

Innovative Firm, April 1998

**Report by the Focus Group on:
Innovative Firms**

PRELIMINARY POLICY IMPLICATIONS FOCUS GROUP ON INNOVATIVE FIRMS

PART ONE: BACKGROUND

Objectives of the Focus Group

In March, 1997 the Focus Group on Innovative Firms was created under the auspices of the OECD National Systems of Innovation Project (NIS) to respond to the issue identified in the OECD's 1996 report on Technology, Productivity and Job Creation (TPJC), which found, among other things, that "*firms that innovate more consistently and rapidly employ more workers, demand higher skill levels, pay higher wages, and offer more stable prospects for their workforce.*"

The report also notes that "*innovative firms are not superior algorithms to maximise production functions (i.e., produce products and services), but efficient learning organisations that seize technological and market opportunities creatively in order to expand production frontiers.*"

Practical policy prescriptions on how countries can increase their stock of innovative firms, and to improve the innovative capacities of firms, have been elusive. For this reason the Focus Group has concerned itself with:

- taking stock of the existing body of knowledge on innovation at the firm level;
- developing a holistic view of innovation within the firm which is based on the underlying capacities a firm needs in order to be innovative (similar to the competency models used in human resource management); and
- producing diagnostic tools to assess areas where firms need to build their capacities in order to become more innovative.

Phase One - the Arthur D. Little Report

In October, 1997, the Focus Group accepted a proposal from Arthur D. Little International to undertake the first phase of work. This phase, financially supported by Australia, Austria, Belgium, Canada, France, Ireland, Japan, and the Netherlands, was designed to:

- compile existing empirical research on firm-level innovation;
- further define the underlying capacities and behaviours of the innovative firm;
- develop a profile of the capacities at different levels of innovativeness;
- identify gaps and barriers to innovation; and
- explore the broad parameters of a tool based on this approach.

Arthur D. Little delivered its final report the end of February 1998.

The first phase of this project suggests that while many principles and practices associated with innovation are understood, firms still have difficulty adopting appropriate behaviours. The key is to achieve an alignment among vision and business strategy, the technical competency base, creativity and idea management, management of intelligence, organisation and process, and culture and climate. Each one of these six areas has a series of 'underlying capacities for innovation' which, in turn, require different behaviours within the firm.

A major reason firms why have difficulty in achieving the required alignments and associated behaviours is the difficulty of reconciling conflicting pressures, e.g. the need to control versus the need to empower. The current project is intended to codify the best tacit knowledge that exists on how successful firms accomplish this management challenge.

Next Phase

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A work plan for the next phase will be presented to the TIP Group for consideration. The two key objectives of this phase will be to:

determine the nature of micro-economic public policies that would help each type of firm acquire the underlying capacities; and
develop a new generation of practical innovation management tools that firms can use to identify those aspects where capacity-building will be most effective in enhancing innovativeness. This will include development of the basic content of a new assessment tool, which could be adapted subsequently by Member Countries to suit their own needs and the new role of government in providing innovative environment and services.

PART TWO - POLICY IMPLICATIONS

This project provides a forum for cooperation and discussion among three separate groups of experts on innovation: academics who conduct empirical research and consult with firms; business consultants ('practitioners'); and public policy advisors. It is also forging a synthesis of what, until recently, had been separate streams of academic enquiry vis-à-vis innovation.

This way of looking at underlying firm-level capacity for innovation shifts the focus from the inputs of innovative products, to the organisation and behaviour of the innovators in which the government's role is to be a facilitator or a catalyst and not to be a direct investor. For public policy-makers, the challenge is to make the transition from supporting firms as they cope with long standing problems to preparing them to redefine strategy in order to compete and grow in the global marketplace.

A firm which has the capacities to drive the innovative behaviour and facilitate the adoption of good practices will be able to respond to a changing environment; to evolve and replace its own routines; and, to select and make optimum use of various innovation support techniques. From the perspective of this project then the key question is -- ***what can public policy do to make it easier for firms to acquire and use the underlying capacities for innovation?***

The first phase of this project focused on developing understanding of innovation within the firm, and initiating development of a typology of firms which will help countries target firms where policy can have the most profound impact. Similarly, it will be able to target those capabilities within a firm where investment in capacity building will be most profitable. Application of assessment tools, to be developed in the next phase of this project, could provide countries with data that will allow policy makers to identify systemic capacity gaps which could be addressed by targeted, strategic government interventions.

There are policy implications from this project which impact on five core areas of interest to OECD Member Countries.

I – Employment and Job Creation.

Innovation generates employment. Innovative firms have been found to generate higher-quality jobs, as measured by skill-level, wage rates and stability. Therefore, while targeting employment, it is essential to seek ways to expand the stock of innovative firms and to help firms improve their innovative performance by strengthening the capacities underlying innovative behaviour. This is of critical importance to countries, not only because innovation performance implies improved productivity and job creation, but because firms that succeed over time tend to dominate their industry sectors.

A new economic approach to underemployment is possible, based on innovation. Key to this is understanding how innovation tends to make corporate technology competence bases obsolete. Innovative capacities or competencies forms the micro-economic pillar of

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changes in knowledge-based economies and societies. It is these innovative capacities which will allow firms to differentiate themselves and to develop new technical and corporate competencies which will keep them competitive. The passage from an economy based on “rents” to one based on “innovation” represents a challenge to all players in the economy.

A better understanding of how firms need to organize and operate in order to be most innovative, may have implications for broader business and framework policies and regulations in some countries.

2 – Innovation Policy, Tools and Surveys

The project aims at defining a typology of firms based on their innovative capacities. This typology should enable policy-makers to develop and implement a new type of public response based on the following questions: How should an innovative firm operate?; and ii) How can a firm shift upwards on the continuum of innovativeness, or from one innovative mode to another?

The policy-maker’s role is to organize, strengthen and speed up the process of knowledge building. The lack of such knowledge and intellectual assets is a barrier to the development of innovative, efficient and sustainable companies.

The next phase of this project focuses on developing practical tools that firms can use to help them become more innovative. This includes the ability to identify and fill gaps and to approach changes in an effective way. It will take into consideration the decision-making process within firms, and the process of knowledge and competency transfer.

The methodologies developed in the present project influence the way Member Countries conduct innovation surveys in the future. Currently, the innovative firm is defined by whether it has introduced a new/improved product or processes over the preceding three years. Such firms can produce occasional ‘innovations’, but may fail when the competitive environment changes. Approaching firm-level innovation from an organizational point of view may provide new insights into the industry capacities that determine performance, and the role of governments in removing barriers and comparing and promoting best practices across countries.

Finally, while this project focuses on firms, it has important implications for the renewal of the public sector, with lessons for public policy-decision skills as well as business management skills.

3 – Technology Diffusion, Competency Transfer and Management of Change

Traditionally, governments have assisted firms using a technology-push approach. This project will lead to adapting and simplifying existing public policies for competency transfer and technology diffusion by taking into account the dynamics of demand based on what capacities the firm requires to become more innovative .

Interacting with the broader innovation infrastructure is often problematic for SMEs. This is due to the inadequacy, for SME requirements, of procedures that are originally designed to meet the needs of large companies. Our holistic approach to the firm envisions and includes services and solutions specifically customised to meet SMEs needs.

One of the final goals of this work is to stimulate the development of computerised and multi-media software that will facilitate transfer of knowledge about

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innovative capacities. Practical user-friendly tools should enable managers to simulate situations based on previous experimentation at different level of innovative capacities in other companies. Those tools will be related to knowledge and change management and could use Web sites as centres of shared knowledge to enable firms to fully exploit opportunities.

4 – Government – Business Dialogue

Progress in the area of public policy requires both accurate identification of the right economic levers, but also on a firm commitment to work with business to reinvent business practices based on increased economic efficiency of the innovation process. Policy-makers and the business community need a shared framework in order to better cooperate. The project constitutes a step towards such a government-business dialogue, as it looks deep within the firm to help us understand the needs of firms and their behaviour.

This should lead to better focused public action and should promote more efficient markets. The deeper understanding of firm behaviour created by this project should lead to a better capability to predict firm-based response to policy actions, and to evaluate their impact.

Frequently, policy-makers fall into a trap of not paying enough attention to implementation. Focusing on practical tools will keep us focused on implementation. It enables us to reflect on how the enterprise is run and to develop and sustain arguments to discuss the rationale of change and therefore to better synchronise micro-level behaviours and practices.

Traditionally, governments have attempted to change firm behaviour by offering subsidies to reward changes seen as positive and by penalising firms behaviours which were not seen as positive. The focus on practical tools in this project promotes a government role whereby we can influence firm behaviour by providing information that firms can use to help them change behaviour without explicit government intervention. This approach is less costly, less likely to build inefficiencies into the system, and is more in line with a business-oriented approach.

5 – Multidisciplinary, Lifelong Training Learning

One of the overarching goals of this project is to develop the context in which everyone in the organisation can become more effective actors in building up innovative strategies. By building its internal capacities for innovation, an organisation becomes more and more “accomplished” and efficient. How can we provide decision-makers within the firm the ability to generate behavioural changes, to formulate new rules for efficient working place and to establish new ways for reconciling conflicting interests?

Governments must support emerging management practices which help firms to better cope with economic change and the challenges of staying competitive. Excellence is increasingly necessary, but it is not sufficient. The set of capacities needed to become truly innovative is quite complex and requires flexibility and continuous learning on the part of the employee, manager and the organisation.

Technology involves mastering practical know-how and being able to produce something. Interactive processes go beyond exchange of goods, services or finance. They also involve significant exchanges of information and knowledge. Such exchanges are necessary to reduce uncertainties inherent to the innovative process. Furthermore, they prove very useful to build trust which is a powerful enabling signal for knowledge transfer and learning.

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More developed skills, closer to the strategic focus of the firm, are essential to the development of corporate competence. Tacit knowledge is highly coded in behaviours and idioms. The role of public policy lies in guaranteeing training founded on the basis of accumulated and shared expertise and experimentation in a given field. And because tacit knowledge is embodied in persons, business management and knowledge management are therefore related both to the innovation engineering process and to innovative human resources policy. Labour regulations must favour transfer of skills within enterprises through teamwork, with consideration for career paths based on project participation and joint work.

There are important implications here for the formal education system. Re-thinking and reassessing strategy is not a widely distributed core managerial competence of executives. This suggests that the way management is taught in business schools needs to change, as well as university extension programs for mature executives. The key issue is how to allow management to focus on evolving business practices and evolving performance standards.

The need to develop flexible employees at all levels is an important challenge. Shaping organizational culture to be aligned with, and support, business strategy and the work flows and processes, will be made easier if employees have already acquired skills such as working in teams, maintaining effective interpersonal relationships, communicating effectively, and adapting to change. This suggests that lifelong learning and employability involve more than acquiring the 'hard' skills and competencies. Other social skills play an important role in aligning the culture of an organisation with its business strategy.

Innovation involves unpredictability, risk-taking and non-standard solutions, all of which are not managed easily by traditional formal control systems. This implies the need to design systems and processes that will result in continuous incremental commitment, consistent with the values and expectations of the work force. The global challenge for firms is to integrate young, talented and skilled people, and to distribute decision-making in a process which maximises their innovative power. Whatever the size or maturity of the industry, every company will need to rely more on in-house capacities. Networking will never be a substitute for core competencies. Management, staff and work force are key to the innovative company to produce additional valued-added intelligence and competence on a daily basis.