



STUDY

**TOOLS & METHODS OF
PRODUCT DEVELOPMENT⁽¹⁾
(IDEA GENERATION)**

Innovation Management

The Case of Cyprus

The conception of innovation has evolved significantly over the last forty years. During the 1950s, innovation was considered a discrete development resulting from studies carried out by isolated researchers. Nowadays, innovation is no longer conceived as a specific result of individual actions, but more as the following:

- A process, more specifically a problem-solving process.
- A process occurring primarily within commercial firms, where the role of government agencies or public laboratories is to a certain extent secondary.
- An interactive process involving relationships between firms with different actors. These relationships are both formal and informal and position firms within commercial networks.
- A diversified learning process. Learning may arise from different issues: Learning-by-using, learning-by-doing or learning-by-sharing, internal or external sources of knowledge and the absorption capacity of firms.
- A process involving the exchange of codified and tacit knowledge.
- An interactive process of learning and exchange where interdependence between actors generates an innovative system or an innovation cluster.

Innovation as defined by the European Commission is «the renewal and enlargement of the range of products and services and the associated markets; the establishment of new methods of production, supply and distribution; the introduction of changes in management, work organisation, and the working conditions and skills of the workforce».

Innovation is driven in two different ways; internally and externally. From an internal perspective, innovation is driven by senior management attitudes, marketing, information technology departments and the organisation's employees. Joint ventures and collaborative efforts support and facilitate the innovation management process. These are evidenced by:

- Senior management teams that devote time to investigate the future and to understand the needs of the marketplace, the resources at their disposal and the competitive business environment.



- Working environments that encourage creative solutions.
- Strong support for joint ventures and collaborative efforts that develop and commercialise innovative solutions.
- Good project management for the identification, development and commercialization of innovations.

From an external perspective, innovation management is driven by different knowledge-intensive organisations (KIOs) that build knowledge as their primary value-adding process. They can be defined as organisations where employees with a high degree of knowledge are critical to the primary function of the organization. Consultancies belong to this group. They have relatively little financial capital but have instead as main assets the knowledge and competence of their personnel.

The Case of Cyprus

The Cypriot economy is characterized during the last 20 years from high growth rate, the services sectors constitute the main growth levers. The differentiation of the production structure that is profiting the tertiary sector, contrary to the primary and secondary sector, led in territorial inequalities, resulting the centralisation of economic growth in the urban centres, as well as in the coastal areas.

An academic research carried out in 1995 and 1996 (Hadjimanolis, 1997, Hadjimanolis and Dickson, 2000) found that even innovative firms in Cyprus are not fully aware of the vast array of innovation management techniques available to them. Additionally, the *New Industrial Policy* that the government introduce, makes only indirect reference to the need for learning and applying innovation management techniques.

Innovation policy in Cyprus is in its early stages. Important steps were undertaken in the last years culminating in the *Strategic Development Plan 2004-2006* paving the way to the application of structural funds after the accession. The *New Industrial Policy* (1999) including a business incubator scheme and a *Centre of Research and Technological Development* constitutes the basis of the innovation policy. Additional activities are the *Regional Innovation Strategy programme – RISC* and the services offered by the *Innovation Relay Centre (Hephaestus)*.

The issues of innovation in Cyprus are at the primary stages in Cyprus. There is no one single institution in Cyprus with the role of regional authority for innovation, as there is no one at a National Level. However all the agents involved indirectly (ministry of Industry, Institute of Technology, local Tertiary Education Institutions/Research Centres (which are members of ours) are part of the network with which we come in continues contact.



The potential impact of RTDI (Research, Technology Development and Innovation) policy and related activities, on the economic development has been fully acknowledged at governmental level (Ministry of Commerce, Industry and Tourism). This awareness has led to the pro-active launch of initiatives aiming to increase the commercial relevance of the Cypriot knowledge sector. In particular the installed Planning Bureau and the Institute of Technology support the formulation of a coherent National Policy in the S&T area with clear demand-side orientation. Priority (Strategic Development Plan) will be given inter alia to improve the innovative performance in the manufacturing sector through enhanced technology transfer and consultancy service schemes, to up-grade management capabilities as well as to further develop the considerable human resource potential.

The **level of industrial RTDI** is still low and remains a major of concerns. The Government demonstrated strong commitment to improve the competitiveness of the local manufacturing through public support for the technological up grading of industrial products and processes.

Targeted activities and programmes in the RTDI domain clearly reflect awareness on positive RTDI impulses for the regional economic fabric at Government level. Particularly since 1992 the RTDI domain has received increasing attention in policy schemes and funds allocation. The knowledge infrastructure (university, research institutes) has been improved and extended in light of the low GERD/GDP ratio (0.5%). The small number of research personnel per 1000 employed (0.23) as well as patent applications/1000 population (0.012) indicate that efforts are still needed to catch-up with EU average on RTDI performance. Other deficits that require political attention comprise a significant product innovation deficit, limited R&D activities in emerging technology sectors, the limited transfer of advanced technologies in potential application areas and the necessity to monitor the effectiveness of RTDI strategies and related initiatives. Furthermore a stronger inter-institutional co-ordination of the fragmented research activities could increase the effectiveness of the RTDI system in Cyprus.

The **manufacturing sector**, especially after the drastic reduction of tariff protection due to the participation of Cyprus in the World Trade Organisation, the Customs Union Agreement with the European Union and the continuing drive of Cyprus to become a full member of the EU, is facing serious problems regarding its competitiveness both in the local market as well as in its export effort. These problems can be partly attributed to the low productivity by which the sector is characterised and the lack of skilled labour force. As a result the share of the manufacturing sector in the Gross Domestic Product has been seriously reduced from 18% in 1982 to less than 11.5% in 1997.

Faced with this situation the Ministry of Commerce, Industry and Tourism having considered ways and means for the reconstruction and development of the sector



and taking into serious account proposals put forward by industrialists and their respective organisations, has eventually resorted to the following basic goals which are expected to form the central core of the Government's New Industrial Policy for the next few years.

- a) Assistance of existing and the attraction and development of new high-tech industries
- b) Assistance and reconstruction of Cypriot traditional industry
- c) Attraction of capital intensive foreign investment

Questionnaires were sent to 60 companies in the manufacturing sector but only 5 responded. A response rate of 8.3% is not unsatisfactory for such questionnaires although the small size of the sample and the corresponding completed questionnaires does present some problems in the analysis. Moreover, all the relevant governmental / public bodies or industry associations were contacted for a discussion on the use of innovation management tools in Cyprus but once more all such bodies had little to no data on the use of innovation management tools. The most common answer was a referral to the EU Innovation Trendchart / Scoreboard.

More specifically the following views were submitted by these bodies (although not backed by any specific numeric data).

Nicosia Chamber of Commerce: Cyprus based industrial companies have little to no knowledge of innovation management and / or innovative product development tools. The only remotely related tools that might be used by such companies are the two basic ISO certifications (9000 and 14000) as well as HACCP in relevant industries. However they noted that this lack of knowledge leads at the same time in increased interest to investigate the potential of innovation management tools and thus the Chamber has expressed its interest in the co-organization of the EUROPEAN SUPPORT pilot seminar in Cyprus.

Institute of Technology: Innovation management and innovative production techniques are not currently in widespread use in Cyprus neither are they monitored by the institute. The Institute only monitors a small number of large industrials as far as innovation management is concerned but these data are confidential. Other than that no innovation monitoring report is issued. The Cyprus Statistical Service has only recently began gathering data on innovation but no report on the issue has been issued yet. The institute also expressed its interest in the EUROPEAN SUPPORT pilot seminar.

In conclusion the field of innovation management tools in Cyprus is significantly below the EU average. At the same time, the issue has started to attract the interest of both the relevant support bodies as well as companies themselves. Thus the need for new sources of knowledge and information on the matter are deemed as extremely interesting and potentially attractive for the Cypriot industrial companies base. The pilot seminar of EUROPEAN SUPPORT is expected to meet



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with a large demand for participation from industrial companies as well as from staff from the industry associations.