

## ABSTRACTS

### New approaches towards Efficiency, Productivity and Quality in Management Theory

*Carlos Eduardo Martínez Fajardo*

This article begins by analysing classical concepts of efficiency, productivity and quality, bearing the following factors in mind: land, physical resources, capital and work. It then deals with the role of new strategic factors: cybernetic management, the speed of information flow and the capacity to produce knowledge within organisations, these representing a new focus registering qualitative and quantitative advances in large corporative companies' competitiveness from the 1970s onwards, seen as part of a more complex vision.

Recent advances in the field of management (within a globalised social setting, based on information systems affecting innovation capacity, improved efficiency and transaction costs and the development of potential for modern organisations' growth) have been aided by the above three factors.

#### Key words

Efficiency, productivity, quality, management, social costs, institutions, social efficiency, social efficacy, competitiveness, cybernetics, the company seen as being an open system, the speed of information flow, production of knowledge.

### The new paradigm regarding Science and Management Theory

*Iván Alonso Montoya and Alexandra Montoya*

This article looks at how the paradigm regarding positive science has become changed towards being a more complex approach towards the same topic. It looks at how different authors' concepts have lead to more coherent new foci by borrowing from different areas of scientific knowledge, such as physics, chemistry and biology. The article shows how science's historical development has forced scientific method to become adjusted in line with more coherent ones to deal with the new problems to be modelled.

#### Key words

New science, change of paradigm, quantic theory, scientific method, management.

### Game Theory as applied to Administration

*Yuri Gorbaneff*

Game theory is being increasingly used in economics and administration, as it helps in understanding and prognosticating reality. Its application in administration is concentrated in three areas: organisational strategy, structure and behaviour. It is used in an academic plane for posing hypotheses and testing internal coherence. However, there are very few reports in the literature of cases regarding its practical use by managers. They treat games as being more of a barrier than a useful tool; this happens because it is difficult in practice for administrators to propose a model from a real situation. This article tries to overcome this and proposes some principles for creating game models. Such principles are based on the theory; they are also intuitive and understandable for those people who have no mathematical preparation.

#### Key words

Game theory, economic models.

### A Systemic approach to Territorial Diagnosis

*Leonel Vega Mora*

Territorial diagnosis represents an essential element, not only in formulating and articulating public policy and pertinent instruments, but in defining follow-up and evaluation mechanisms, and in decision-making processes. This article uses a systemic focus to propose and develop those aspects which (in the author's judgement) are intimately related to determining territorial diagnosis, such as: territorial characterisation through configuring base lines for territorial information - BLTI (*líneas base de información territorial LBIT*); identification, strategic prioritisation and analysis of territorial problems and potential; prospecting for and constructing possible scenarios; and selecting the desired scenarios.

#### Key words

Public management, territorial diagnosis, base lines of information, sustainable territorial development.

### A profile of Technological Capacity in the Graphical Art, Printing and Publishing Industry

*Florentino Malaver Rodríguez*

The text uses a study of companies in the graphical arts' industry to show how (contrary to that indicated by studies based on cumulative figures from industry) the dynamics of technical change represented by the irruption of digital technology, and its convergence with information and communication technology, has provoked profound transformation in this industry. The most significant changes have happened in terms of integration amongst the graphical, communication and entertainment industries; inter-entrepreneurial relationships and their morphology; and job and work competitiveness. The article argues that demand and the search for commercial opportunities within a micro-environment have stimulated informal learning, thus forging the capacity to adapt and adopt improved techniques and to innovate. The absence of formal technological management and innovation arising from R&D activities marks the limits of such technological capacity. However, for some leading companies, the speed at which they identify, incorporate and exploit new technologies fulfils a strategic function, representing the source of competitive advantages in their markets.

#### Key words

Graphical arts' industry, technological capacity, technological management, technical change, chain of production.

### Colombian Industrialisation: a Heterodox Vision

*Paulo César León Palacios*

The article presents some results from an investigation which provided a set of hypotheses concerning the industrialisation process in Colombia, understanding it to be a phenomenon produced by the relationship between economic development and the formation of social classes. Given that it springs from economic, historical and sociological knowledge regarding the theme for forming an interpretation model transcending the frontiers of these disciplines, the study is of great interest for those directing their attention towards theoretical and methodological polemics concerning

the industrialisation process as well as for those studying these problematical themes, specifically the tension between disciplinary and interdisciplinary matters.

**Key words**

Industrialisation, Colombia, industrial sociology, sociology of work, Pierre Bourdieu, social classes, economic policy.

**Determinant Factors in Environmental Pollution and the Use of Natural Resources**

*Klaus Georg Binder*

The following can be found amongst those factors determining the contaminating use of the environment and the use of natural resources: demographic growth, economic development (economic growth, change in economic structure, technical progress, etc.), the population's spatial concentration and its economic activity. Because of the interdependence between those factors determining the use of the environment, it cannot be said that economic growth in developing countries always increases the use of natural resources and has a negative impact on the quality of the environment. The affirmation stating that all economic growth implies a negative impact on the environment is based on unrealistic suppositions. An economy's magnitude is only one of the factors determining the use of the environment. The decisive question is whether determinant factors (tententially) causing a lessening of environmental use per gross internal product unit can compensate for economic growth's negative impacts with growth.

**Key words**

Environmental pollution, natural resources, economic growth, change in economic structure, technical progress, demographic growth, poverty, rate of chronological preference.

**Towards Environmental Management of Solid Residues in large Latin-American Cities**

*Luz Angela Rodríguez Escobar*

Contamination generated by the accumulation of solid residues, present in all large cities in Latin-America, affects the ecosys-

tem. Such contamination is caused by the population and its agglomeration in urban areas. Statistical data regarding large Latin-american cities leads to a direct relationship being established between a population and the accumulation of solid residues and also between the level of income and the generation of residues, showing that population-solid residue relationship is mediated by economic and cultural variables. Information regarding the generation of rubbish per person and respective socio-economic level leads to differences in the quantity and quality of the residues generated by individuals from different socioeconomic levels being established. This in turn is associated with different life styles and consumption patterns. The production of rubbish thus becomes boosted by the dynamics of production and consumption and demographical dynamics; as this is an unexpected effect produced by both, it makes solid residues become a sub-product of the development model and demographical dynamics. The environmental problem raised by solid residues in large Latin-American cities within the proposed scenario appears to remain unresolved and any decision aimed at its fundamental resolution is only seen in terms of changing the development model and society's behaviour. A less extreme solution consists of integral solid residue management through integral management policies.

**Key words**

Solid residues, contamination, population, integral management.

**A study of the sisal (fique) chain of production**

*Maria Eugenia Rubiano and Nancy Peláez Parada*

Summary This study represents a compilation of the most important results obtained during an undergraduate study entitled, "A feasibility study of the chain of production for sisal (fique) cultivated in Colombia," which took the sisal sector as its point of reference for estimating the feasibility of applying a chain of production scheme through strategic and structural analysis of the system. The sisal chain of production's structure reveals both the plant's real and potential uses and the strategic approach used by using different management instruments. It facilitates identifying fundamental factors in the problem affecting the chain's development, al-

lowing a strategic synthesis to be formulated for each one of the links and the chain in its entirety.

**Key words**

Chain of production, strategic analysis, PEST analysis, structural analysis, governability and importance, DOFA analysis, strategic synthesis.

**Organisational culture's importance in implementing and maintaining quality management systems based on the ISO 9000 standard**

*Sugey Luz Caicedo L and Marisol Caldas G*

Organisational culture assumes great importance when deciding to adopt a quality management system, in the sense that its elements facilitate or hinder its implementation and maintenance over a period of time. Such elements would include: senior management's commitment; being customer focused; participation and self-control; learning from mistakes; direct, constant communication; leadership; flexible, adaptable structure; agreeable organisational climate; innovation and creativity; motivation; and empowerment and organisational learning. The foregoing elements were analysed through a study carried out in four organisations which have implemented a quality management system following ISO 9000 standard guidelines. As the organisational cultures of INCOLBESTOS S.A., HILACOL S.A., COMPENSAR and INDUCARTON are at different stages of maturity, then interesting conclusions and recommendations were obtained for those organisations which are seeking to ensure that quality is part of their business philosophy and is present in those internally promoted processes. An approach was thus made using the theoretical principles sustaining the creation of an organisational culture focused on quality, being a means of learning from the experience of businesses which have taken the decision to implement a system of this nature.

**Key words**

Organisational culture, quality, quality management system, implementation, maintenance, certification, ISO 9000, senior management commitment, customer focused.