

Abstracts of the articles included in this number

Critical mass and complementarity

This article claims that ICT (information and communication technology) are complementary more than substitutive for personal interrelations and, therefore, favour economies of agglomeration. The author considers five of the principal factors in the location of activities: availability of qualified workforce, proximity to prestigious educational and research centres, accessibility to a network of suppliers, available of financing (risk capital) and quality of life to attract human capital. The centralising forces produced by the application of ICT may represent new opportunities for “peripheral” economies such as the Catalan, which can create sufficient critical mass in technological and human capital. On the other hand, ICT can be a danger if they favour more centres and cities which already have this critical mass.

Quality and sustainability of the economy

This article focuses on three aspects linked to the quality and sustainability of an economy: control of firm decision-making centres, business renewal and infrastructure. It is difficult to measure these concepts using the indicators generally used to evaluate the state of an economy (GDP growth, inflation, unemployment, productivity, etc). Trends toward globalisation are the driving force behind business migrations so that little can be done to avoid the loss of control of business decision-making centres, or what the author also calls “loss of political power” of an economy, which means a drop in quality. As for sustainability, the importance of the renewing capacity of an economy is emphasised. This capacity is channelled through entrepreneurial initiative and is also linked to the availability of infrastructure.

New rules to make the future of Internet the future of businesses

In view of the experience of the multinational Cisco Systems, this article is based on the idea that the future of businesses depends on the development and application of Internet in internal and external company operations. The author suggests nine fundamental rules for “conventional” firms to successfully draw up an Internet commercial strategy. These include knowing the company and its environment, creating an internal Internet culture, using standard infrastructure, establishing project application control measures, speed and readiness, acceptance of failure and cooperation with other businesses.

Forming human skills

The central idea behind this article is the need to generate human skills. Nowadays, ideas and innovation are moving at an ever greater pace and technological and economic cycles are becoming shorter. This means that the conversion of university curriculums are required, as well as the professional recycling of technicians and, in general, continuous training in human skills. Human skills which go beyond mere knowledge to include those of flexibility, mobility, teamwork, risk and negotiation, amongst others.

Initiative and talent in the new economy of Catalonia

This article reminds us of some of the “old” lessons –still valid– about setting up businesses and entrepreneurial initiative according to the life cycle of the company. The author particularly stresses aspects relating to human skills, both in entrepreneurs and other professionals. A company needs human capital with talent and initiative. On the subject of *e-business and e-managers*, the author points out that these

should motivate workers by giving a convincing vision, having knowledge of personal emotions and creating an environment for learning and cooperation, as well as suitably managing workers’ expectations.

Catalonia and the challenge of setting up and financing companies in the field of the new technologies

In this article, consideration is given to the factors which favour the development of technological business activity (entrepreneurial spirit, availability of qualified professionals, physical environment, business concentration and advanced finance sector). The author also looks at the most important modes and players in venture capital financing, emphasising the potential of the Catalan economy here, though also pointing out its weak points. Finally, the article discusses the role the administration should play in “facilitating” with regard to key aspects which may favour business activity and the availability of financial resources in Catalonia.

Policies for promoting the information society in Catalonia: how can demand be stimulated?

Public action to promote the information society can be classified into three categories: regulation (establishment of the rules of the game regarding competition, creation of companies or guaranteeing intellectual property), promotion of supply factors (tax incentives, ICT worker and entrepreneurial training, etc.) and promotion in the field of demand. The article focuses on this last policy type, stressing the importance of strategic planning for the creation of a critical mass of users demanding ICT services. Comparative experience shows that such planning requires great political leadership as well as horizontal policies and a considerable volume of resources.

Statistical approximation to the new reality of ICT

This into to the dossier on ICT research and statistics in Catalonia stresses the statistical effort made recently by Idescat and DURSI (Department of Universities, Research and Information Society) to ascertain the situation of ICT in Catalonia. The broad spheres for this statistical approximation are, firstly, companies with ICT activities, secondly, equipment and use of ICT at companies, in the home and by the administration and, finally, specific aspects such as infrastructure or the employment market.

ICT and the Catalan business

Before focusing on the object of study of this article (the Catalan business companies) the authors note a number of considerations regarding the peculiarities of ICT statistics, such as the delimiting of the ICT production sector or those due to its volatility and intangibility. Some of the characteristics of the ICT sector in Catalonia are described, the result of processing statistical sources already in existence. Taking the very broad definition of ICT activities into account, the sector employs nearly 27% of Spanish ICT workers and generates turnover similar to that of the chemical sector. Moreover, export activity and the presence of foreign capital in the ICT industry is higher than that of Catalan industrial companies overall. The author also reveals some of the results of the survey of ICT occupation in Catalan business which confirm the availability in Catalonia of a high level of equipment in these technologies, though with low level of use of the web (for example, for buying and selling operations).

Catalan households and the information technologies

The survey of the penetration of ICT in Catalan households furnishes quite complete information about

the degree of introduction of ICT in Catalan society. This article shows the high degree of penetration of ICT as regards equipment (computers, Internet connection, mobile telephony, etc) and use of the new technologies. The intensity at which ICT are used has a positive relationship to monthly income or level of studies. As in all technologies in the process of penetrating society, ICT show an important generational component which will weaken over time: younger age groups use them more frequently and are those which use the advanced computer technologies. Another interesting aspect is the degree of use of different types of Internet service. A large number of Internet users make use of e-mail and electronic banking, contrasting with the less common use of the net to make purchases or for telecommuting, two areas which, nonetheless, have enormous potential.

ICT employment and demand for staff in Catalonia

In this article, after noting the shortage of professionals in other job markets, such as North America, the author presents the principal results of the survey of ICT employment in Catalan business. The number of ICT workers in Catalonia are quantified and their profile described according to level of studies, gender, sector in which they are employed and operational area they occupy in their respective companies. Calculation of the number of ICT users shows that 36% of workers in Catalan business use this technology. The authors also note the number of new ICT workers Catalan businesses expect to take on in 2001. Finally, taking into account the number of graduates the Catalan education system will generate over the 2000-2001 academic year (universities and vocational training) a deficit of 4,000 ICT workers is estimated. The article concludes with a review of the action planned by the Generalitat of Catalonia to overcome this shortage.

The research framework in Catalonia

The article which closes this dossier on official statistics offers an overview of research and innovation in Catalonia, concluding with notes on the 2001-2004 Research Plan. According to the author, this plan, together with the Innovation Plan, recently approved, and which will be managed by CIDEM, seeks to cut the

distance in R+D+I levels in Catalonia compared to the European Union or certain OECD countries. Besides noting this effort in R+D, the author also comments on certain data of quality and/or "productivity" of Catalan scientific and technological research, based the number of quotations from articles, number of articles per researcher and patent applications. In this case, the results for Catalonia are more favourable.