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USING CARATERISTICS SCALES OF CPI FOR VALIDATING PSYCHOLOGICAL PROFILE SPECIFIC OF VIRTUAL ENTERPRISE CULTURE

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Abstract: *The main goal of our paper is to accord the relevant profiles of psychological inventory - CPI with the organizational culture specific virtual enterprise as a geocentric organization. Beginning from the analyzing of requirements in ethnocentric and geocentric companies we had CPI scales adapted to what we consider to be the relevant profiles for human resources in those organizations. However the psychological scales of CPI must be adapted to the new paradigm.*

Key words: *organizational culture, virtual enterprise, geocentric organization, CPI scales.*

1. INTRODUCTION

Traditionally mechanical, manufacturing and industrial engineers have played more dominant role in manufacturing. However, the increasing trend towards automation that is facilitated by changes in human resources management has imposed for manufacturing engineers to acquire special skills. The special skills relate knowledge processing, advanced computing techniques, human computer interface, and last but not least management skills for global manufacturing environmental issues.

In the paper we intend to define the specific psychological profiles that must be able to work in the VE and in the context of global manufacturing. For analyzing those requirements geocentric management paradigms we had psychological scales of CPI adapted to what we consider to be two most important requirements in the virtual organizational culture.

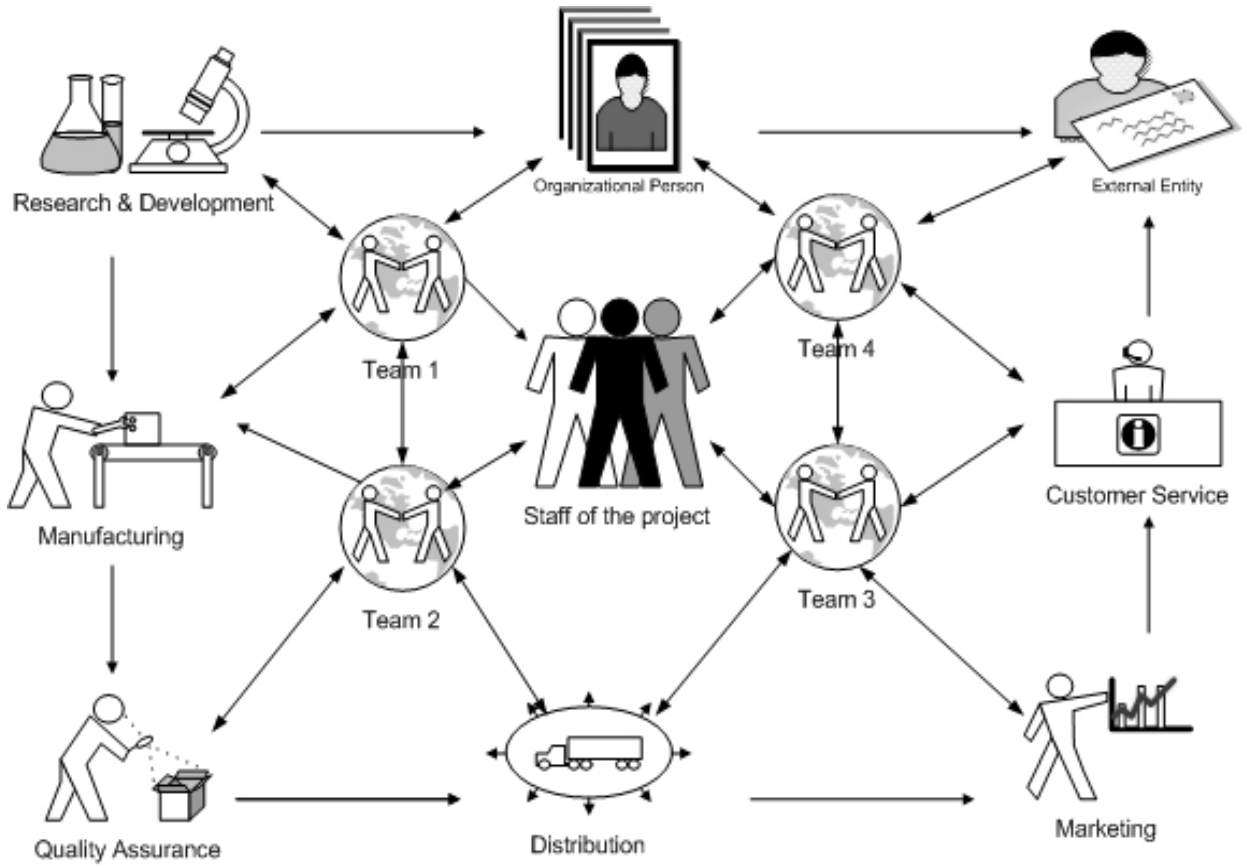

Fig. 1. Virtual Enterprise.

2. VIRTUAL ENTERPRISE LIKE A GEOCENTRIC ORGANIZATION

Organizational culture is often defined in terms of shared meanings – patterns of beliefs, rituals, symbols, and myths that evolve over time, serving to reduce human variability and control and shape employee behaviour in organizations [1].

The development of organizational culture is a natural sociodynamic process which occurs regardless of the intent of executive leadership, although it may be influenced by management [2].

A geographical dispersion of employees presents special challenges for the organization in processing information for organizational action, especially under conditions of high differentiation and interdependence. It is proposed that traditional mechanisms of organizational structure may not be as effective as cultural systems in reducing equivocally and uncertainty under these circumstances.

Existing organizational typology models do not adequately describe how many of today's organizations that are increasingly geographically dispersed, due to technological advances such as wide area networks (WANs), internet, and wireless communication, manage information demands and control strategic behaviour of employees

On the other hand existing organizational typology models do not describe organizations that aside from being geographically dispersed must employ individuals who are often lacking in basic education and skills, and for whom most traditional training techniques may be inadequate [3].

This source of uncertainty is increasingly characteristic of many mass service organizations today.

The concept of Virtual Enterprise (VE) is mostly associated with specific characteristics: a network of enterprises that constitute a temporary alliance, in order to share their costs, skills and resources, in supporting the necessary activities towards the exploitations of fast-changing opportunities, for product or service requests and competitiveness in a global market (Fig. 1).

So, the global manufacturing enterprise can be viewed as a collection of interconnected virtual and/or real entities and the whole manufacturing systems will be represented by the society of manufacturing agents, in which every agent will be doing specific tasks (design, planning, manufacturing, control and diagnosis, marketing etc.).

The over all system will evolve out of their collective interactions.

The VE is a temporary co-operation of independent firms to realize a short window of opportunity in a market that neither of the partners can exploit (or only to lesser extent) on its own.

Co-operation creates advantages for all parties as it provides access to essential contributions for unpredicted business opportunities and thus increases the chance to be able to deliver as a network.

The formation of VE is an intricate process that typically requires some pre-existing enterprise pool – a cluster of enterprises.

Table 1

Characteristics of the geocentric companies

Characteristics	Geocentric
Structural configuration	Decentralized federation. Many key assets, responsibilities, decisions decentralized
Management attitude towards overseas operations	Overseas operations seen as portfolio of independent businesses
Role of overseas operations	Sensing and exploiting local opportunities
Development and diffusion of knowledge	Knowledge developed and retained within each unit

A cluster has also been referred to as a "breeding" or "nesting" environment [4], where members share some common elements that make cooperation arrangements feasible (be it technologies, business-related resources, etc.).

Advances in information and communication technologies make it possible to support cluster formation.

The VE is about managing dynamic organizational and business change. Instead social interaction in the region provides much richer social communication than information technology would allow to support. In global virtual enterprises, with no doubt, information and communication platforms do play a much more important role.

We can consider a virtual enterprise like geocentric companies where there is similarly a high degree of international coordination on production, but where there is a greater degree of independence observable across branch companies, and greater orientation towards satisfying the demand among local markets.

The origin of capital becomes blurred as the corporation expands internationally, and a greater number of international managers are recruited.

The heads of the branch companies enjoy greater autonomy and decision-taking is more horizontal, tending to be carried out among branch managers.

Is doing the different between the others organizational culture (ethnocentric, polycentric and regiocentric) and the geocentric culture are the characteristics presented in the Table 1.

Management by process is emphasized as well as the increased need for communication between the management of the different branches.

The corporation that best fits this model, in our opinion, is a leading IT and communications company which manages the data bases of the company's customers and offers after-sales services to both internal and external customers using the new information and communication technologies.

The geocentric enterprise will be better positioned to disseminate experiences and know-how concerning environmental management gained in one section of the enterprise, throughout the transnational network.

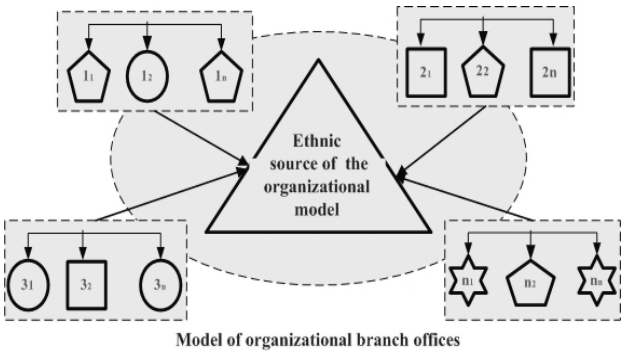

Fig. 2. Geocentric Corporation.

The geocentric companies is similarly a high degree of international coordination on production, but where there is a greater degree of independence observable across branch companies, and greater orientation towards satisfying the demand among local markets (Fig. 2).

The heads of the branch companies enjoy greater autonomy and decision-taking is more horizontal, tending to be carried out among branch managers. Management by process is emphasized as well as the increased need for communication between the management of the different branches.

A geocentric orientation would imply that ultimately a multinational corporation's employees would be as described – multinational – and that local employee would not be discriminated against. On the other hand we can consider geocentric corporation like an organization with geographically dispersed employees, a high percentage of employees performing relatively simple tasks, and which possesses strong and pervasive structure and culture. The structure and culture coexist in this organization for essential purposes. The structure exists because numerous jobs in such large organizations entail tasks involving limited creativity and skill (high task simplicity), and high reliability in the delivery of the organization's products and/or services is necessary to serve the organization's stakeholders. The strong culture exists because organizational units are highly geographically dispersed, and although standards can adequately specify acceptable job performance under normal conditions, standards cannot anticipate unusual circumstances that require an employee to make a decision without proximate supervisory assistance.

It is four mechanisms for reducing variability and instability of social systems:

1. centralization (of decision making),
2. formalization (rule enforcement),
3. output control (acceptance of only adequate task outcomes),
4. shared values and expectations.

The first three mechanisms encompass structural elements, and the fourth is essentially culture. Structure has been further identified as the standardization of:

1. work processes - where the contents of the work are specified or programmed,
2. output - where the results and dimensions of the work product are specified,
3. skills - where the kinds of training required to perform work are specified.

As task complexity increases, reliance on structural mechanisms to control behaviour may not always be sufficient. Task uncertainty and information processing requirements increase when tasks those individual employees must perform become more complex and interdependence between individuals performing such tasks increases. The other authors describe organic organizations as those that face dynamic conditions which constantly produce new problems and unpredictable requirements for action. In an information processing view, organic organizations are comprised mostly of task situations that process nonroutine information

Organic organizations are characterized by tasks that require special knowledge and experience, as well as continuous adjustment and redefinition through interaction with others. Frequent meetings which allow people to exchange perspectives hammer out definitions and solutions to problems, resolve conflicts, and develop shared interpretations used to direct future activities are necessary.

In addition, a network structure of control, authority, and communication, rather than hierarchy, is appropriate for organic organizations in recognition that knowledge may exist anywhere in the organization, not just at the top.

It sent about ability and role in influencing the organizational culture, the traditions and experience, by cultivating higher and more efficient standards and values. Also, developing the social standards of some industrial countries, on the other hand, inducing dependence, inadequate practices, and hard to assimilate industrial values to the host country, which creates the premise of the real new colonialism.

3. CPI - CALIFORNIA PSYCHOLOGICAL INVENTORY

Psychometric and conceptual analyses of the CPI instrument have identified three basic dimensions underlying scores on the folk and special purpose scales [5].

Table 2

The four dimensions of CPI

I. DEALING WITH OTHERS	II. SELF-MANAGEMENT	III. MOTIVATIONS AND THINKING STYLE	IV. PERSONAL CHARACTERISTICS
Interpersonal style and manner of dealing with others.	Endorsement of normative conventions, including norms related to self presentation	Cognitive / intellectual functioning and the need for achievement in either structured or open situations.	Qualitative aspects of thinking and behavior
Do, Cs, Sy, Sp, Sa, Wb	*Re, So, Sc, To, Gi, Cm*	*Ac, Ai, Ie*	*Py, Fx, Fe*

The items on the inventory produce scores for 18 scales, which are divided into four classes: measures of poise, ascendancy, self-assurance and inter-personal adequacy; measures of socialization, responsibility, intra-personal values, and character; measures of achievement potential and intellectual efficiency; and measures of intellectual and interest modes.

The scales of C.P.I. are structured in four dimensions:

- The first sector of the profile - DEALING WITH OTHERS - contains scales assessing interpersonal style and manner of dealing with others.
- The next sector of the profile - SELF-MANAGEMENT contains scales pertaining to the internalization and endorsement of normative conventions, including norms related to self presentation.
- The third sector of the profile - MOTIVATIONS AND THINKING STYLE - sheet contains three scales pertaining to cognitive/intellectual functioning and the need for achievement in either structured or open situations.
- The final sector of the profile - PERSONAL CHARACTERISTICS - sheet contains three scales that assess broadly stylistic or qualitative aspects of thinking and behaviour.

The type and level classifications given just above furnish initial guidance for interpreting this protocol

This analysis of each of the 18 scales will lead to more specific comments than can be derived from type and level alone. A professional, individuated interpretation can, of course, go farther than this, taking account of patterns and configurations among the scales. A decision about whether or not an individual's results on an instrument are valid enough for interpretation is a professional judgment. Psychometric and conceptual analyses of the CPI instrument have identified four basic dimensions underlying scores on the folk and special purpose scales.

4. CASE STUDY

In our study we were applied California Psychological Inventory at a number of 86 students (42 female students and 44 male students). After application CPI, we were obtained the psychological female and masculine profiles (Figs. 3 and 4). The purpose of the testing was to select the persons with the best psychological profile for specific requirements demanded by the geocentric corporation.

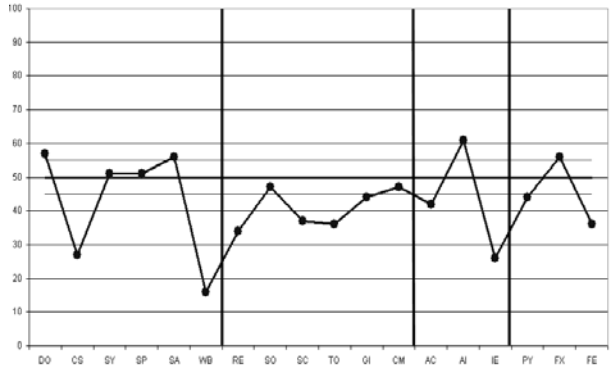

Fig. 3. Psychological female profile.

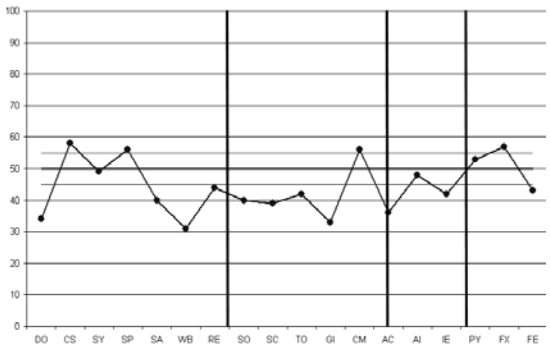

Fig.4. Psychological masculine profile.

From the 18 scales of CPI, 10 were selected (*Do, Cs, Re, So, Sc, Ai, Ie, Py)* as the most relevant to the specific post requirements. CAD, CAM & CAE engineering postulation was considered for different positions in geocentric corporation human resources architectures as specific employment requirements in this environment

5. CONCLUSIONS

The test results for the 8 relevant scales were related with the other 10 (considerate with a lower weight in the final appreciation) in order to allow a complex interpretation of the profiles.

From 86 postulants only 3 obtained satisfying results for all the 3 post profiles, according with the specific requirements in geocentric corporation.

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