

## HOW TO COMPETE IN THE 21ST CENTURY THE IMPORTANCE OF AN ETHICAL AND ENVIRONMENTAL CORPORATE COMMITMENT

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Traditional economic theory insists that the competitive edge of a company depends on the efficient combination of capital, raw materials and labour. Over the past decades, economists have expanded this to include the importance of technology and information.

Companies, in crisis, often wonder how to improve their competitive edge. This was relevant in the 1960's, it is relevant today and it will be relevant in the 21st century. Whereas the questions remain the same, the answers will change. This article will outline the determining factors that were needed, in the past, to out-compete others in the market, and propose which additional elements will be required in the next century. It can be considered as a major change, in the basic assumptions, for mankind in the 21st century.

In the 1960's, when a corporation felt the pinch from its competitors and looked for a solution, the president was told to stop trying and to just sell his products with an appropriate marketing strategy. The need, to listen to the client's wishes and preferences, was the first sign that we operated in a market characterised by over-supply. Anyone who did not adapt to the customer, would be eliminated from the market, by those who had market data, adapted to their product. It was the era of Philip Kotler and the 4 P's. Today, there is no company which questions the importance of marketing.

In the early 1970's, when the first oil crisis devastated industry, the key question was how to regain a competitive position, at a time, when increased energy costs affected pricing and high inflation undermined consumer confidence. The answer at the time was productivity. There was no doubt that those, who could produce more, with the same level of input in terms of raw materials, capital or labour, would win in the market. It was the first time that Japanese industry was called upon to serve as an example. Indeed, they overcame the first oil crisis faster than anyone else and integrated more robotics and information technology, thus, catapulting their production industries to the forefront of world-wide competition. This was considered the driving force behind their successful strategy for saturating markets.

In the late 1970's, the second oil crisis hit the West. Again, industry, losing market share, searched for a renaissance of their business and quality was identified as the cutting edge factor, permitting a company to out-compete any other in the market. This was the time of Quality Control Circles and Total Quality Management. Indeed, bad quality is costly and the elimination of all these mistakes led to a better cost-structure and higher customer loyalty. No one could escape the investment needed to convert their production system into a Zero Defects Unit.

In the early 1980's, Western industry, again, faced decreasing market shares and after having invested massively and successfully in quality and productivity programmes, it became obvious that more was needed to succeed, long-term, in the world competitive game. The Just-In-Time concept was advanced, as the next step to success. The Japanese were supposed to have implemented the "kan-ban" system and the West was advised to learn from the Land of the Rising Sun once more.

In spite of all the trade missions, books and educational programmes on marketing, productivity, quality and Just-In-Time, the quest for competitiveness is clearly a never-ending one. Service was presented as the next panacea for success. Japanese industry "out-sourced" some 16% of all business services needed; European companies typically contracted only 4% out to third party professionals. It became clear that up to 75% of the value added (created by industry), consisted of service related to production. The Swatch( watch was a prime example. The high labour costs did not matter anymore because, the design factor and communication skills, represented the real service to the customer.

It is necessary to produce goods with the right quality at the right price but, if there is no service attached then, the customer, operating in this market characterised by over-supply, will look for the supplier who offers (in addition to the basics offered at the right time and place), the best service.

Today, companies are expected to excel simultaneously in all five elements: marketing, productivity, quality, Just-In-Time and service. Performance, in each of these areas, is considered a precondition for entry into the market. If a business integrates all these elements, then it will have a right to be in the market. If a company wishes to outperform average businesses, if it is out to gain market share, more will be needed.

Over the past five years, consumers have enjoyed low levels of inflation. The continuous drive towards an increase in perceived value for less

money, is, today, even more difficult to achieve because we are at a point where business cannot hide increased value through price hikes, or hide higher costs behind inflation. Today, more is needed in order to perform well; a great deal more is required from business if it is to gain. The question is: What is needed?

At present, few economists agree on the main issue that is to dominate the platform of debate. On the basis of thorough market analyses in Europe, Japan and the US, it has been concluded that, over the next few years, ethical standards, a moral commitment and a high environmental performance will, not only, become integral parts of the corporate strategy but, more importantly, they will become one of the ways to outperform in the market, and re-establish that unique selling position that is so badly needed in the competitive game.

Today, over 40% of consumers in the US, already indicate that, when the same price and quality level is being offered, the issues considered important to that company, will determine their choices. Of course, there is a very broad variety of themes which companies could address. Several companies have succeeded in setting the precedent. What is most interesting, the consumer is becoming increasingly well-informed and capable of seeing through mere marketing strategies which are not based on a genuine commitment.

This does not imply that companies, today, are not ethical or moral. Companies will have to be thoroughly committed to doing more for society than merely playing a role in generating the value-added and creating profits for the shareholders. The company of the 21st century will have different responsibilities to assume, in society, from those expected of it today. The companies who see this will be the winners in the future. Those who neglect it will be the dinosaurs of tomorrow.

It is startling to note that, for example, on environmental issues, not even 10% of the public believes statements made by companies. In a recent survey in Europe, environmental volunteer organisations were identified as the most credible source of information.

At a time when companies have to re-engineer their operations, it is timely to take the next leap forward and retool the company, integrating the most rigid moral and ethical standards. In addition, a company is a most efficiently organised structure, the only one in society to create value-added. At a time when governments and cultural organisations are searching for a more efficient mode of operation, business practice is very welcome. And, if a combination is made of all six factors, it will be a formidable force indeed.

If industry is to reduce, and ultimately to eliminate, its adverse impact on the environment, it needs to redesign everything, from the selection of raw materials to the manufacturing process. At present, not one company designs new products and manufacturing systems with zero emissions, as a parameter next to price (productivity) and performance (quality).

In the 1970's, when Japanese industry introduced the concept of zero defects (i.e. perfect quality), American and European industry responded that this was not possible; it was too costly to achieve. Two decades later, not one executive can permit himself not to target zero defects. Perfect quality is a precondition for entry into the market.

Over the next two decades, zero emissions will become a standard for industry. At a time when everyone recognises the need to reduce the discharge of waste, dramatically, no one focuses on a design for industrial activity, meeting the zero emission option.

Most executives would consider zero emissions impossible to achieve, and worse, too costly to undertake, leading to a loss of competitiveness. But, just as it took decades for business to realise that lack of quality actually costs money, it may take just as long for them to realise that waste in any form is costing the enterprises cash.

Pilot experiences have proved that targeting zero emissions not only permits far-reaching cost cutting; more importantly, it secures just that long-term competitive edge. This is urgently needed for any business which is groping to maintain market shape world-wide, and for those businesses which are keen on developing a strong unique selling proposition.

**Table 1.** The successful business in the 21st century

<b>Input Factors</b>	<b>Management System</b>	<b>Values</b>
labour	marketing	ethical
raw materials	productivity	moral
capital	quality	environmental
technology	just-in-time	
information	service	

Industry and regulators accept pollution. There is a consensus emerging that in order to secure the competitive position of industry, there is an optimum level of adverse impact on the environment. Although industry wishes to minimise pollution, no one targets zero emissions.

Any form of waste is a loss. Worse, it is increasingly a dominant cost factor, either for the company, short-term, or for society, short-and-medium-term. As Professor Brown, President of the Worldwatch Institute, patiently explains each year in the State of the World Reports, breakthroughs are needed to change the present course of development.

Whereas no one questions that industry is taking the environment seriously, and most corporations are taking measures dramatically to reduce their impact, the time has come to put forward a clear objective: zero emissions. This requires the re-structuring of business from A to Z.

### **The Zero Emissions Research Institute (ZERI)**

*"In nature, all waste is food for the next cycle of life. Only mankind has succeeded in making products nobody wants."*

Dr. Michael Braungart  
President, Environment Research Agency, Germany

The Zero Emissions Research Institute will address the issues outlined above. On one hand, ZERI seeks to create a new competitive edge for forward-looking companies; on the other hand, it will contribute to cutting costs. It is a fundamental input for economic development policies in the North and the South. This addresses the core of environmental problems. Pollution has to be brought under control and must be reduced to the absolute minimum attainable: ZERO.

The proposal is to gather a multi-disciplinary group of experts to undertake a feasibility study with the aim of establishing the first research institute and think-tank, focused solely on the design of industrial activities, which meet the zero emissions standard.

The Zero Emissions Research Institute (ZERI) will be an international research foundation, which draws on expertise from Europe, Japan, the US and developing countries. Its aim, is to assist corporations in the design of their products and the manufacturing process for zero emissions. In addition, its findings will provide input to policy makers at local, regional and federal level, world-wide. The Institute will be instrumental in launching pilot projects around the world, demonstrating the economic viability of their research. ZERI will, in part, be funded by an endowment fund, grants and partially by research contracts.

### **Scope of Research**

Once the raw materials have been selected, the product formulation or design will be addressed; this cannot be separated from the manufacturing process. Also, the location where the production is to take place should, ideally, take environmental and health matters into account. In conclusion, the way the products are distributed and consumed cannot be left to chance and, is to be part of the overall process of searching for zero emissions.

#### *Raw Materials Search*

The first step, in a raw materials search, is to make sure that all input factors are from a sustainable source. If industry is to draw on non-renewable resources, depletion of the raw material will ultimately affect the carrying capacity of society and nature. Thousands of new materials, from sustainable sources, are being discovered and are, at present, under scrutiny. These are likely to make an impact on industry.

#### *Short Processing Cycles*

If raw materials are subjected to long, energy-intensive and solvent-driven processing cycles, massive by-products will be generated and the final products will incorporate residues, which are potentially detrimental to both human life and nature. In order to maximise energy efficiency and reduce solvent use, processing cycles should be as short as possible.

#### *Low Toxicity Levels*

Whereas non-toxicity is impossible to attain, there is a wide variety of levels of toxicity and the duration of adverse effects available. Industry should always opt for raw materials which lead to products within the lowest possible overall level of toxicity (i.e. the initial level of toxicity, multiplied by the duration of the impact, which is determined by the speed of bio-degradation).

#### *Bio-Degradation*

Plutonium is biodegradable! It takes only 20,000 years to degrade 50%. Sugar-based detergents are 99.7% degradable within 48 hours. It is important to search for the best level of degradation, realising that this key parameter is expressed on a logarithmic scale (i.e. 99.9% is ten times better than 99%). Attention must be paid to the decimal points.

*Production Processes*

Over the past four decades, the drive for ever higher levels of productivity and the integration of automation robotics into the production process, has permitted industry to achieve high levels of efficiency. But, few, if any, of these systems have been designed for zero emissions. Batch processing, is often considered less productive but, it permits a much better control of all input factors and increases the opportunities for adaptation to local market needs. Redesigning industrial processes, with zero emissions as one of the key measures of success, is in the end, only an improved version of the perfect quality challenge which industry reluctantly accepted in the 1970's.

*Product Design*

Continuous manufacturing processes, increasingly, force the design of uniform and highly standardised products. Product standardisation has even been the precondition for improved productivity levels, though standardised products lead, in some cases, to increased levels of pollution when consumed. For example, detergents are formulated with the worst water conditions in mind. This implies that, in soft water regions, up to 40% of the ingredients are not needed. This leads to increased cost and unnecessary pollution. Automated production systems can also foresee flexible manufacturing, whereby products can be designed for local markets without sacrificing overall productivity.

*Factory Design*

It is a logical extension that a product and a process, designed with zero emissions as the objective, should be housed in a building which integrates the most advanced standards of sustainable architecture. This offers a surprising opportunity for decreased costs of operation, as well as, the creation of a unique selling proposition.

*Transport Systems*

The present centralised systems, of manufacturing, heavily depend on cheap and efficient transportation across the world. On the basis of concrete experience, efficient modes of transportation can be considered, which reduce the need for excessive shipment of "air" and "water" across the globe.

**Disposal System Consumption Patterns**

There are two types of products. The first type are consumed, like food and beverages, and the second type of products are those which render a service, like a computer, TV or automobile. The way products are consumed needs to take all environmental aspects into account, from packaging, over shelf life, to return systems. Products which render a service need to be re-used, recycled and taken apart, instead of disposed of in landfills.<sup>1</sup>

*Research Output*

The redesign of industrial activity, must lead to concrete results which are both practical and cost-effective. Products and services redesigned by ZERI must meet the price/performance standards of the market, otherwise they will not have the opportunity to stand up to competitive forces. Therefore, the previous studies will be complemented to assess overall performance.

The research will offer a set of three to five case studies per year for different industries with a priority in the consumer goods sector. This study must ultimately lead to an actual opportunity to invest in the zero emissions production of consumer goods.

*Methodology*

ZERI will accept a maximum of three to five research contracts per year. After an initial assessment of the challenges, made by the core team of advisors of ZERI, an ad hoc research team will be assembled to implement the programme. The research contracts will typically last for a minimum of one year and are not to exceed three years. ZERI will secure the progressive integration of experts, under the heading of a project director, who will integrate the overall process into a comprehensive plan.

*Priority Sectors for Research*

Any effort to proceed will be facilitated if the first target sectors for research programmes to be initiated within ZERI are spelled out. It is agreed that there are sectors where results can be reached much more easily than others. As the programme is starting, early success is welcome, and therefore, the following businesses have been preliminarily retained. This is to facilitate a targeted marketing to reach out to companies.

There are two types of products: consumer goods and products of service. The initial research is to focus on the first type. The reason is twofold: the first success in research will have an immediate impact on the public, at large, since they will be confronted by zero emissions standards for the products they consume. Second, it is considered easier to succeed in this field, than in that of complex equipment.

Building on the experience and the renown of the UNU, the food and nutrition sector has been identified. In this vein, beer brewing has been isolated as a priority. Not only has KIRIN( Beer already established a programme with UNU but, there are only four players in the Japanese market so it seems feasible to establish co-operation for a standard such as zero emissions, including, setting up a pilot plant. In this area, special attention will be paid to sugar-related industries. Numerous developing countries depend on sugar exports. But, as demand for human consumption is dwindling, alternatives are emerging such as new, practical applications for it's use, in plastics and detergents.

Paper and paper recycling is a second area. It is a market dominated by one company, OJI, but with several regional companies. Both the production of paper and its recycling are highly polluting. This business has been under tremendous pressure from the environmental groups and needs new breakthroughs. A collaborative effort seems a viable option.

Textiles is also a polluting business, mainly due to the dye process. This industry consists of more scattered, small enterprises. Packaging industries are also a likely target, not only because of the tremendous waste that is generated through excessive packaging but, also because it is another sector which has been targeted by green groups.

Building construction materials are also being considered. Although the Japanese have focused on the construction of "intelligent buildings," these buildings lack a vision, in terms of health and sustainability. There have been several experiences which could drive the Japanese construction industry, already heavily tainted by political scandals over kick-backs, toward new challenges. This is a non-exhaustive list. It is a mere enumeration of some of the priority areas. Of course, the involvement of leading trading houses such as Mitsui, Mitsubishi, and Sumitomo will be sought.

There are three types of products according to Dr. Braungart: products you consume, products which render a service and products no one wants (toxic waste, dioxin, heavy metals, plutonium waste).

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Dr. **Gunter Pauli**, a native Belgian, is currently Advisor to the Rector of the United Nations University, Tokyo, Japan. He holds an M.B.A. from INSEAD and is founder and Chairman of PPA, founder and CEO of the European Service Industries Forum, President of the Mozarteum Belgicum Foundation, and, from 1991 to 1993, served as President of Ecover Company. He was appointed "One of the Ten Outstanding Young Persons in the World" by the Junior Chamber in 1983, given the "Global 500 Award" by the United Nations in 1993, and was elected "Global Leader of Tomorrow" in 1994 by the World Economic Forum. His books, which have been published in ten languages, include *The Crusader for the Future*, *Biography of Aurelio Peccei*, *Founder of the Club of Rome* (1987) and most recently, *Breakthrough Management* (1994).