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Title: Benchmarking analysis for Creativity Understanding and Fostering in Conventional and New Technology Firms.

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EXECUTIVE SUMMARY: This paper asks the question if a benchmarking exercise of local firms can also adequately support creativity understanding and fostering for the purpose of regional economic policy making. The area of reference is Western Greece, one of the Less Favoured Regions in the European South. A 2006 survey by the Patras Science Park (PSP) on Benchmarking for local Conventional and New Technology firms, located in the region, is reviewed under the light of theoretical ideas on creativity in firms and regions. Conclusions are discussed in view of the role of the PSP as a facilitator for economic and innovative development in Western Greece. The discussion touches aspects of measuring creativity, and the ongoing debates on the importance of retaining talent in urban and regional economies as well as the need for fostering creativity in the workplace and through raising employment in creative businesses in general.

1 INTRODUCTION

Patras Science Park (PSP) was established 15 years ago with the aim to establish an Innovative Business Area in the Region of Western Greece. As part of its objectives PSP, in association with the Centre for Business and Technological Development of Western Greece created a “Benchmarking club”, with the aim to aide and support its members in issues of evaluation and competitiveness. The PSP is located in the suburbs of Patras, a small metropolitan area 200km west of Athens. The population of the wider region is 733.816 (7% of the total population in Greece) and the main urban centre, Patras, is a conurbation of a quarter of a million inhabitants. The local economy benefits from good access to the foreign markets through its frequent ferry connection to Italy. The main specialization is in the service sector (51% of the regional GDP), the manufacturing and food processing sector (22%GDP) and in the agricultural sector (27%GDP).¹

There is increasing enterprise activity around commerce and services, the higher education institutions and the regional hospital on the one side, and a long and continuing industrial tradition especially in food processing and the wine and beverages sector, on the other side. The latter were the focus of the benchmarking exercise of July 2005 – December 2006. Based on this study, combined with studies and reports on regional innovation the paper attempts to develop insights on the issues related to creativity in local firms.

The issues figuring more prominently in the effort to assess and assist the competitiveness of local firms have been treated specifically in the benchmarking exercise. But when it comes to creativity, given the vagueness of the concept, it is unclear how to work out an operational definition that could be relevant and applicable to the regional entrepreneurial context. The paper attempts to build an opinion for judging whether benchmarking is a good tool for understanding and fostering local creativity, and if not suggest alternative courses of action to this aim, informed by analyses of the local socio-economic conditions and theoretical ideas on creativity understanding and measurement in regional contexts.

The paper is organized in four parts. Part 1 presents the business profile of Western Greece. Part 2 surveys ideas of the literature that are relevant for understanding creativity in regional contexts like Western Greece. Part 3 asks the question whether creativity is a clearly defined objective for local firms and the regional economy in general. Part 3 investigates whether the ongoing benchmarking exercise can be extended *mutatis mutandis* to work as a tool for creativity understanding and fostering in the examined firms. Part 4 concludes and links the discussion with the general demand for supporting and strengthening the competitiveness and innovative profile of the local economy.

2 RELEVANT IDEAS ON CREATIVITY FROM THE WIDER LITERATURE

This essay asks the central question whether the existing tools for measuring and assisting the competitiveness of local firms (especially the typical benchmarking exercise) are adequate, or new tools should be created better suited to deal with—the increasing importance of—creativity.

It can be widely accepted that there exists a multitude of approaches concerning the issue of creativity. There is a well-developed research area in a long list of disparate fields ranging from the studies of learning and education, to human resource management and organizational studies, to social geography and modern urban theory, and the studies of economic development. It seems there are four interrelated but relatively independent levels of analysis for creativity: the individual, the organizational-firm, the local urban and regional, and the national and international. Of course all levels are essentially connected in a scheme of overlapping social milieux. A—creative—individual interacts with its own network of ties which extends to his workplace and beyond. Similarly the firm is not an isolated actor but an active player of the local economic life, and increasingly a nodal point in a global network of production and transactions. In turn cities and regions, as functional spatial units, are the geographical areas where most economically important activities are spatially clustered.

It is beyond the scope of this essay to do a synthesis of theoretical and empirical studies on the issue. Such an effort is far from being realized and in fact the vagueness of the concept and the diversity of approaches make it a highly complex undertaking. But since one of the aims of the paper is to develop an opinion on the assessment of creativity (for the benefit of local firms), the discussion, despite simplicity, will benefit from the introduction of some definition points.

First, measuring and conceptualising creativity is by no means an accomplished business; Venable (1994) in a review of the literature of testing and measuring individual creativity notes the following:

I am reminded of a metaphor in which several blind-folded people are situated around an elephant, each touching some aspect of the animal. The ensuing individual definitions of 'elephant' from divergent vantage points only shed light on a small part of a large whole. In the case of creativity testing, researchers have developed such a plethora of methods that there exists a glut of complex results and conclusions, many inconclusive, rendering this animal called creativity educationally impotent.

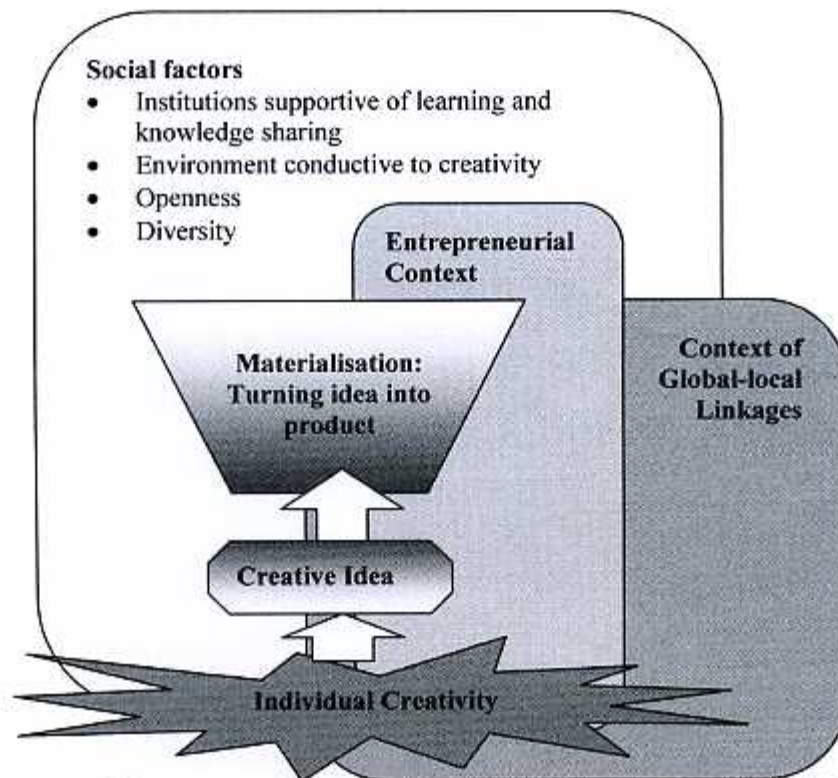


Figure 1 The process and context of creativity (author's own elaboration)

Second, it is no need to argue how central to the analysis of economic growth is technological change. In turn key for technological change is how knowledge and innovation is actually "created" in an economy. This was emphasized by Adam Smith and more recently in substantial literature devoted to this "from Schumpeter, to Schmookler to David and Rosenberg" (North, 1990). Neoclassical economics, however, do not provide any adequate explanation to maximisation other than the price mechanism. (Williamson)

Third, initially the critical (Knight, Coase) and later on institutional approaches (Williamson, North) offer more elaborate explanations of the formation and role of the firm; of the latter, North's approach to neo-institutional economics "integrates the maximising objectives of the organisation, which have been conditioned by the institutional framework, with the development of the stock of knowledge":

In fact, the real tasks of management are to devise and discover markets, to evaluate products and product techniques and to manage actively the actions of employees; these are the tasks in which there is *uncertainty* and in which investment in information must be acquired.

Furthermore,

[these tasks] do not occur in a vacuum. They entail the development of *tacit knowledge* to unravel the complexities associated with problems of measurement and enforcement. The kinds of information and knowledge required by the entrepreneur are in a good part a consequence of a particular *institutional context*. That context will not only shape the internal organisation and determine the extent of vertical integration and governance structure, but also determine the pliable margins that offer the greatest promise in maximising the organization's objectives. (North, 1990: 77, emphasis added)

Fourth, the above points do not preclude that firms and institutions are in fact localised. The argument is focused not on if regional settings are conducive to economic growth but on the question which regional setting is the best incubator of technological change and economic growth. (Despochers). On

the one side some authors (Feldman and Audretsch 1999, Glaeser et al 1992, Harrison et al 1996 qtd in Desprochers, Duranton and Puga 2005) talk about “geographically localised dynamic knowledge externalities or ‘Jacobs externalities’, as the spatial concentration of diverse individuals increases personal interaction across economic sectors, which in turn generates new ideas, products and processes”. On the other side, “other scholars argue that while localized diversity might be important in certain cases, local specialisation allows a better allocation of resources and/or increased competition and is therefore more conducive to innovation and growth” (Desprochers).

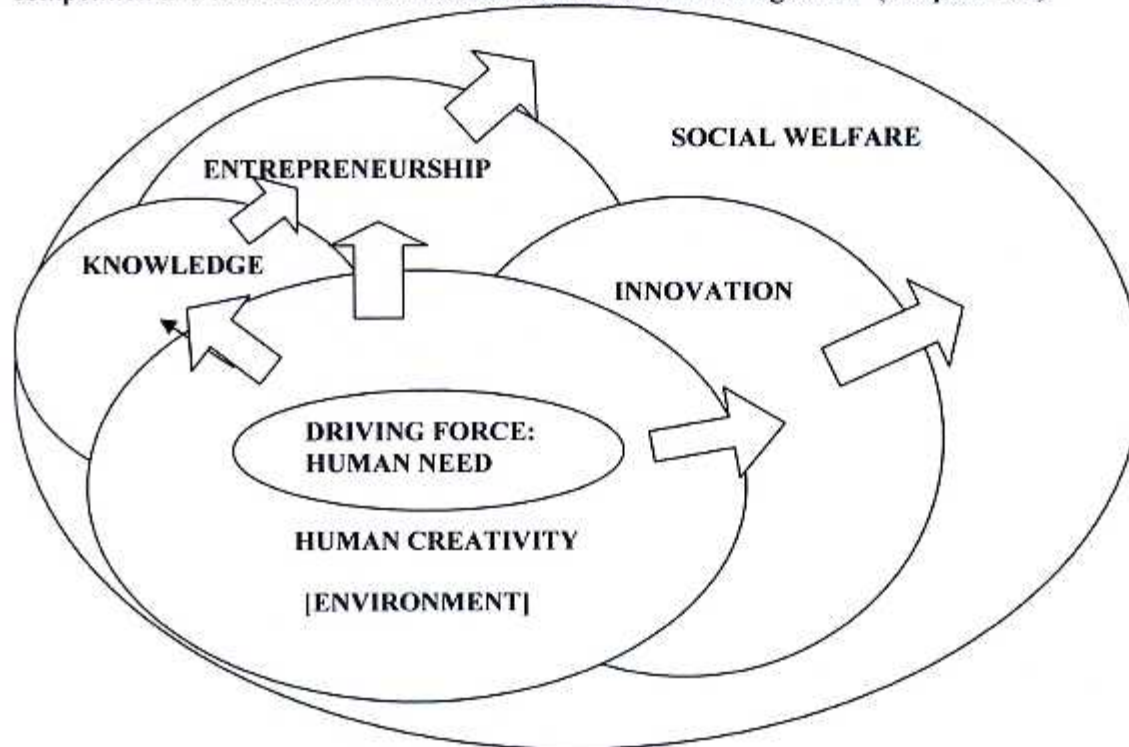


Figure 2 The expanding circles of Human Creativity, Innovation and entrepreneurship and their social utility (V.G.Papadakis)

Fifth, knowledge spillovers stemming from diversity have been a central focus of mainstream urban research in recent years. Creativity and idea generation are not unconnected to innovation and growth. As Glaeser notes, Adam Smith emphasized the importance of knowledge creation. Sam Youl Lee et al, trace “the initial attention to the role of cities in concentrating and spurring human creativity” to Park et al (1925), and Jacobs who “explained how cities function as ‘open systems’ to attract talented people from various backgrounds. In his bestselling work *Florida*, summarized and underlined these older points (Glaeser a), saying that “It’s all about creativity”. In Sam Youl Lee et al “Creativity and diversity are [seen as] more fundamental than critical resources for entrepreneurship such as tax rate, human capital, venture capital or entrepreneurial zone. It can be regarded as social habitat”. In that respect they view lower “entry barriers” as important in “making it easier for human capital with various backgrounds to enter the region and stay with it”ⁱⁱ Moreover they see the relation between creativity and entrepreneurship as existing by definition based first, on the definition of creativity by Sternberg (1999 in Youl Lee) as “the ability to produce work that is both novel (i.e. original, unexpected) and appropriate (i.e. useful, adaptive concerning task constraints)”, then on Sternberg and Lubart’s definition of entrepreneurship as “a form of creativity that can be labeled as business or entrepreneurial creativity because often new businesses are original and useful” and finally on Catell and Butcher’s argument that “creativity is perhaps best acquired by association with creativity”.

In examining the effects of creativity Youl Lee et al employ Florida’s existing Creativity Index (2002) which “is measured by using the Bohemian Index—a measure of the proportion of ‘bohemians’ and other artistically creative people in a region” as indicative for the openness of a region to creativity of the sort not directly associated to technological and business related innovations. On the other side

diversity is measured based on the measure of the Melting Pot Index for the percentage of immigrants in the population and the so-called Diversity index used to capture the broader openness of a region.

Sixth, taking a deeper look into Jacob's theory, Desprochers, notes that it's firmly rooted in the study of human creativity, a process which can be summarized with the formula "Adding new kinds of work with other kinds of older work" (Jacobs 1970: 51). He rightly argues however that her work carries a broader perspective, which encompasses entrepreneurship and agglomeration economies.

In short, an idea for a new marketable device is but the genesis of the lengthy process towards producing a successful commercial product. Much work, most of it entrepreneurial in nature, still remains to be done and it might be that urbanisation economies are more important at this point. (Desprochers: 372).

He then exemplifies this point by viewing how "individuals possessing very different expertise collaborate with one another, whether by working with other individuals in a firm, by collaborating with individuals working on different things for other employees or by moving among establishments producing different final goods and services"(379).

Seventh, summarizing the management literature on organisational creativity, we can borrow from Andriopoulos schema of the "five major organisational factors that enhance creativity in a work environment, namely:

1. Organisational Climate
2. Leadership style
3. Organisational Culture
4. Resources and Skills; and
5. The Structure and systems of an organisation

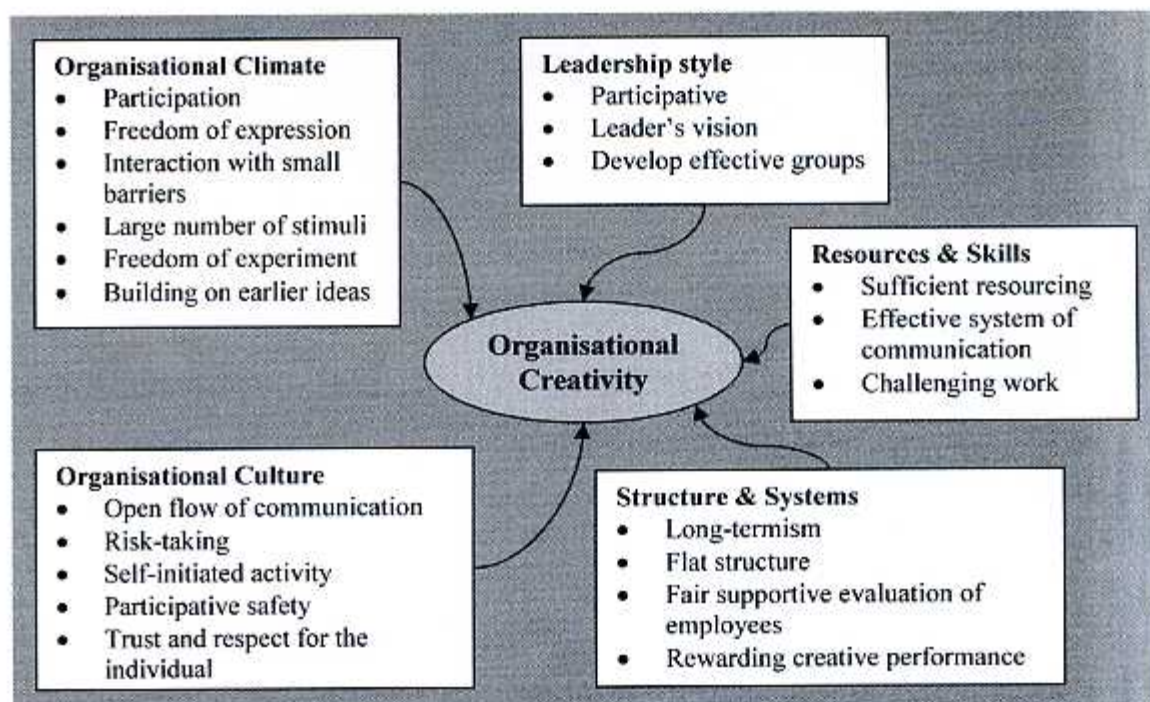


Figure 3 Factors affecting organisational creativity (from Andriopoulos, 2001:835)

3 IS CREATIVITY A CLEARLY DEFINED OBJECTIVE FOR LOCAL FIRMS AND THE REGIONAL ECONOMY IN GENERAL?

Generally there is a lack of studies focusing on creativity issues for local firms. Since creativity has entered the business discourse only recently and enterprise support structures have so far emphasized on harder aspects of performance, it is reasonable that there has reasonably been little interest in that. Nevertheless, newer national and local studies have focused on the innovative profile of firms (Showcasing innovative Greece, Benchmarking studies, ICAP on Western Greece) mainly based on assessments of employee's skills and R&D activities. Those studies draw their sample mainly from the new technology sector and well-established firms of the conventional manufacturing sector.ⁱⁱⁱ

While safe conclusions on the value of creativity for local firms cannot be reached based on the existing data, there is evidence to suggest there is a relatively high level of innovation with regard to services. However developments in the innovative section of the services sector are not effectively matched by other sectors such as agriculture and the retailing and manufacturing sector. One should possibly seek explanation on this in the structural problems, which the other sectors are facing, i.e. low productivity, deindustrialization, traditional small scale agriculture. The innovative services sector has emerged quite recently (mid 1990s) drawing mainly from the pool of skills and knowledge of the University of Patras and its connected research and technological institutions.

Most of these innovative services are spatially concentrated around the urban centre of Patras, which does not occur for other cities in the region. Patras is far larger in population and as market for skills. However proximity to the urban agglomeration of Athens, and the city's relatively weakened role in the urban system of Greece hinder the attraction of skills and innovative enterprises vis á vis Athens and other locations (Burgel). Geography and location have been very strong forces in shaping economic outcomes for Western Greece. The region's peripheral location, with bad transport links both intraregional and with the capital, has prevented functional integration of activities. In turn the increasing concentration of government, commerce, industry and services in Athens, has left regional economies unequally developed. Old industrial areas like Patras entered a period of crisis and decline in the 1980s-mid 1990s of which they have gradually restructured. This situation created further imbalances in the local labour markets, since labour with industrial expertise was made redundant and was gradually absorbed by low productivity services (mainly public sector services).

In other words the local economic system cannot be characterized as having high degrees of creativity, except presumably in the small innovative services sector. In the next section we will attempt to draw inferences on the creativity of local firms based on the benchmarking exercise in firms of the wine and drinks and the new technology sector in Western Greece.

4 CAN THE EXISTING BENCHMARKING EXERCISE BE USED FOR BENCHMARKING CREATIVITY?

We assume the new technology firms to be representative of the "innovative services sector" referred to above, while the wines and drinks sector to be representative of the "traditional process (manufacturing) sector."

Benchmarking refers to comparison of processes and methodologies applied by an organisation in relation to best practices. Initially, it is required to determine the processes of the firm on which it will be applied. Then optimal results should be sought, to function as the basis for benchmarking particular processes. Of great importance is also the evaluation and further exploitation of the results of benchmarking, in the sense that it is not sufficient to present the firm in relation to best practices but also to suggest actions for further improvement.

From June to September 2005, benchmarking questionnaires were filled during on site visits by specialised partners of the PSP. The data were then collected in Individual Reports for every firm. This

was done on condition of anonymity. The process was repeated in July to October 2006 when new questionnaires were filled in and new Individual Reports were drafted with the purpose to assess the adoption and success of changes suggested in the first round.

The process of application of the benchmarking exercise included the following steps:

1. Identification of the region of application.
2. Identification of organisations, which are leaders in the sectors that are included in benchmarking or identification of best practices.
3. Study of best practices of market leaders and collection of data.
4. Analysis of data.
5. Proposal for installation in the enterprise of "best practices".
6. Repetition and review of the process.

The survey included 74 indicators, which were clustered in 7 main groups: financial indicators, management, production process and facilities, raw materials, supply chains, research and innovation and, performance and competitiveness. Of these, especially relevant for the issue of creativity are the indicators of management and research and innovation. As these data are mostly qualitative, closed type multiple choice questions, but there were also cases of numerical ratings (e.g. days of training).

Choosing from these of indicators in the benchmarking of local high technology firms we will see how fit are these for assessing the importance of creativity for local firms.

Perhaps the most relevant question concerns the process of development of new products:]

The question was set with the assumption that there are two formal ways of developing a product: either by paying particular attention to the analysis of the market and competition or by coming up with a new product based mainly on internal processes like applying creative ideas of the employees. Of the high-tech firms interviewed, 40% reported that they make use of creativity methods in the development of new products, while 60% reported they develop new products after formal consulting with customers and analysing competitor's actions. Product development is a formal process for all firms asked. For the 40% of the firms that reported use of creativity methods the emphasis is more on internal processes of creativity by exploiting individual skills and expertise of their staff and less on formal consulting with customers and analysing competition, which both are certainly interconnected but indicates firms placed stronger emphasis on employee creativity over other processes. Trying to guess what makes firms report placing emphasis on creativity in product development, of the firms interviewed, all of which were small in size, all firms with more than five employees reported they used formal consultation with customers and competition analysis. It was only a small fraction of the firms interviewed that reported placing emphasis on creativity. Moreover it is indicative that all firms in this fraction were very small sized firms (under five employees). Further study is needed to form any safe conclusions, but we could hypothesise that very small sized firms reported more emphasis on employee creativity due to limited external linkages and lack of formally organised internal processes of product development with established view to customers and competition.

A good indicator of the level of skills is the formal education of the employees. In the firms questioned 66,8% of the total number employees had a graduate degree, and those with postgraduate degrees were 26,4% of the total. There were also cases of firms in which all employees possessed postgraduate degrees.

There is also a number of indicators for management issues, which can support estimations on the profile of organisational creativity. In the question of the orientation of their corporate strategy, firms answered: 60% of them that it aims to please both customers and employees, and 40% that it aims only to please customers. Strangely enough no firm reported shareholder satisfaction as a target, possibly because of size and identification of owner, manager, and shareholder.

In the question of who forms the strategy and sets the objectives, 20% of firms reported that this is done by shareholders, 60% by senior management staff and 20% that this is done in collaboration of both management and employees. According to the study, collaborative formation of strategy between

employees and senior staff is the world best practice. All firms reported (that for matters other than strategy) the general management cooperates closely with the respective functional units, which coincides with the world best practice. Asked about how critical decisions are taken, 80% reported they are taken by senior staff, and 20% collectively with the participation of employees, while none of the firms reported decisions to be taken individually by the director. According to the tendency of best practice, the general management should collaborate systematically with the individual operational units of the company as well as with the customers and the suppliers for the improvement of the output of firm. In this way it can draw a picture of the needs, expectations and behaviours of customers and suppliers, analyzing information that is collected in each transaction with them. Thus it not only maintains and increases the satisfaction of customers and suppliers but can also improve the output of company. Finally, the crucial decisions should be taken collectively from the superior administration with the attendance of employees and not individually by the director.

According to the world benchmarking tendency the results of the evaluation of output of departments should be communicated to each employee, aiming at both reward and stimulation of effort. In this way departments are given the chance to compare the output of their department with the expected output and to realise whether their present way of work is right or adaptations are needed. Moreover, there should be provision for a process of expression of observations and proposals, so that each employee can communicate with the general management without any obstructions from possibly malicious intermediaries.

The broader picture of the position of firms in performance evaluation is the following: 80% of firms reported senior staff and departmental directors to be the recipients of evaluation results, 20% only senior staff. This indicates there are possibly problems in the communication of evaluation results top-down and bottom-up. Certainly the problem is reaching lower staff and employees. These results are far from the world best practice of communicating evaluation results to every employee. Further interviewees are needed to see how this is managed.

Questioned on the procedure of communication of employees with the general management (on opinions, suggestions) one in five firms reported that there is no formal procedure for that reason, three out of five reported that they first have to talk to their departmental director, while only one in five reported that this is done directly at scheduled meetings.

The final set of indicators which are relevant for assessing creativity in firms is management of human capital. There we see that firms spent on average 6.25 days per year per employee for training. It should be noted that for the sample of firms only few could precisely report the total days of training per employee since training for them is done in an informal bases when needed. While there were individual firms which scored high (15 days per employee per year), most scored significantly lower than that (min. 2 days). Most firms are quite far from the world best practice at 12 days of training per year.

In 20% of the firms employees are never evaluated, in another 20% only staff that are members of the management team are evaluated and in 60% employees are systematically evaluated, which according to the study is identical to the world best practice. Of the firms 60% replied they measure employee's satisfaction in an objective way and 40% didn't measure in a formal way at least.

Results in those indicators vary considerably for local wine and drinks firms. They are chosen here because they represent the traditional process sector of the local economy. In fact these industries constituted the main specialisation and motor of the regional economy for most part of the 20th century. Today firms have reduced their scale of employment and modernised their operations. However indicators on sales, number of new products, quality assurance and standardisation show weak performance and gap of competitiveness compared with firms out of the region, in Greece and even more so with the rest of Europe. We will now review the results for the 10 selected indicators. Comparisons with the high-tech firms, given the differences in size and focus of operations should be seen as tentative.

Table 1 Main Benchmarking results for high-tech and drinks sector in Western Greece

	High-tech Firms	Food and drinks firms
Process of Development of New Products (in % of firms surveyed)	<ul style="list-style-type: none"> 60% through formal consulting with customers and analysis of competition 40% through creativity No other informal way 	<ul style="list-style-type: none"> 89% through formal consulting with customers 11% through creativity No other informal way
Level of Skills	<ul style="list-style-type: none"> 66,8% of employees with graduate degrees 26,4% with postgraduate degrees 	<ul style="list-style-type: none"> 26,3% graduate degrees 6,9% postgraduate degrees
Orientation of Corporate Strategy (% of firms) <i>Best Practice: to satisfy both customers and staff</i>	<ul style="list-style-type: none"> 60% to satisfy both customers and employees, and 40% it aims only to satisfy customers. No firm reported shareholder satisfaction. 	<ul style="list-style-type: none"> 50% to satisfy customers 40% to satisfy customers and staff 10% to satisfy shareholders
Formation of Strategy and setting of objectives (% of firms) <i>Best Practice: management and employees in collaboration</i>	<ul style="list-style-type: none"> 60% senior management staff 20% shareholders 20% management and employees in collaboration 	<ul style="list-style-type: none"> 60% senior management staff 20% shareholders 20% management and employees in collaboration
Decision making on critical issues (% of firms) <i>Best practice: collectively with the participation of employees</i>	<ul style="list-style-type: none"> 80% collectively by senior staff 20% collectively with the participation of employees none decisions taken individually by the director 	<ul style="list-style-type: none"> 60% collectively by senior staff 40% individually by the director in no case collectively with the participation of employees
Communication of results of Performance evaluation (% of firms) <i>Best practice: to every employee</i>	<ul style="list-style-type: none"> 80% to senior staff and departmental directors 20% only to senior staff none to every employee 	<ul style="list-style-type: none"> 33% to senior staff and departmental directors 22% only to senior staff 45% to every employee
Procedure of communication of employees with the general management (on opinions, suggestions) <i>Best practice: directly in meetings</i>	<ul style="list-style-type: none"> 20% there is no formal procedure for that reason 60% they first have to talk to their departmental director 20% it is done directly during scheduled meetings 	<ul style="list-style-type: none"> 45% no formal procedure 11% first have to talk to departmental director 44% directly during scheduled meetings
Days of Training per employee per year <i>Best practice: 12</i>	<ul style="list-style-type: none"> 6.25 on average 15 maximum 2 minimum 	<ul style="list-style-type: none"> 9 on average 10 maximum 6 minimum
Employee Evaluation <i>Best practice: systematically</i>	<ul style="list-style-type: none"> 20% Never 60% systematically 20% in senior staff and members of the management team 	<ul style="list-style-type: none"> 30% in senior staff and members of the management team 60% systematically 10% Never
Measurement of Employee satisfaction <i>Best practice: yes in an objective way</i>	<ul style="list-style-type: none"> 60% in an objective way 40% no measurement 	<ul style="list-style-type: none"> 10% Yes, in an objective way 90% No

Of the wine and drinks firms interviewed, 11% reported that they make use of creativity methods in the development of new products, while 89% reported they develop new products after formal consulting with customers and analysing competitor's actions. Product development is a formal process for all firms asked. These results are significantly lower compared to the sample of high-tech firms. Again it should be noted that wine and drinks is a traditional, well established sector, with hierarchically organised firms of medium size and this probably plays a role in the use of creativity in product development, a relation that is worth investigating.

Food and drinks firms score significantly lower than high-tech in the indicator for the level of employee skills. Only 26,3% of employees hold a university degree, and only 6,9% postgraduate degrees. An explanation is provided by the nature of the firm's specialisation.

Indicators for management issues show more centralised procedures and less inclusiveness in decision making. However in issues of evaluation and communication of results of evaluation wine and drinks firms score closer to the best practice than the high-tech ones. Firms reported respectively: In the question of the orientation of their corporate strategy, firms answered: 50% that is meant to satisfy customers, 40% both customers and staff and 10% to satisfy shareholders. In contrast to high-tech firms some of the wine and drinks firms reported investor satisfaction as the prime aim of their strategy.

In the question of who forms the strategy and sets the objectives, 20% of firms reported that this is done by shareholders, 60% by senior management staff and 20% that this is done in collaboration of both management and employees. All firms reported (that for matters other than strategy) the general management cooperates closely with the respective functional units, which coincides with the world best practice. Asked about how critical decisions are taken, 60% reported they are taken by senior staff, 40% of the firms reported decisions to be taken individually by the director, and no case collectively with the participation of employees. This is a departure both from benchmarking practice and also the performance of the high-tech sector. Centralised decision making is very widespread in the traditional sector.

The broader picture of the position of firms in performance evaluation is the following: 33% of firms reported senior staff and departmental directors to be the recipients of evaluation results, 22% only senior staff, and 45% every employ. These results indicate that will decision making is centralised, evaluation reaches down to every employee at a significant percentage of the firms, which is not at all the case for high-tech firms.

Questioned on the procedure of communication of employees with the general management (on opinions, suggestions) 45% reported that there is no formal procedure for that reason, 11% reported that they first have to talk to their departmental director, and 44% reported that this is done directly at scheduled meetings. Here there is large variation in the communication procedures among firms, there is a large number far from the best practice and an equally large that is close.

Firms spent on average 9 days per year per employee for training. It should be noted that for the sample of firms only few could precisely report the total days of training per employee since training for them is done in an informal bases when needed. While there were individual firms which scored higher (10 days per employee per year), some scored lower than that (min. 6 days). This makes wine and drinks firms closer to the best practice than high-tech firms.

5 CONCLUSIONS

The results of the benchmarking study have shown that there is a higher frequency of high-tech firms that develop products by making use of creativity (40%) than for the conventional food and drinks firms (11%).

However in the other indicators, results are mixed with each type of firm scoring differently in the management questions. For instance, while a much higher frequency of high-tech firms uses the best practice of collective decision making (20% contrasted to 0% of wine and drinks), this is not paralleled in other indicators of organisational openness and flexibility, like the recipients of communication of evaluation results and the ways of communicating ideas and opinions to the general management.

Even if we assume optimal scores in management indicators to signify organisational creativity, it cannot be safely supported that this has any influence to the use or not of creativity in product development. Certainly further study would provide better insights on possible associations.

The results of the Benchmarking exercise provide no insight on whether placing emphasis on creativity has any positive effects on performance. For this to happen a coherent definition of creativity should be developed and operationalised for measuring creativity performance of firms. The complexity lies in the fact that creativity is a polymorphic concept that enters every part of a firm's operations. A firm, which best exploits creativity of staff and employees, will reasonably show a higher degree of organisational creativity and finally will be more adaptable to an evolving economic environment.

Little more can be said in lack of a clear definition of individual and organisational creativity.

For Science Parks interested in boosting the performance of located and serviced firms, it would make sense emphasizing skills and human resource management as drivers for performance. By acting as facilitator for the introduction of successful management techniques, the Science Park can attempt to improve both organisational aspects of creativity as well as relational assets influencing creativity in the regional context.

Of course a great issue here is how receptive local firms are to external influences. Given their relatively small size and large workload, firms may not have the time/resources to formally research ways of improving internal creativity management and organisation.

A great deal will depend on the regional social and economic linkages and the quantity and quality of its interaction with local organisations and institutions. And if something is clear from the benchmarking exercise it is that usually the best predictor for a firm's outcomes is performance of the sector in which it belongs.

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ENDNOTES

ⁱ Source: Part on Dytiki Ellada from Ed. "Showcasing Innovative Greece". 2006

ⁱⁱ A reservation here as these conclusions don't seem to apply for less favoured Mediterranean cities and regions given low mobility, low labour force participation, high entry barriers in peripheral regions etc.

ⁱⁱⁱ Compared to other Greek regions, Western Greece scores high in the percentage of innovative services (58,4%), only second to Sterea Ellas. The total number of innovative enterprises is 25,1% close to the country average. In ratings of innovative transformation the score is below the country average (Logotech for GSRT 2003). In terms of Gross Value Added first ranks the tertiary sector (71,0% of the total), with commerce/retailing (22,4%) and hotels/restaurants (9,7%) being its largest contributors. The secondary sector contributes 16,7% GVA, with manufacturing (43,9%) and construction (41,5%) being its largest contributors. Finally, the primary sector contributes 12,3% of the total GVA.