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CONTENTS

Diversity of Specific Quantitative, Statistical and Social Methods, Techniques and Management Models in Management Sistem

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The application of specific methods of various backgrounds in management increases over time. If we sustain system approach to management we can observe it as a system that brings together elements having a planning, informational, decisional, organizational, as well as a motivational character. The increasingly complex subsystem of management methods and techniques is a methodological-experimental subsystem made up of methods, techniques, procedures and instruments characterized by rationality, complexity and formalization, which conduce to an ascending dynamics of the organization's managers' professionalization. As this article will illustrate, specific management methods are so diverse that achieving needed proficiency can result in overspecialization of experts and create obstacles in integrating several different methods. So we can conclude that further advances in this field need to be supported by theoretical frameworks developed by experts in different fields of science that support specific managerial methods.

1. Introduction

The specific management methods, although believed to have an applicability below the level of the entire managerial process – which is, indeed, much more restricted, i.e. for a limited number of functions or stages – gather the broadest range of manners of approaching matters, as well as principles, techniques, procedures of analyzing the phenomena and the internal processes of the organization, and displaying its results, as a consequence of the joint action of various disciplines, which generates a multiple structure of distinct characteristic classes. In further text, several proposed categories of methods and techniques will be presented, and methods within those categories will be promptly described. The idea is not so much to provide unified list of potential specific methods in management, but to emphasize vast differences in background disciplines.

2. Specific methods for improvingpersonnel's creativity

A. The methods of stimulating the personnel's creativity within the organization, as a result of an interweaving with the psycho-sociological disciplines, as well as those of communication and public relations, combine some simple, yet efficient techniques in many concrete situations, which call for creativity; their relevance here is that of establishing new relations between people, things and ideas [1], and also creating new connections:

a1. the technique of forcing thinking, or Alex Osborn's checklist consists in reviewing all the aspects of a problem or issue, on the basis of a list, the aims of which are primarily to facilitate transforming the problem through operations used in a different manner, or bearing a different sense, such as similarity, modification, augmentation, diminution, replacement, rearrangement, reversing, combination and dissociation; furthermore, it can generate different perspectives on the respective problem;

a2. the technique of the list of attributes or of the qualitative list consists in drawing a list of attributes or qualities that an object or a problem has, then trying to change or modify each attribute or group of attributes in a number of modalities as large as possible (it is the modern variant of Alex Osborn's list, developed by Robert Platt Crawford).

a3. the technique of the case studs represents the simplest, yet most efficient variant of making the participants directly confront a real-life, genuine situation, taken as a typical example, representative of a whole set of challenging, problem-posing situations and events;

a4. the technique of the question "why?", and the technique of repeatable questions represent another two very techniques of creativity stimulation, consisting in developing a subject by means of questions; the former, which is quite old and comes from Asia, helps to solve the problem that eluded the manager's attention, in a first stage, as the latter is a bit more nuanced, and the questions are asked to emphasize a certain direction, be it causal, relational, successive, oscillating, etc.;

a5. the technique of the cause and effect diagram, similar to the fishbone-maps technique, which gives the possibility of evincing the sources of a problem, issue,

event or result, being used as a group technique, as a creative process of generating, organizing and attentively analysing the causal mechanism of an effect, both major (i.e. the main causes), and minor (i.e. the secondary causes);

a6. the technique of solving the problems in a process-related manner, using seven steps structures the reaction to a certain problem in several steps, which cover the function of managerial decision-making, in four major steps, i.e. planning the decision (in keeping with the following steps: step I – identifying the problem and the necessary changes, as well as minutely describing the problem, step II – describing the processes and relationships through drawing a map, setting the performance standards, step III – making a diagram that includes the causes and effects of the problem, or a "tree of the problem", and step IV – conceiving a detailed action plan starting from the solutions found), implementing the decision (exclusively through step V, i.e. communication of the plan to the parties involved, and to the parties interested, as well as application of the steps planned, and monitorizing that application), evaluation of the impact of the decision made (which only consists of step VI, i.e. review and evaluation of implementation and of the changes produced through comparing them to the performance standards), and the final step, i.e. improvement, or adjustment of the effects of a future decision (made up of a single step, step VII, i.e. reflection on the basis of the new information, evaluation of the entire process, and improvement of it, where a similar future situation needs better results).

a7. the technique of free association is based on the flow of the conscious ideas that can be inferred, and along the network of associations of a linear type (in accordance with the principle the each idea that emerges through association starts from the previous idea), and also of a radial type (each new idea has its origin in the central idea, not in the previous one – hence the name of this technique, star bursting or "stellar explosion").

a8. the technique of the metaphor, or the technique of lateral thinking, consists in representing the problem in a non-conventional manner, which resignifies it in order to change the participants' mood, their rhythm of work, in order to stimulate creativity through novelty and the sheer challenge of the task, to underline the practical side of the process, as the technique generates strong artistic and jocular / play-related implications, and assuming a written form (story, essay, etc), graphical (diagrams, collage, etc.), spatial or three-dimensional (sculptures, model constructions, etc.), sonorous (tunes, songs, etc.), kinetic (drama, mimicry, etc.).

a9. brainstorming [2] is a two-step technique, the former step pursuing the generation of ideas and their expression as freely as possible, without any judgment/evaluation being done, and the latter seeks to create a free, associative atmosphere, that of a creative group, through assessing the quality of the ideas after all the ideas have been expressed. Brainstorming starts by postponing the evaluation of an idea in favour of generating a new one, in a stimulated group, and thus creates a genuine explosion of ideas, as each member of the group is inspired by his/her predecessors' ideas (in circa 30-45 minutes, in a group of 5-6 people, an average of 100-150 ideas can be generated). The technique is also called the technique of unchaining ideas, and has generated three specific tackling ways: the progressive-linear one, the catalytic, prevalently analogic, or innovative one, and the mixed way. The essence of brainstorming lies in separating and specifying / lending precision to the psychological operations present in the act of creation, so as to maximized the efficiency of each of those, gradually turning the organization into a milieu/ environment favourable to idea-production and contagion through chain-association (by means of creative groups).

a10. the Frisco technique is a "staged" variant of brainstorming that is characterized by the fact that the participants plays roles imposed upon them (managerial roles in essence), which cover a certain dimension of the managerial personality, from a multiplied perspective, offering new solutions for the complex and difficult problems of the organization, by using simple and efficient ways. The Frisco technique can be partially identified with another variant, namely the technique of the thinking hats [3] belonging to Edward de Bono, which is centred on the hypothesis that if you play the part of a good/efficient thinker, or that of a good manager, you will actually become one. Acting is based on different parts, in keeping with the colour of the hat chosen, and so the technique of the thinking hats becomes one belonging to the interactive type, derived from brainstorming, yet retaining the elements characterizing it as a technique of stimulation of the participants' creativity;

A11.brainwriting is different from brainstorming through the mandatory written form of the generation and capturing of the ideas, thus desinhibiting the fear of ridicule, the dominating tendencies of certain people, the potential conflicting situations, etc.

a12. the technique of the nominal group takes over, in order to annul the effect of antagonistic arguments, the best of both brainstorming and brainwriting, but in addition presupposes using a group made up of people

who do not know one another, and who were brought together in order to solve a certain problem;

a13. the technique of the Philips 66 reunion represents a temporally condensed variant of brainstorming, in which the object of consultation is not merely individuals, but teams made up of (usually 6) individuals; the duration of the talks is very short, as a consequence of allotting at most one minute per participant in order to express their opinions);

a14. the technique of the panel reunion is a participative management technique, the grounding of which remains the permanent dialogue, having the character of a debate between two groups of people who met to make certain decisions concerning the range of problems specific to the organization. The frequent case when the panel reunion is applied is reflected by the activity of the boards of administration in their relations with the shareholders' general assembly;

a15. William Gordon's technique [4] is also a group technique, where it is only the leader of the group who knows the problem to be solved, while the topic is chosen in conformity with the problem, without however revealing its precise nature. The central axis of this technique is the leader of the group, who guides and directs/orientates the talks, over a duration a bit longer than that of regular brainstorming; he/she will try to alter its often superficial solutions, through skilful and expert / experience-trained substituting the problem-ridden relations in the organization for the ideas expressed by the participants with respect to the subject-matter being debated. The problem itself is disclosed at the end of the discussion, and disseminated / made public. Very much as Osborn's brainstorming is recommended when there are several ideas, so Gordon's technique is recommended for selecting one single idea, or in identifying an entirely new solution;

a16. synectics, a technique developed by the same William Gordon, also called the method of the analogies, brings together completely different elements to formulate ideas and hypotheses, through the reasoning of analogy (its name comes from Greek synectikos, which can be translated as "bringing together various/ different elements", which in fact suggests the very fundamental principle of the method, namely the association of apparently unrelated ideas). The method (or the technique) described stimulates the developing of novel, unexampled, original ideas, starting from a human's ability to establish connections between apparently irrelevant elements. The stages of synectics are: the building of the synectic group, the presentation of the problem, the setting of the synectic itinerary/course, the elaboration of the model / pattern according to which the problem will be solved, and, eventually, experimenting and applying the model. An interesting conclusion of the method, whose implications concern both management, and the assessment of emotional intelligence, underlines the fact that, in creative processes, the emotional element counts more than the intellectual element, the irrational prevailing over the rational.

Apart from the facts synthetically mentioned, there exist many other techniques specific to management, which fall, be it in a relative way, within the broad category of the methods of identification and stimulation of the staff's creativity; such techniques refer to the dynamics of the groups, and evince the special part held by groups in leading the organization, as well as in the process of multiplying ideas, which occurs in the participative management of the organizations, and no less in the management achieved through communication, when it comes to using the tests meant for the recruitment and selection of the creative employees, and the sociogram (i.e. the scheme of the aptitudes necessary to fill in a position), etc.

3. Specific statistical methods connected to efficiency

B. The specific statistical methods of managerial analysis starting from the criteria of efficiency are the result of integrating careful statistics and economics with ecological analysis within the contemporary methodical arsenal of the organization manager, and they include:

b1. the method of energy analysis, which is based on the method of the energy balance, focuses on assessing the potential of energy conservation, establishing an optimal level of that potential, and consequently on setting up an optimal managerial decision regarding the conservation of energy by having recourse to coherent measures.

Cassette no 1.

The general equation of a quantitative energy balance is a reflection of the content of the first principle of thermodynamics, which is expressed in a nutshell by the following formulation: "the sum of all the quantities of energy entering (SWI) the contour of the flow of executing the product or of the firm's activity (defining energies of every form, expressed in the equivalent of only one form of energy) is equal to the sum of all the amounts of energy coming out (SWE) of the same contour: S WI = S WE . As part of the energy that comes in (SWI) two major components are defined, namely the energy effectively entered into the contour from the outside, and the thermal energy generated from the inside through exothermal chemical reactions (when such energies occur effective-

ly); likewise, within the energy gone out (SWE) two other significative components are defined, through the effectively used energy, and the energy lost from the contour. The energy used or valued in a useful / efficient manner within the contour of the flow of executing the product is, in its turn, divided in two components, in keeping with the main technological flow, directly generating the product of the firm, and other processes or secondary flows of the firm. Thence several conceptualizations appear [5], useful for making the energy analysis, defined as energy efficiency rate:
1. the global efficiency rate = the efficiently used energy / the energy coming from the outside, and generated within the contour,
2. the internal global efficiency rate = the efficiently used energy in the main technological flow / the energy coming from the outside, and generated within the contour,
3. the economic efficiency rate = the efficiently used energy / the energy entering the contour from the outside,
4. the internal economic efficiency rate = the energy efficiently used in the main technological flow / the energy entering the contour from the outside.
The specific consumption (cX) of energy W for executing a unit of product "x", realized in the total quantity Q, is a final indicator significative for the energy balance, defined by the relation: c x = SW / Q x .

b2. the method if exergetic analysis appeared with a view to improving the method of the energy balances, as a means of investigation and calculation having energy and ecological implications. The notions of exergy, or usable energy, and anergy, or energy of a null capacity of transformation, were introduced by Zoran Rant[6], in the years 1953, and respectively 1963. In a succinct detailed presentation, the mechanical energy and the electric energy contain only exergy, the energy of the ambiant environment – only anergy, while thermal energy contains both exergy and anergy. Exergy evinces the quality of energy, a type of energy being all the more valuable as it contains more exergy. Anergy underlines, in the current stage of scientific knowledge, the lack of the capacity of transforming a certain kind of energy. In general, all the natural processes are irreversible, as they conduce to a qualitative degradation of energy through transforming exergy into anergy. The energa balance becomes, in keeping with the exergy analysis, a balance between exergy and anergy, through applying the second principle of thermodynamics, which defines the behaviour of both exergy and anergy during the reversible or irreversible processes, as follows:

Axiom I - In the irreversible processes, exergy turns into anergy.

Axiom II - In the reversible processes, exergy remains constant.

Axiom III – It is impossible for anergy to turn into exergy.

The general equation of a exergy balance validates both the principle of the conservation of energy, and the quantitative energy balance (or energy balance proper), and the principle of the degradation of energy during the irre¬versible transformations, and is virtually identical to the equation of the energy balance, except fort he fact that each component of energy is in turn divided, within the exergy balance, into exergy (E) and anergy (A), so that:

$$W = E + A \text{ , and } S\,W = S\,(E + A)$$

Thus appear the exergy deficits (DE), and the anergy surpluses (DA) at the exit from the contour of the flow of execution of the product, or of the firm's activity, the former indicating the size of the transformation's irreversibility, and being equal to the latter within the contour (DE) = (DA). The ration between the exergy deficit upon going out of the contour, in proportion to the same on entering (DE), and the exergy deficit generated within the contour (DEg) defines the degree of irreversibility of the energy transformation (DE /DEg). The exergy deficit (DE) can be reduced through managerial decisions aiming at thermodynamic improvements of the contour, the rational direction of the energy flows, augmenting the efficiency of the energy transformation rates, and through turning to account the secondary energy resources.

b3. the analysis of the restrictions and of the synchronous production, initiated by Goldratt Eliyahu, develops a set of programmes that organize and structure the activities within the economic processes, in the natural hypothesis of the limitation of the resources, tools and materials, machinery and equipment, personnel, and of any other restrictions which can affect the possibility for an organization to realize a certain production programme, thus laying the foundation of a new specific management method, briefly designated by the name of the method of the restriction analysis. One can easily see that nearly all organizations are faced with the phenomenon of the sense of haste/urgency in realizing the production at the end of the time period allowed by the contract (called by Goldratt Eliyahu "a hockey-stick", from the graphic aspect of the evolution of the production towards the final part of the period). The cause of the cyclic occurrence of this problem[7], lies in the fact that two different sets of indicators are involved: the initial indicators of norm-regulation of the energy consumptions, (manual) work / labour and materials (of efficiency of the cost accounting, local indicators, which lead to minimizing the number of technological interventions through large lots of work pieces, and also to diminishing deviations from the consump-

tion norms), and final indicators, which refer to the financial performance (theoretically, monetary units/delivered product, but practically in the shape of the net profit, the amortization of investment, and of the flow of cash per product). Thus appears the need for realizing other indicators having an operational character, another set of indicators, which could offer a direction of action: the equivalent value of the sold product, the stocks and the operational costs. The added and realized value is concisely defined as the equivalent value of the sold products, the stocks represent the money that the organization has invested in the products which it/they want(s) to sell, and the operational costs – the money that the organization pays for transforming the stocks into a turnover. The organization's objective becomes treating all three indicators simultaneously and continuously, and this leads to achieving the end of obtaining the money for which provision was made in the order or the contract proper, i.e. it is expressed through increasing the added and realized value, at the same time as the stocks and the operational costs are reduced. Another problem faced by the organization is generated by the deficient capacities, the exceeding capacities, and the resources having capacity restrictions. The notion of deficit capacity is identified, or the appearance of a bottleneck as being the resource with capacity smaller than the demand placed on it, and the notion of excess capacity, or the appearance of a wide spot, as being the resource the capacity of which is bigger than the demand placed on it. The conclusions of the analysis are remarkably useful: one hour saved in a tight spot / bottleneck virtually means an extra hour for the entire production system, while an hour saved at a wide spot is but an illusion, which only adds another hour to the idle/inactivity time. Thus, the analysis reveals resources with a restriction of capacity, or resources whose utilization is near to capacity, and so they can become bottlenecks/tight spots if they are not carefully programmed. The time of a complete cycle of executing a product is made up of a number of specific categories, or types of time: the adjustment time, a time that a team spend waiting for a resource to be scheduled or accessed, the access, or resource processing time, the queuing time, while the team waits their turn to come to access the resource, while the latter is busy with another team, the waiting time, when the team waits for another team (the subcontracted phase in the product's technological flow) in order to co-generate a certain stage of the project, and the inactivity time, as the difference of the duration of the activity cycle and the sum of the four previous times. In analysing restrictions the following notions are also used: drum, buffer, and rope. If the production system contains a tight spot, this is the best checking point, and it will be called a drum, because it sets the rhythm in which the rest of the system (or those parts that it influences) works (or "beats"). Putting and maintaining, before the tight spot, a buffer appears as an immediate necessity, in order to permanently ensure something to work on, as the production of this tight spot determines the firm's turnover. Likewise, within the flow, communication will be made upstream, in order to prevent a large stock forming, which would immobilize the firm's money. Communication, called, in a graphical manner, a rope, can be formal, in the form of a programme, or informal, coming as free talks.

b4. the method of the entropic analysis follows the signification of the second principle of thermodynamics, often even called the law of entropy; according to this signification, phenomena in nature are irreversible, their sense comes back from the state of order to that of disorder, from the state of imbalance to the state of balance / equilibrium. The acceptations of entropy are variegated, from thermodynamic entropy to statistical entropy, from informational entropy to social entropy. Entropy has facilitated the understanding of the processes having to do with energy, of the losses accompanying any energy transformation, seeking to increase efficiency of turning to account the energy available. The entropic analysis extends the contour of the productive technological flow, also involving the environment, or nature, in a polluting, negative and non-regenerative sense; the product and the packaging become, after use, factors of increasing the outer disorder. The process of product execution is defined as entropic, or resource-consuming, thus maximizing disorder in the ambient milieu. However, the support of information, or negentropy, appears as being a practical solution by means of extending, through knowledge, the traditional resources available, or via substituting them for new resources.

b5. value analysis [8] or value engineering constitutes one of the most interesting specific management techniques, which ensures the necessary balance between the use values projected, and the costs due/appropriate to their execution; they are defined through expressly analysing the product, the function of the product and its use value. Value analysis is a systemic and creative method of analysis and research-planning that, through the functional approach, sees to it that the functions of the product under study are conceived and realized at minimal costs, in conditions of quality that should satisfy the users' necessities in keeping with social-economic demands. The range of the problems related to dimensioning the functions, from both the technical and the economic standpoint, is determinant in value analysis. The correct evaluation of the level to

which a function is realized, by means of the characteristic measuring units, is called the technical dimensioning of the product function. The economic dimensioning of the functions presupposes the analysis of the product submitted to value analysis, from the producer's point of view, determining the means or resources consumed for the realization of the product, as well as its cost. In applying value analysis, the following steps are taken in economic practice: the stage of the preparatory measurements, the analysis of the social need, the analysis and evaluation of the existing situation, the conception or re-conception of the product, approval of the optimal solution, the execution, and the checking of the application. Value analysis represents a method having a very special character of generalization. The method of value analysis, or value engineering, can be applied to any product, organization, and even managerial system, going beyond its boundaries, and proving apt to successfully being tailored for the whole social and political system. Value analysis or value engineering imposes a new type of approach in organization management, responding to the components of the system through the intermediary of their functionality, and ignoring managerial procedures, and even the existing organizational structures, built exclusively on productive-constructive bases, which can lead to obtaining spectacular results, to improving the performances of the system, and increasing its economic potential. This brief historical sketch of value analysis emphasizes perhaps one of the most promising specific management methods, in the perspective of an expected resource crisis.

Cassette no. 2

- During World War Two, the crisis of such strategic materials as nickel, chromium, wolfram/tungsten and platinum determined the allied governments to prioritize their allotment to the armament industries. Diminution of resources generated an increase in the insurance of supply of substitute materials. In order for the product to work properly in the conditions when substitute materials were used, all of them had to be re-designed.[9] The theory of value analysis, succinctly described by L.D. Miles, presupposed defining the notion of product value starting from the difference of content which that notion involved, for the buyer, and for the producer. For a buyer, the value of a product signified the maximal amount of monetary units that he/she was willing to pay in exchange for the defining attributes of the product, in accordance with the quality characteristics, the conjuncture of the relationship demand-supply, and the prices of the products that concurred them in point of usefulness, or of the similar products offered by the other firms present on the market. Virtually opposed to the value-for-the-buyer, the value-for-the-producer, or the cost value, was defined as the minimal amount of costs by which the respective product can be manufactured. The two notions can merge into only one simple notion, that of value, which additionally implies the conclusion that the value of the product can be augmented either through diminishing the value-for-the-producer, or the cost value, or through increasing the value-for-the-buyer, or multiplied through both variants, cumulated in point of effects. This is, succinctly and in rather general terms, the concept of "value" elaborated at the General Electric Company, which also achieved, over a very short interval, important annual savings. This procedure of analysis of the firm General Electric was taken over by the Ford corporation, after 1958, and then by the companies coordinated by the Department of the USA Air Force, and, subsequently, by an increasing number of American companies, and, beginning with the year 1960, by some European firms. Nearly a decade after the emergence of the method, new extended solutions appeared at General Electric. To begin with, the typology of values was diversified, so the theory acknowledged the existence of four categories of values, namely: use value, estimation value, cost value, and exchange value. The first two categories synthesize the minimal costs necessary in order to configure the defining functional and psycho-sensorial attributes or characteristics of the product. In estimating quality by means of value, the product is redefined as the ensemble of utilities, and of relationships with its users. The other values, bringing together the production costs, or those recognized through exchange, are evaluations realized not in proportion to the material costs, but rather in proportion to the satisfaction the buyer gets after using the product. A first significant result of the method was that many manufacturers were tempted to use substitute materials. L.D. Miles set up a team made up of specialists coming from various compartments involved in designing a product, with a view to methodically and systematically analyzing the value of the designed and manufactured product. In the sixth decade of the last century, H. Erlicher, who had, in the meantime, become the Secretary of the Armed Forces, used his position to extend the method of value analysis. Yet, the method was simultaneously utilized by the USA Navy Office, who initiated a target-programme aimed at reducing the costs of the ships and adjoining equipment, as early as the design phase, which yielded excellent results in the years 1955 and 1956. The year 1956 was in fact the year when value analysis, now alternatively defined as value engineering in the activity of design, substantially developed thanks to the US Secretary of Defence, Robert McNamara. Using value analysis led to eliminating many unjustified costs, in direct proportion to the use value of the product; in only five years, the amount saved rose to something like over $14 million..

Value analysis is also defined through a number of fundamental principles:

I the principle of functional analysis, in keeping with which the functional characteristics are much more important than the structural ones,

II the principle of the double dimensioning of the functions, namely their technical dimension expressed through specific technical measuring units, and the economic dimension expressed through costs,

III the principle of the maximization of the ratio between the use value and cost (increasing the product's competitiveness through maximizing the use value in parallel to minimizing the costs),

IV the principle of the final hierarchization of the product's functions, starting from the simple relation of ordering S* = S S / P, where S* represents the average rank of importance, of the individual level of importance S allotted through order numbers, resulting from the number of analysis matrixes of the P type (assigning the level of importance is called up in proportion to the number of functions that define the product) [10]

V the principle of the systemic approach to use value, as the newly created products, on the whole, respond to certain individual/social needs, but not at any rate their subsets or components parts.

Value analysis is a type of organized analysis aiming at identifying the useless costs in the products having more than one component elements, utilizing functional analysis to define the problem, and group creativity to solve it.

Among the specific techniques and instruments that are incorporated in value analysis, one can distinguish the techniques of functional analysis, of analysis of the product structure, the use of the contact schemes and the determination of the conception function of the new product, the cost analyses (calculating costs through analogic, parametric or analytical methods, using matrices of the functions-costs type, and the cost histograms), methods for identifying the appropriate solutions to meet the consumer's needs and requirements, such as the techniques of creativeness stimulation, of functional arborescent analysis, and the computer-assisted devices (CAD), the technique of evaluation of the design solutions for the new products (the functional block diagram, or BDF, the table of functional analysis, or TAF, calculation of the conception efficiency rate, reliability, globally assessed through AMDEC (Analysis of Modes of Failure, Effects and their Criticalness). By detailing the inventory of the various techniques of functional analysis, one can find that each of them is more or less adapted to the specificity of the product or the type of analysis (the technique of the interactors, the functional tree, the F.A.S.T. diagram, the S.A.D.T. or G.R.A.F.C.E.T. techniques). Concluding, the method of value analysis has become, at present, more than an inevitable reality in the management of prevalently productive organizations, over a comparatively short period (only half of a century) after its spectacular appearance, looming as the main argument of a managerial type in the context of the drastic limitation of resources.

4. Specific statistical methods connected to previsioning

Revisions represent an interesting sociological answer, but mainly a mathematical and statistical one, given to management in order to help it design and plan decision-making and organizational alternatives more easily, either as individual techniques, or as ensembles of techniques that are rather various, yet homogeneous through the object predicted:

c1. the Delphi technique provides contiguity in solving a problem, by the agency of addressing questionnaires, or even rounds of questionnaires, to people who are at a considerable distance from one another (as a rule, experts in the domain under investigation, and, more rarely, a number of people who are directly interested); the aim of this technique is also to extract an organization's problems, and in order to make sure the initiative or the move will work, it is imperative to clearly establish the domain and the precise delimitation of the problem, the judicious choice of the participants, the processing, the synthesis, the interpretation and the presentation of the answers with a lot of competency, as well as allowing the participants sufficient time to answer;

c2. the set of the technological previsioning techniques comprises various techniques, from the technique of the scenarios, the pattern technique, the morphological technique, the technique of the matrix of discoveries, possessing a higher degree of use in the organization's managerial practice, to the technique of technological prevision through analogy, the technique of the precursory events, the technique of international comparation, and even the technique of opinion polls / canvassing, whose utilization is relatively lower in point of frequency. The technique of the scenarios defines a procedure that points out the critical moments where the manager is required to intervene for the activity of the organization to continue, through decision-making, opting for one of the possible variants in a certain domain. The technique describes a sequential, yet logical, event, and has the capacity of emphasising critical moments. The option allows continuing the action along one direction or the other, and generates another logical succession of sequences, as the iterations lead towards different critical areas, imposing another option through decision-making, etc. The technique diversifies in keeping with the elements characteristic of the scenarios, through the theory of the strategic games,

through simulation, mathematical models, dynamic programming, etc. The pattern technique, utilized in prevision-making in the technical and technological field, first puts forward the objective, and then effects the previsional study in order to discover the factors that facilitate attaining the time targets, or make it more difficult; it is apparently similar to the management method based on objectives, applied in the particular case when the objectives cannot be rigorously quantified, so the moment of attaining partial goals cannot be accurately predicted, and consequently the stages of performing the programme have a broader tolerance margin. [11]

The morphological technique of prediction decomposes the whole into its structural parts, and distinctly realizes the independent quality projection for the component parts, starting from the progress of technique and technologies. The technique of the matrix of discoveries makes predictions through combining only two factors (either both technical or technological, or one technical or technological and the other economic);

c3. the set of the techniques of trend estimation combines the statistic techniques of adjustment and extrapolation of the chronological series of data;

c4. the set of the techniques of stochastic and econometric modelling puts into effect variegated statistical and mathematical techniques, starting, in principal, from the technique of self-regressive modelling and the technique of econometric modelling.

5. Specific nžmanagerials models of organizational generalization

D. The typical methods of the managerial activity are the methods of maximal organizational generalization, and they include:

d1. the meeting, or reunion (both names, although different, designating the same institutionalized form of dialogue, taking place in keeping with pre-established rules, where, through the confrontation of the participants' opinions, regulations and rules are set/established, and decisions are made; simultaneously, it also becomes the solution that usually serves the communication problems);

d2. the delegation (a decision that transfers tasks to the collaborators, especially in the periods of managerial over-occupation, and develops a favourable climate for amplification of the subordinates' initiative);

d3. the control panel is a useful technique, notably in top organization management, interested in possessing synthetically, simple and prompt situations concerning the general state, as well as the organization's time and space performance.

6. Various specific methods of management

E. The specific methods of management (e.g. weather disasters management)

The weather disaster management involves many disciplines and institutions and focus on the main activities that take place, some on a regular basis as part of the weather forecast service, and some triggered by extreme events. These activities are: 1) weather and hydrological forecast; 2) assessment of weather disaster risk for specific zones and warning; 3) evacuation and other measures taken to diminish damage; 4) further intervention and rescue missions, help in case of weather disaster; 5) steps to restore normality and resume economic activities; 6) complex evaluation of the situation and implementation of plans that will adapt communities for future possible severe weather disaster [12-13]. Disaster Management includes the main weather management issues of weather disasters: monitoring environmental changes, observations and data collection, diagnosis, modelling forecasting of meteorological and hydrological hazards produced by extreme weather and climate change, advances in radar, satellite and hydrological modelling methods for flash flood forecasting and droughts, remote sensing and geophysical surveying, quantifying fluxes of water among hydrologic reservoirs, and understanding the causes of global water and energy cycle variability, prediction and simulation of hazardous weather using mesoscale and microscale, numerical models and assimilation systems, urban planning or urban disaster management, natural catastrophe risk modelling (recent development in loss modelling technology and application to insurance, risk managers and local governments). Natural catastrophe risk can represent overall social and economic impacts of natural hazard on humans and the built environment. Such impacts include, among others, loss of life, injury, damage and loss to properties, business interruption and loss of profit. This integration of natural phenomena and their consequences is mathematically specified as exposure:

Risk = Hazard x Vulnerability x Value.

Evaluating the social and economic impacts of natural catastrophes involves a number of different disciplines ranging from earth and weather sciences, to management, economics, mathematics, statistics, physics, engi-

neering, demography, etc. Natural catastrophe risk models may also be used by local government for risk mitigation, post-disaster reaction, recovery planning and public awareness programs relating to: computer modelling of natural risks, natural catastrophe risk modelling methodologies, the use of GIS in natural catastrophe risk modelling, uncertainty and sensitivity of computer risk models, availability, reliability and quality of data used in natural catastrophe risk models, regional vs. local risk models, modelling the social and humanitarian impacts of natural disasters, natural catastrophe risk modelling of urban areas and its application to urban planning, post-disaster planning and risk mitigation, building and social vulnerability of developing countries to natural disasters, practical applications of natural catastrophe risk models in the business environment, etc.

7. Conclusion

As management theory advances in development of wide spectrum of specific multidisciplinary methods and techniques it is becoming more and more necessary to combine the techniques into new methods, and even methods into new leadership and management systems, with a view to attaining an increased efficaciousness of management. We propose further study aimed at aggregation of methods. Aggregation of techniques in practice, while the methods and the techniques are increasingly utilized in ever more diverse combinations by the managers, can result from disadvantages of individual application of any method or technique, further the capacity of homogeneous ensembles of techniques grouped into methods of satisfying multifunctional managerial needs, in constant striving toward improvement. But as this article has illustrated, specific management methods are so diverse that achieving needed proficiency can result in overspecialization of experts and create obstacles in integrating several different methods. So we can conclude that further advances in this field need to be supported by theoretical frameworks developed by experts in different fields of science that support specific managerial methods.

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[2] Osborn, A.,(1980), Wake Up Your Mind! 101 Ways To Develop Creativeness, Charles Scribner's Sons New York, (an edition reprinted after the original 1952 variant), page 34. The author's synthetic formulation best describes the essence of the method: "If you try to get, at the same time, from the same tap, warm water and cold water, all you'll get will be lukewarm water. If you try to criticize and at the same time create, you will not be able to criticize dispassionately, nor will you be able to generate ideas with enough warmth".

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[8] Value analysis developed as a result of an initiative appeared in the 1950s, within the American firm General Electric. The supply director of theat firm, namely H. Erlicher, remarked that in many cases coming back to the original projects, for which scarce material were provided, was not justified, as the new products functioned as well as the older ones, and especially at much smaller prices. The target of reducing the costs in the conditions of a qualitative level that was at least constant, established as a poit of reference, was transmitted as an objective to L.D.Miles, the head of the supply service of on eof the company's divisions, based in Baltimore. Taking into account a number of aspects concerning the costs of the current products, but also the costs of the new products, in 1947, L.D.Miles elaborated a specific, functiononal and systematic method of management for decreasing costs, which he called value analysis.

[9] If L.D. Miles used the name of "value analysis", or "search for value", subsequently the Navy Office of the American Fleet used the term of value engineering in order to describe value analysis in the design / project stage. Thus a confusion appeared, which lasted for a long time. The terms in question are utilized to indicate the stage for which the procedure is applied (i.e. an already existing product, or at the level of product con¬ception/design).

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