It is my commitment to stress these vital issues in my consulting and training activities, and to convey these priority messages to people in Industry, at all levels.

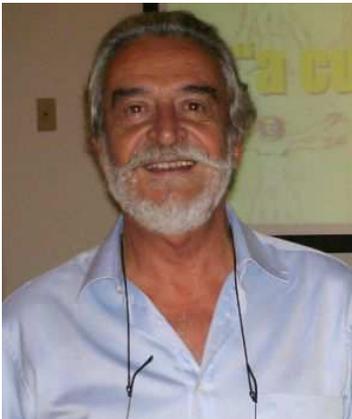
The above is my vision and my operational philosophy.

It is my mission, and my thorough commitment, to convey its basic principles to Enterprises and people in Enterprises, with the aim of achieving higher and higher levels of performance.

It is my commitment to do my very best, with honesty and professionalism, to enable Enterprises of small and medium sizes (and as such within my reach and within my own personal capacity and abilities) to understand and make operational the best, up-to-date practices that lead to World Class performance.

Finally, it is my pleasure to commit myself to continuous learning, continuous self-improvement, and, wherever necessary, to continuous change, with humility, and with consciousness of my limited knowledge, always insufficient and always perfectible. Along these lines, it is also my commitment and personal pleasure to get in deep contact with industrial realities of many Countries, and with diversified cultures, to continuous personal and professional enrichment, and to the benefit of my Clients, of the Participants to my training courses, and of all the individuals I will have the opportunity and the joy to get in touch with in the course of my life.

Carlo Scodanibbio



Carlo Scodanibbio, born in Macerata (Italy) in 1944, holds an Italian doctor degree in Electrical Engineering (Politecnico di Milano - 1970).

He has over 49 years of experience in Plant Engineering, Project Engineering and Project Management, as well as Industrial Engineering and Operations Management.

Free-lance Consultant since 1979, he has worked in a wide spectrum of companies and industries in many countries (Southern Africa - Italy - Cape Verde - Romania - Malta - Cyprus - Lebanon - Mauritius - Malaysia - Nigeria - Kenya - India - Saudi Arabia - Seychelles), and operates as an Independent Professional Consultant and Human Resources Trainer to industry.

His area of intervention is: World Class Performance for Small and Medium Enterprises in the Project, Manufacturing, and Service sectors.

His favourite area of action is: the "lean" area.

He has co-operated, inter-alia, with the Cyprus Chamber of Commerce, the Cyprus Productivity Centre, the Malta Federation of Industry, the Mauritius Employers' Federation, the Romanian Paper Industry Association, the United Nations Industrial Development Organisation and the University of Cape Town.

His courses and seminars, conducted in English, Italian and French, have been attended by well over 20.000 Entrepreneurs, Managers, Supervisors and Workers. They feature a very high level of interaction, and are rich in simulations, exercising and real case studies. The approach is invariably "hands-on" and addressed to immediate, practical application.

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## The essential toolbox for Performance Measurement & Monitoring in the SME

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