

Ouverture de ‘Innovation Management in Global Markets – 1’

*Silvio M. Brondoni**

Abstract

Since the 80s, given the markets globalisation springing up (product globalisation), the ‘core activity’ of R&D was focused on corporate internal structures.

In the 90s and 2000s the new globalisation phase (firm globalisation), the R&D has faced a remarkable transformation. In fact the R&D was no longer centralized in the headquarters, but localized according to the network logic, with a competitive advantage optimization in reference to specific local companies.

Finally, since the early 2000s, a third globalisation phase (finance globalisation), has determined a new and important shift in research and development activities. The globalisation of markets pushed the firms to face not only increasing competitive dynamics but also to handle and to manage the limits deriving from the global economies of scale, recessive markets and, frequently, from the over-supply condition.

In the nowadays globalisation phase (competitive globalisation), characterized by a widespread recession, and by many over-supplied markets, the R&D structures assume a new key-role for the firms development and represent a continuous stimulus for the competitive dynamics.

Keywords: Innovation Management; Imitation Management; R&D Policies; Global Competition; Market-Driven Management

1. Overture

Since the early post war period the American corporations have started to invest heavily in Research & Development, in order to stimulate and to favour domestic sales growth.

Starting from the early Sixties, and yet in the Seventies, the R&D has registered significant advancements. In fact, the big American, Japanese and European corporations willingly undertook a policy of an intense expansion into international markets (export policy applied frequently and differently by Italian or Korean firms), by means of newly launched products, which were designed with a back-up

* Editor-in-Chief Symphonya. Emerging Issues in Management (silvio.brondoni@unimib.it)

of external partners structures, like international research centres and engineering & project consulting firms.

□ *'Korea's 1960s and 1970s strategy was largely associated with duplicative imitations, producing on a large scale knockoffs or clones of mature foreign products, imitative goods with their own or original equipment manufacturers' brand names at significantly lower prices. Korea's 1980s and 1990s industrialization involves creative imitation'. (Kim 1997, pp. 12-13).*

□ *'In Italy, locked in a 'castle economy' of protectionism and monopolies, the larger corporations avoid the global market, over-supply and the consumption crisis, and appear to favour investments in monopolistic activities, without a brand and with a stable consumption (energy, telecommunications, non-innovative pharmaceuticals, etc.). Smaller companies, on the other hand, are forced to come to terms with the global market and must maintain a vital competitive performance (market share, profitability, appeal), only using 'dwarf brands' that must compete without the resources of the country system and are often actually hindered by the deficiencies of the structures and infrastructures' (Brondoni 2008, pp. 23-24).*

□ *'Globalisation has dramatically downsized the Product of Italy market ('Made in Italy'). Over the last 10-15 years global competition has laid down new rules (delocalisation of production, global distribution players, shifting and disloyal consumers), so businesses vie one with one another on the open market (market-driven management), and exploit intangible assets to bridge the gap between supply and demand.*

Globalisation also imposes new sorts of conduct in the 'country identity system'. In fact the 'Product of' is distinguished by the power of the 'macro-system intangible factors' (obviously either positive or negative), which might relate to technological leadership (as in Product of USA and Product of Japan), or State aid to businesses for global exports (for example, Product of Korea).

The 'historical' Product of Italy of the 1960's-1980's period has therefore completely disappeared, as it was based on the creative drive of numerous production areas (textile, clothing, silk, leather, footwear, furniture, fine mechanics, etc.). In other words 'closed areas', with a dusting of firms –lacking marketing, finance and research & development– which were high labour intensity, distinctly individualistic and driven to obsessive imitation of their nearest competitors (production-driven management).

The structural weakness of the firms operating under the Product of Italy was however counterbalanced by the 'cyclical devaluations' of the Lira, which created competitive price spreads –at dumping limit- for extensive supply sectors. This was the true devastating force of the 'historical' Product of Italy: enormous waves of very different goods,

all with high levels of craftsmanship and quality, which invaded foreign markets at irresistible prices (in reality, only the easiest areas, with lots of emigrants).

Cappuccino, Vespa, la Scala, Ferrari, pizza, spaghetti thus remain 'brand names' which are renowned worldwide, but they do not express any 'intangible factor system, which is transferable to Italian production). In over-supplied modern global markets, the Product of Italy is conditioned by the complexity of the production-consumer cycle (which requires strong relationships with distribution and finance) and in the mass markets it comes up against global businesses, whose sophisticated market-driven approach enhances corporate information systems and global branding.' (Brondoni 2008, p. 3)

Since the 80s, given the markets globalisation springing up (product globalisation), the R&D has faced a remarkable transformation. In fact, the firms operating in the global context produce their products in step with networking, outsourcing and time-based competition logic. In such revolutionary context of a 'market-space competition' (basically related to R&D, operations and sales) unlike in the past, the capabilities, resources, competences and services readily outsourceable from global companies network become easily usable in space and in time in an extremely efficient and rapid manner (time value). The 'core activity' of R&D internal structures is generally focused on both: project consulting and first level research, subordinate to a complex transformation model. In other terms, global economies of scale are aimed at competitive advantages generation (in reference to product and to operations) fully supported by the R&D activities (Kleindorfer 1985).

In the 90s and 2000s the firms 'competitive landscape' has changed in front of some specific phenomena characterizing the new globalisation phase, no longer referable only to markets but also to global firms network (firm globalisation). The companies learned to act and decide rapidly, as also became conscious about the consequences at the global level (Nelson 1993; Loveridge, Pitt 1990). Moreover, the top management decisions can't disregard the competitive force of global system nor of the financial markets. In fact, in the second globalisation phase, characterized by a growing competition between global networks, which operate according to a market-driven logic, the key to the corporation success lies in the firms analytical skills at the global level as also in its rapid decision-making processes. Necessary to say, such processes are aimed to a swift identification of opportunities and threats deriving from a technological discontinuity and from unexpected market development. (Grossman, Helpman 1991; Meyers 1990).

The market-driven company, provided with 'superior competitive abilities', requires from the R&D (no longer centralized in the headquarters, but localized according to the network logic, with a competitive advantage optimization in reference to specific local companies) the following tasks: identification of revenue-generating projects related to the network local structures; appreciation of the research chains, supply-chains, logistics and outsourcing; R&D competences centralization, including the international experience retrieval; acquisition of data

deriving from the competitive intelligence and internal diffusion of a project development knowledge, useful for the localization choices.

Finally, since the early 2000s, a progressively consolidated third globalisation phase (finance globalisation), has determined a new and important shift in research and development activities. The globalisation of markets, as well as a continuous dimensional growth of the corporations, have thoroughly complicated the managerial model. In fact, in front of such change, it becomes necessary for the firms to face not only increasing competitive dynamics but also to handle and to manage the limits deriving from the global economies of scale, recessive markets (or in any case with modest growth rates) and, frequently, from the over-supply condition.

□ *In 2012 Eastman Kodak, after 131 years of activity and 19.000 employees, announced its defeat in front of a digital photography boom in sales. Kodak had already struggled with a crisis once. In 2001 it had to face a lack of liquidity, a complete inability to sell its patents and, finally, a new digital technology.*

The objectives in terms of profit and performance, always more antagonistic in respect to the global financial market systems, push the firms to direct their R&D expenses towards *open innovation* strategies, able to detect, collect and interpret both, strong and weak signals of a global business development in order to anticipate the tendencies among the consumers as also the rival's initiatives.

2. Global Competition and R&D Policies

The nowadays globalisation phase (competitive globalisation) is characterized by a widespread and persisting recession of numerous economies, an increasing number of over-supplied markets, as well as a key-role of dimensional growth. The last one, in particular, represents a fundamental driver for the firms development, by determining its success or decline.

Also when it comes to the R&D activities boundaries, the competitive globalisation of economy is determinant. In fact, in global markets the R&D represents a key-intangible asset for all the innovation and imitation policies of the big companies, perfectly conscious of a value-creation power of the research structures. Many projects, in fact, are managed together with key-competitors in order to optimize the corporate performance and product performance, by realizing plans and programs of competitive imitation, destined to overtake traditional models of economic and industrial development.

Thus, in this phase of competitive globalisation of markets, the R&D structures assume a new key-role for the firms development and represent a continuous stimulus for the competitive dynamics (Darroch 2005). In the modern corporations, the R&D contributes to define the market sceneries as also to identify innovation and imitation policies. Such policies are naturally connectable to the profitability objective on one hand but limited by the new products launch-risk on the other.

The objectives of growth and short-term profitability constraints led the big corporations to prefer the R&D's multi-polar development. As a consequence, the

structures are decentralized and developed in the form of innovation clusters (Cappellin 2003).

□ *'As markets for technology and knowledge workers have globalized, fundamental changes have occurred in corporate innovation management. A gradual opening and networking of corporate innovation systems is giving raise to global innovation networks (GINs) that cut across firm boundaries, sectors, and national borders...Global firms construct global innovation networks to improve the productivity of R&D by...seeking to integrate geographically dispersed innovation clusters into global networks of production, engineering, development, and research'* (Ernst 2006, pp. 12-23).

The technological multi-polar clusters operate with a multiethnic personnel in the most important 'world cities', with a 'centre of gravity' moving from Europe to South-east Asia and both Americas.

The technological clustering of the R&D activities allows to supervise and to control results and costs of single R&D projects, and finally it allows to optimize the global performance of the R&D in reference to different national markets and to diverse partners and competitors (outside-in management).

□ *'Moving from orchestrating processes to orchestrating innovation speeds up the building of capabilities. To succeed, companies must generate the friction that shapes and sharpens learning with people of different backgrounds and skills collaborate on real problems. Processes must be developed, with the help of new generations of information technology, to ensure that innovations are disseminated across the network'* (Seely Brown, Hagel III 2005, p.45).

Such condition of the R&D's multi-polarity allows the big networks to realize simultaneously multi-markets projects and as a consequence to nullify high common costs related to mono-project structures. Finally, it assures an extreme confidentiality of strategic corporate information.

3. Global Innovation and Global Imitation. Emerging Issues

Competing firms attempt to imitate successful innovations and to adapt them to their own policy.

In global competition, developed economies try to prevent the abuse of intellectual property rights with patents, trademarks, and copyrights laws, but the imitation is becoming always more globally widespread. In reality, the global imitation is an economic activity as much as the global innovation, that requires resources and responds to corporate results, performances and profits (Mansfield et al. 1981).

In global corporations, the imitation processes represent now a major effort that involves the development of advanced technologies and specific efforts to focus R&D on new technologies.

□ *‘Innovation requires a specific effort in using technological information and accumulating technological knowledge to evaluate and choose technology; to acquire and operate processes and produce products; to manage changes in products, processes, procedures, and organizational arrangements; and to create new technology (Pack, Westphal 1986, p.105).*

The innovation is a pioneering activity focused on the firm’s internal competences, to develop and introduce new products to the markets. Innovators benefit from first-movers advantages: awareness and image; technological leadership; experience effects; client loyalty; etc.

In global markets, by contrast, many industries (as semiconductors, electronics, biotechnology) extend their R&D activities to transform themselves into innovators as well as effectively creative imitators, with corporate policies marked by intensified in-house R&D activities and participation in global alliances. Thus, these global creative imitators have transformed the R&D activities into skills and competences necessary for the reverse engineering. Reverse engineering involved activities that sensed the potential needs in the market, activities that located knowledge or products which would meet the market needs, and activities that would merge these two elements into a new project. Skills, competences and activities required in these processes are exactly the same in the R&D innovation process (Kim 1997). In effect, as an industry and its markets mature, price competition grows and the production process becomes more computerized, the focus shifts from a simple innovation to incremental process improvements to achieve a greater efficiency. At this stage of competition, global corporations are very favourable to leave R&D aimed at radical innovations, becoming increasingly vulnerable in terms of competitive position, and adopt policies directed to extend the product lives with a series of incremental innovations adding new values.

□ *‘The Korean electronic industry: from reverse engineering to strategic alliances. Korea’s first consumer electronics producer , LG Electronics, was begun in 1958 by the owner of a small, rudimentary face cream and plastic housewares company...Lacking technological capability, the company hired an experienced German engineer to upgrade its tacit knowledge base...foreign components and parts were assembled into the first vacuum tube AM radio in the country through imitative reverse engineering of a Japanese model... Assimilating the product design and the assembly operation was so simple that relatively well-educated Korean engineers acquired enough tacit knowledge to replace the German within a year (Goldstar Co. 1993). LG Electronics soon developed expertise in imitation and began producing such other home appliances as electronic fans and refrigerators without foreign assistance...When technology was at the transition stage and foreign firms were reluctant to transfer their patented technology and Korean chaebols reverse-engineered it by intensifying in-house R&D...establishing extensive networks of in-house laboratories in*

order to learn by research. At the same time , they established a number of R&D facilities in the US, Japan, and Europe to monitor technological change...Korean firms also used mergers and acquisition to gain access to frontier technologies. In some technological areas Korean corporations have grown sophisticated enough to enter strategic alliances with leading foreign competitors. The government played important roles in the process of technological transformation in the electronic industry' (Kim 1997, pp. 131-147).

In the global competitive landscape, corporations have to respond to the innovations and pioneering actions of their competitors, with responses which must include not only the ability to prevent others from imitating, but also the ability to imitate the others.

Imitation can be unique if it consists of a set of activities that are distinct in their derivative form or combinative architecture. Together with organizational capabilities and distinctive intangible assets such as corporate culture, information system and brand equity, imitation can be a differentiating factor and has the potential to deliver unique value (Shenkar).

Imitation is a critical capability for any global firm. In fact, in global markets, it is unrealistic for any firm to innovate anywhere and anytime. The imitation is as rare and valuable as innovation, but imitation policies can be strategically conceived and systematically executed with specific and focused R&D.

Bibliography

- Bolton Michele K. (1993) Imitation versus Innovation: Lessons to Be Learned from the Japanese, *Organizational Dynamics*, Winter, pp. 30-45.
<http://dx.doi.org/10.1016/j.bbr.2011.03.031>
- Brondoni Silvio M. (2011) Global Networks, Knowledge Management and World Cities, *Symphonya. Emerging Issues in Management (symphonya.unimib.it)*, n. 1, pp. 7-18.
<http://dx.doi.org/10.4468/2011.1.02brondoni>
- Brondoni Silvio M. (2009) Market-Driven Management, Competitive Customer Value and Global Networks, *Symphonya. Emerging Issues in Management (symphonya.unimib.it)*, n. 1, pp. 8-25.
<http://dx.doi.org/10.4468/2009.1.02brondoni>
- Brondoni Silvio M. (2008) Market-Driven Management, Competitive Space and Global Networks, *Symphonya. Emerging Issues in Management (symphonya.unimib.it)*, n. 1, pp. 14-27.
<http://dx.doi.org/10.4468/2008.1.02brondoni>
- Brondoni Silvio M. (2005a) Managerial Economics and Global Competition, *Symphonya. Emerging Issues in Management (symphonya.unimib.it)*, n. 1, pp. 14-38.
<http://dx.doi.org/10.4468/2005.1.02brondoni>
- Brondoni Silvio (2005b) Ouverture de 'Over-Supply and Global Markets-2', *Symphonya Emerging Issues in Management (symphonya.unimib.it)*, n. 2, pp. 1-12.
<http://dx.doi.org/10.4468/2005.2.01ouverture>
- Brondoni Silvio M. (2003) Network Culture, Performance & Corporate Responsibility, *Symphonya. Emerging Issues in Management (symphonya.unimib.it)*, n. 1, pp. 8-24.
<http://dx.doi.org/10.4468/2003.1.02brondoni>

- Bryman Alan (1997) Animating the Pioneer Versus Late Entrant Debate: An Historical Case Study. *Journal of Management Studies*, vol. 34, n. 3, pp. 415-438.
<http://dx.doi.org/10.1111/1467-6486.00057>
- Byun Byung-Moon, Ahn Byung-Hun (1989) Growth of the Korean Semiconductor Industry and Its Competitive Strategy in the World Market, *Technovation*, n. 9, pp. 635-656.
<http://dx.doi.org/10.1016/j.bbr.2011.03.031>
- Cappellin Riccardo (2003) *Networks and Technological Change in Regional Clusters*, in Brocher J., Dohse D., Soltwedel R. (eds), *Innovation Clusters and Interregional Competition*, Springer Verlag, Heidelberg, pp. 52-78.
- Chang Chan-Sup (1983) Comparative Analysis of Management Systems: Korea, Japan, and the United States, *Korean Management Review*, n.1, pp. 77-89.
- Cohen Wesley M., Levinthal Daniel A. (1989) Innovation and Learning: The Two Factors of R&D, *The Economic Journal*, September, n. 99, pp. 469-596.
- Corniani Margherita (2011) Shopping Centres and Intangible Consumption in Global Cities, *Symphonya. Emerging Issues in Management (symphonya.unimib.it)*, n. 1, pp. 41-54.
<http://dx.doi.org/10.4468/2011.1.05corniani>
- Darroch Jenny (2005) Knowledge Management, Innovation and Firm Performance, *Journal of Knowledge Management*, vol. 9, n. 3, pp. 101-115.
<http://dx.doi.org/10.1108/13673270510602809>
- Dong-Sung Cho, Dong-Jae Kim, Dong Kee Rhee (1998) Latecomer Strategies: Evidence from the Semiconductor Industry in Japan and Korea, *Organization Science*, vol. 9, n. 4, pp. 489-505.
<http://dx.doi.org/10.1287/orsc.9.4.489>
- Ernst Dieter (2006) Innovation Offshoring. Asia's Emerging Role in Global Innovation Networks, Special Report n. 10, East-West Center, Honolulu.
- Gnecchi Flavio, Corniani Margherita (2003) Demand Bubbles, Virtual Communities and Market Potential, *Symphonya. Emerging Issues in Management (symphonya.unimib.it)*, n. 2, pp. 34-50.
<http://dx.doi.org/10.4468/2003.2.04gnecchi.corniani>
- GoldStar Company (1993) Thirty-Five-Years History of GoldStar Co., GoldStar Co., Seoul.
- Grossman Gene M., Helpman Elhanan (1991) *Innovation and Growth in the Global Economy*, The MIT Press, Cambridge, Massachusetts.
- Kim Linsu (1997) *Imitation to Innovation: The Dynamics of Korea's Technological Learning*, Harvard University School Press, Cambridge, Massachusetts.
- Kleindorfer Paul R. (ed.) (1985) *Management of Productivity and Technology in Manufacturing*, Plenum Press, New York.
- Lambin Jean-Jacques, Brondoni Silvio M. (2001) Ouverture de 'Market-Driven Management', *Symphonya. Emerging Issues in Management (symphonya.unimib.it)*, n. 2, pp. 1-11.
<http://dx.doi.org/10.4468/2001.2.01ouverture>
- Levitt Theodore (1966) Innovative Imitation, *Harvard Business Review*, September-October, pp. 63-70.
- Little Arthur D. (1998) Global Survey on Innovation, AD Little, Boston.
- Mansfield Edwin, Schwartz Mark, Wagner Samuel (1981) Imitation Costs and Patents: An Empirical Study, *The Economic Journal*, n. 91, pp. 907-918.
- Meyers Patricia W. (1990) Nonlinear Learning in Large Technological Firms: Period Four Implies Chaos, *Research Policy*, n. 19, pp. 97-115.
<http://dx.doi.org/10.1016/j.bbr.2011.03.031>
- Nonaka Ikijiro, Takeuchi Hirotaka (1995) *The Knowledge-Creating Company*, Oxford University Press, New York.
- Robinson William T., Chiang Jeongwen (2002) Product Development Strategies for Established Market Pioneers, Early Followers, and Late Entrants, *Strategic Management Journal*, n. 23, pp. 855-866.

<http://dx.doi.org/10.1002/smj.257>

Robinson William T., Fornell Claes, Sullivan Mary (1992) Are Market Pioneers Intrinsically Stronger than Later Entrants?, *Strategic Management Journal*, n. 13, pp. 609-624.

<http://dx.doi.org/10.1002/smj.4250130804>

Salvioni Daniela M. (2008) Market-Driven Management and Corporate Governance, *Symphonya. Emerging Issues in Management (symphonya.unimib.it)*, n. 2, pp. 13-27.

<http://dx.doi.org/10.4468/2008.2.02salvioni>

Seely Brown John, Hagel III John (2005) Innovative Blowback: Disruptive Management Practices from Asia, *The McKinsey Quarterly*, February, n. 1, pp. 35-45.

Shenkar Oded (2010) *Copcats: How Smart Companies Use Imitation to Gain A Strategic Edge*, Harvard Business Press, Boston.

Sinclair Peter J. N. (1990) The Economics of Imitation, *Scottish Journal of Political Economy*, May, 113-144.

<http://dx.doi.org/10.1111/j.1467-9485.1990.tb00577.x>

Suarez Fernando F., Lanzolla Gianvito (2007) The Role of Environmental Dynamics in Building a First Mover Advantage Theory, *Academy of Management Review*, vol. 32, n. 2, pp. 377-392.

<http://dx.doi.org/10.5465/AMR.2007.24349587>

Szymanski David M., Kroff Michael W., Troy Lisa (2007) Innovativeness and New Product Success: Insights from the Cumulative Evidence, *Journal of the Academy of Marketing Sciences*, n. 35, vol. 35-52.

<http://dx.doi.org/10.1007/s11747-006-0014-0>

Urban Glen L., Carter Theresa, Gaskin Steven, Mucha Zofia (1986) Market Share Rewards to Pioneering Brands: an Empirical Analysis and Strategic Implications, *Management Science*, n. 32, pp. 645-659.

<http://dx.doi.org/10.1287/mnsc.32.6.645>

Zeng Ming, Williamson Peter J. (2007) *Dragons and Your Door: How Chinese Companies will Disrupt Global Competition*, Harvard Business School Press, Cambridge, Massachusetts.