Innovation management: how this recent and recurrent activity is integrated into company structures and processes

Thierry GIDEL, François ROMON

ABSTRACT

Achieving a continuous flow of successful new products on the market is becoming a major stake for companies. For this reason, companies are implementing structures, methods and tools dedicated to innovation management. In this paper, we present some general and non-confidential results of the research we have carried out to compare the innovation management practices of five French companies in different sectors of activity (civil engineering, food industry, building materials, road building and aeronautics).

Firstly, we argue that the project portfolio is the relevant link between the strategic and operational processes of innovation management. Then, we point out that the better the permanent and temporary structures of innovation are integrated into the company’s business structures, the more efficient innovation management is. Finally, we notice that the compatibility of the tools dedicated to portfolio management with those dedicated to the management of projects is far from being satisfactory yet, in the companies we studied.

As a temporary conclusion we built a typology of the innovation management situations associated with a model in order to evaluate and improve on the innovation management methods and tools already implemented.

KEYWORDS

Multi-project management, project portfolio management, innovation capacity, model of process.

1. INTRODUCTION

We are going to begin by presenting the model of innovation on which we have based our research and next we will present the concept of innovation backing (IB) and its underlying processes and structures.

Secondly we will present the research protocol and the companies that took part in the comparative study on Innovation Project Portfolio Management (IPPM) on which our research is based.

Thirdly we are going to present the principal findings of our research under four headings:

- Innovation Project Portfolio Management (IPPM) tools, which we have classified in terms of the final function that was attributed to them by the companies that took part in the study: reporting, evaluation of projects for assistance in operational decision-making and for assistance in strategic reflection,
- the strategic processes of innovation backing,
- the operational processes of innovation backing,
- the structures supporting these processes.

We have observed that the strategic processes are essentially dedicated to the organisation of the selection of the most profitable projects, but also on the construction of project portfolios and modes of decision-making that are coherent with the company's innovation strategy. We demonstrate the
way in which operational processes enable the optimisation under constraints of the realisation of the projects in a portfolio. We then present the structures that support the processes of Innovation Backing by evoking the different types of groups of projects and the interactions between management structures and management of the portfolios.

Lastly, we conclude by presenting the key points emanating from this research, the contributions and limitations of innovation project portfolio management in innovation backing.

2. DEFINITIONS

We define innovation, at individual project level, as the process that leads to the offering of a new product or service, or process. At company level, we define innovation as the sum of innovation projects that the company implements in order to increase its competitiveness in changing markets.

We define innovation backing (IB) as the sum of decisions to be made during the successive phases of innovation, and at the different levels where the phenomenon takes place in the company (cf. Innovation Management Matrix Model, I3M, figure 1):

- at each innovation project level (operational level),
- at corporate technological resources level (instrumental level),
- at sum of all innovation projects level (executive decision-making level).

![Innovation Management Matrix Model I3M (Romon, 2000).](image)

In this model, we focus on innovation management decision-making, which we have analysed from 3 angles:

The first group of processes of innovation backing concerns corporate innovation strategy (figure 2):

- decision to invest in one or other targeted market, one or other key technology, in one or other function that is particularly important in the construction of the company's value chain (strategic analyses, definition of axes of innovation, definition of project selection criteria, management of patents, modes of financing),
- mobilisation of initiatives to encourage the emergence of innovation projects.

We have coined these the strategic innovation backing processes. They are essentially based on research and the processing of relevant information, and on the modalities of decision-making.

The second group of processes in innovation backing concerns the efficiency of innovation:

- evaluation and selection of projects,
- monitoring of the effective execution of projects, respecting the specifications, budgets and time allocated, in the light of the resources available and the variations encountered (reporting, adjustments).

We have coined these the operational innovation backing processes. They are essentially based on the definition of procedures and the implementation of management tools.
Innovation Backing (IB) Process

**Strategic IB Processes:**
- Define the corporate axes of innovation
- Encourage emergence of innovation projects and define the criteria for their management

**Operational IB Process:**
- Evaluate the projects
- Decide which projects to launch
- Supervise the execution of innovation projects

**Organisational IB Structures:**
- **Permanent:** R&D centres, innovation platforms, strategic committees, themed networking, knowledge bases, scientific committees...
- **Evolving:** Project teams, steering committee...
- **Innovation project portfolios (IPP)**

Figure 2: Processes and structures of innovation backing

These processes of innovation backing can only be effectively implemented if they are supported by specific organisational innovation baking structures, suitable to encourage the emergence of innovation projects and ensure their successful completion. The organisational structures are the differentiated units within the company, the functional organs, the process support systems. These structures take two forms:

- **permanent structures** uniting human, financial, technical and information resources, dedicated to the overall process of innovation (R&D centres, marketing departments, strategic innovation committee, programmes, knowledge bases)
- **evolving structures**, uniting the resources affected to innovation projects (project teams, steering committees, themed networking).

We start from the following systemic hypothesis: the different processes of innovation backing are interdependent, both of the management of the company as a whole (marketing, R&D, business units), and of individual innovation project (Loilier and Tellier, 1999).

The problems that beset innovation backing can then be formulated: what instances, what modes of decision-making, are the most appropriate for the exercise of this responsibility within the company, what methods and what management tools are the most efficient for the persons concerned (those bearing the projects, but also those who provide resources for the projects, and those who work the projects out).

This set of problems is crystallised in the management of the company's innovation projects portfolio(s), which are the interfaces between the backers of innovation and innovation project managers in the company.

We have defined a project portfolio as a set of projects taken as a whole and recognised as such for management purposes.

The management of a portfolio corresponds to its constitution and its structure, and to the arbitrage that it enables to be made between the projects that it contains, at any given moment, and as and when the projects progress.
3. COMPARATIVE STUDY OF INNOVATION PROJECT PORTFOLIO MANAGEMENT (IPPM) IN FIVE MAJOR FRENCH COMPANIES

In this article, we present the principal results of a 3-year comparative study on Innovation Project Portfolio Management (IPPM), which we carried out in five major French companies, specifically chosen from very different sectors.

- Liebherr Aerospace Toulouse (LTS): In-cabin air treatment systems for aircraft, air conditioning, pressurisation, anti-icing
- SODIAAL (Yoplait): Fresh dairy products, drinking milk, cheeses, food ingredients
- Rhodia: Specialty chemicals, polyamide, products for industrial goods and consumer goods
- Lafarge Mortiers: Special mortars, products for facades, tile-fixing adhesives
- Entreprise Jean Lefebvre EJL (GTM): Road building, road building materials

Research was carried out in three phases:

- in-depth interviews with the five persons who commissioned the study, namely the directors of R&D and Innovation from each of the 5 companies,
- in-depth interviews with forty or so of the persons directly involved in innovation, analysis of IPPM documents and tools, case studies,
- comparative analysis and synthesis,

by three researchers, Sandrine Fernez-Walch (Université Toulouse 1), Thierry Gidel and François Romon, the authors of this article.

For the purposes of this comparative study, we consider as a priori variables of action, the innovation structures, the modes of decision-making, the innovation management tools, in accordance with the "innovation grid" developed by Sandrine Fernez-Walch (1991), and already used in previous studies (Fernez-Walch and Romon, 2000).

The commitment to confidentiality that we entered into with our partners, prevents us from giving any details of the innovation projects currently in progress, neither can we identify any element of our study with one or other of the five companies studied.

4. WIDE VARIETY OF IPPM TOOLS AVAILABLE, BUT DIFFICULTIES IN IMPLEMENTATION

IPPM tools are often of a relatively simple design. The principles used have been in existence for many years: the theories of decision-making in uncertain situations were developed in the 1950s, those on the financial analysis of research investment date from the 1960s and 1970s and the tools based on the value of information were inspired by work carried out in the 1980s.

Several typologies can be used to classify these tools. We chose to classify them in terms of the three principal objectives attributed to IPPM tools by the companies taking part in the study. Indeed, IPPM tools are used as: a means of control (Reporting tools), an aid in the choice of projects and their management within the portfolios (tools to assist in operational decision-making, and scoring tools) or as an aid to collective reflection (Tools to assist in strategic reflection on innovation).

**Reporting tools**

The objective of this type of tool is to provide the decision-makers with answers to questions of the type: Are we running sufficient innovation projects? What is the coherence between innovation projects and strategy? Are the programs correctly executed?

E.g. a R&D and Innovation activity report contains: the budget for the innovation unit, both the forecast and actual R&D budget, the percentage of both scheduled and actually executed actions, an evaluation of the R&D effort (measured in % of R&D expenditure in relation to turnover and net earnings), an evaluation of the "efficacy of research" in terms of the number of patents and brands registered, the number of communications diffused, the number of experimental sites, R&D partnerships (universities, companies), a statement of the portfolio of patents and brands.

**Tools to assist in operational decision-making in the framework of project portfolio**

These tools are designed to assist in the "everyday" steering of projects, i.e. in decision-making relative to the advancement of projects in the portfolio, in the filling up of the portfolio (launch or scrapping of projects, postponement, merger of projects, putting projects on hold), in the affectation of resources to each project in the portfolio.
In the companies studied, we found tools in the form of lists of projects classified by categories and associated with certain characteristics or attributes of the projects:

- list of projects in progress with project name, project manager, team, key dates, action undertaken (whenever a product related decision is made, an additional line is completed),
- Gantt chart, showing the key stages and rate of progress of the project, together with complementary information (manager, team, budget forecast and actual budget),
- list of the projects in progress, in a more literary format (description, type, principal constraints of the project, history of decisions made and tasks carried out).
- table of the projects in progress, summarising the monitoring and achievement indicators of each project.

Publications do not speak of management of projects simply by list (indeed they speak extensively of more sophisticated tools such as "pipes" and "scoring", see below). Nonetheless, we observed the widespread use of list of summaries in four of the five companies that we studied, in spite of the apparent difficulties in using them (they contain on average 11 columns and as many lines as there are projects, sometimes more since they can comprise several project classifications or segments of one portfolio, and/or contain historical information).

Certain companies use a system of automated reporting, supported by project management software.

*Tools for the evaluation of projects and potential projects, scoring tools.*

Some of the companies studied have sought to develop performance indicators for each project or for a set of projects: added-value, volume of sales (as a percentage of the company's turnover) of the products launched in the last 3 to 5 years, staying power of the new products (out of x products launched in the last 3 to 5 years, how many are still around?), ROI (Return on Investment), time-to-market, respect of procedures, number of projects (in a given period, per Business Unit, or per R&D centre), contribution of the set of projects to the target fixed for the business unit or company as a whole (extension of product range, cost reduction, improvement in product quality, respect of the environment).

Within a portfolio, financial appraisal tools are used to compare the results and the forecasts of each project: for this reason, they can not generally be used to study the possible synergies between projects.

The point that is common to all these financial tools is their dependency on forecasts and estimates, in particular for the evaluation of forecast income to be generated by an innovation project, and the size of the investment to be made (see above).

This type of tools occupy more space in publications (Remer and Nieto, 1995, Lefley and Morgan, 1998, Akalu, 2001) than in the companies we studied, with the exception of one company, which makes a striking contrast as it has made substantial inroads into this domain with the help of external consultants. This situation is all the more remarkable given that, in all the companies, the line taken at managerial level maintains that the financial profitability of projects is the top priority in Innovation Management.

Multi-criteria or scoring tools enable the evaluation or rating of projects for comparison purposes. This scoring is done using questionnaires to be completed by the project manager. There are abundant publications on scoring tools (Calantone et al., 1999) for example:

- Financial Appraisal Profile (FAP), a strategic index based on 9 criteria per team of managers in order to reduce subjectivity (Lefley and Morgan, 1998)
- Strategic Justification of Enterprise Technology (SJET), a bi-dimensional matrix juxtaposing the strategic direction of the company and the measurable characteristics of the project (Sarkis et al., 1997)

These multi-criteria analysis tools and methods are frequently criticised because, by reducing the project to a score, they prevent learning and feedback, they are deemed "not good for learning".

*Strategic Reflection Tools*

These tools are designed to promote collective reflection on the coherence of projects within the portfolio, and on the innovation policy of the company, and to stimulate work on the definition of the contours of portfolios. They introduce criteria of interaction between projects into the portfolios. By
representing them on one diagram, they serve also to challenge the criteria of prioritisation of projects or to underline the strategic axes of innovation.

There are plenty of examples of matrixes in publications, such as benefits versus probability of success, ease of implementation versus attraction. The projects are represented on graphs with bubbles of different colours and sizes (De Maio et al., 1994, Cooper et al., 1999, Archer and Ghasemzadeh, 1999, Mikkola, 2001). We found this type of tool in use in two of the five companies in our comparative study. The matrixes are essentially improved versions of the Boston Consulting Group (BCG), and GE/McKinsey type of matrix, which had been designed to allocate the company’s resources among its different Business Units.

The mapping of projects is used for the allocation of resources to the different projects in a portfolio. Bubble graphs enable the instant visualisation of numerous parameters, up to 6, which facilitate the introduction of key factors such as the dynamics of the portfolio. These graphs are generally produced to encourage debate, analysis and questioning of established thought. Combinations of matrixes and bubble charts with additionally the notion of time, and pipes enable the visualisation of all the projects in progress with diverse attributes, and in relation to their advancement in time.

**Difficulties associated with implementation of tools and learning IPPM**

We observed that the tools currently available are difficult to implement. There seem to be three principal reasons for this difficulty:
- data gathering is far from being easy,
- the data is unreliable or too subjective,
- staff is neither ready nor trained in the use of this type of tool.

The difficulties in the implementation of this type of tool are also due to a lack of clarity and stability in the objectives they should help to achieve.

We observed three types of lever, used to introduce the concepts, the tools and methods into the corporate culture of the enterprises that took part in our comparative study:
- formalisation of tools and methods in guides and procedures, all the companies that took part in our study have formalised their functioning, either in quality procedures (in the framework of ISO 9001 certification, or equivalent), or in an in-house document.
- organisation of training programs; all the companies provided training with relatively similar content.
- creation of in-house Innovation Project management consultant positions.

**5. STRATEGIC IB PROCESSES**

The strategic processes involved in innovation backing (IB) have to be defined from the starting point of the strategic configuration in which the company finds itself and its development. In order to achieve this, we elected to use the concept of the **strategic intensity of innovation in the company** measured by a mix of three criteria:
- fit between innovation policy and corporate policy,
- innovation policy formalisation,
- percentage of the turnover dedicated to R&D

The strategic processes subsequently consist of the **construction of the company’s axes of innovation**, i.e. the definition of the role that has to be attributed to innovation so that the company can draw the maximum benefit from this strategic configuration; then they enable the elaboration of the **project selection criteria**.

But the strategic processes of IB do not end with a simple prescription. We include in the strategic processes of IB, all the actions that have to be carried out in order to realise the change that involves, at differing degrees, the fact of determining the axes of innovation and the criteria of selection. Below, we expand, in particular on the **construction of project portfolios** and the **formalisation of the modes of decision-making** in IPPM in coherence with the company's axes of innovation.
"Strategic Intensity of Innovation" concept
Lenfle and Midler (2002) demonstrated, using the USINOR case study, that "whilst it is easy to circulate relatively fuzzy managerial concepts such as 'project management', the reality of their translation into concrete fact offers poor resistance to differences in situations".

The analysis of the strategic configurations of the 5 companies studied, led us to classify them in 3 levels of "strategic intensity of innovation" (Table 1)

<table>
<thead>
<tr>
<th>Level of strategic intensity of innovation</th>
<th>Companies concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation is the foundation of the offer</td>
<td>1</td>
</tr>
<tr>
<td>Innovation is a variable yet determining factor of the offer</td>
<td>2</td>
</tr>
<tr>
<td>Innovation is just one of several factors of competitiveness</td>
<td>2</td>
</tr>
</tbody>
</table>

Our research demonstrates that the strategic IB processes bear a strong correlation, on one hand to management practices in the company and its organisation for ordinary operations (and not for the finalities of innovation management per se), and on another hand to the strategic intensity of innovation within the company.

Construction of axes of innovation and project selection criteria
Hatchuel, Lemasson et al. (2002) resting notably on the TEFAL case, which demonstrates a high capacity for successful innovation (Chapel, 1997), advocate the implementation of a "collective process of innovation".

The decision-making processes of IPPM with a strategic finality that we observed are:
- emergence of corporate axes of innovation
- definition of criteria of selection, prioritisation and termination of projects in the portfolio (evaluation of performances and potentialities of the portfolio in relation to the company's axes of innovation)
- definition of the level of precision of the specifications entrusted to project management
- elaboration of management's reference framework of the company's technological resources (general orientation of technological watching brief, industrial property, R&D program, knowledge management)

However, we have observed that the strategic IB processes are essentially dedicated to the organisation of the selection of the most "profitable" projects.

There is no shortage of ideas; on the contrary, the problem is rather to sort through them in order only to transform the "best" ideas into projects that will be included in the project portfolios. In the context of cost reductions, our research demonstrates the major importance of the "sorting through ideas" function, whilst noting a great deal of uncertainty as to the way in which this function is ensured. For example, none of the persons using scales of priority gave us an explanation of their mode of construction.

The evaluation of the potential profitability of a project in an uncertain context is the principal difficulty in the selection of projects. However, the backers of innovation need to know what income the innovation projects are going to generate. Classes of priority reflecting an evaluation of the balance between risk/expected gain and/or appropriateness of the projects to the company's strategy are drawn up. For the system to work, innovation decision-makers need to have clearly formulated and expressed their innovation strategy, and the allocation of the innovation budget between groundbreaking projects and development has to be coherent with the sorting of ideas, instead of preceding it as is often the case.

Construction of project portfolios coherent with the company's axes of innovation
We are raising, in this paper, the problem of the suitability of the very construction of project portfolios with the strategic functions of IPPM, i.e. the capacity to manage innovation projects along the axes of innovation set by the company:
• relationship between the profiles of the portfolios and the profiles of the structures for the working out of the projects (permanent structures such as research centres, as well as temporary project research platforms), and for the structures for the exploitation of the products of the projects (Business Units)
• segmentation of the project portfolios.

Bower and Christensen (2000) demonstrated, using very convincing examples form the field of microelectronics, that letting oneself be guided in the definition of one's R&D axes, entirely by the demands of the current clients, risks leading to a poor adaptation of the company's technological resources to the future evolution in demand.

Important progress can be made in the domain of innovation backing, by cross referencing within project portfolios, the types of corporate strategy and the types of innovation projects (Gidel and Romon, 2002). This is evidently the objective of the multi-criteria evaluations conducted within the project portfolios that we studied (see above IPPM tools), but these evaluations are conducted within portfolios constructed around other profiles, and in other segments than those of the axes of innovation (often around the profiles of the business units): projects are ultimately only managed within the framework of criteria that belong to this pre-established profile, and not within the framework of strategic innovation management criteria.

**Formalisation of IPPM decision-making modes coherent with the corporate axes of innovation**

On of the major problems of IPPM, in relation to its strategic finalities, is that of the modes of decision-making and first of all, the parties involved in decision-making: are they the ones in the best position to assume this responsibility? The modes of decision-making have to bring together the backers and managers of innovation within the company. As stated also by Bower and Christensen (2000) "most strategic innovation proposals come to light …from within technical teams or project groups. Companies subsequently use analytical planning and budgeting systems to choose from among competing projects". This is the procedure effectively institutionalised by one of the companies that took part in our study, where the projects in progress are systematically and periodically presented by project teams, first to business unit management and then to company management.

### 6. OPERATIONAL IB PROCESSES

The operational processes behind innovation backing are principally based on the definition of procedures and the implementation of management tools. In terms of IPPM, the operational processes of innovation backing are **essentially dedicated to optimising, within the constraints, the realisation of the projects in the portfolio**.

Many publications advocate the management of the interactions between projects, but what we observed is different: portfolios are used more to optimise the running of the projects, within the constraints, than to manage their interactions.

For companies that develop their own products, the rapidity of the time to market is an important criterion. For companies that respond to client demand, it is a question of respecting the client's stated schedule, in these cases IPPM directors play a "super-supervision" role in keeping the projects on-schedule.

For companies that respond to client demand, cost overruns are tracked as they often reveal planning discrepancies, organisational problems with an impact on project profitability, which are managed in a target cost framework to a maximum number of projects into the portfolios while respecting the overall budget allocated.

In the context of a chronic lack of human resources, conflicts of priority are numerous and resolved as and when they arise. One function expected from IPPM is the ability to arbitrate between projects, taking into consideration the quantity and quality of resources available. The consequence of this optimisation within constraints is that one is less interested in the portfolio as an entity than in the separate individual projects.

In cases of conflict of priority, the "negative" interactions between projects outweigh the synergies between projects.
We observed a few tentative moves to create databases to capitalise on knowledge and expertise or consolidations of portfolios. But we observed neither the bartering reported by Bonhomme and Midler (1999) in the case of a pharmaceutical laboratory, where it is possible, at any given moment, to exchange a project in a portfolio with one from another portfolio, nor the sharing of vital common components among projects being developed on a common platform as described by Cusumano and Nobeoka (1999).

7. STRUCTURES SUPPORTING THE IB PROCESSES

The implementation of a IPPM system is a voluntary move, either at the initiative of R&D management, seeking to justify their request for the allocation of resources, or at the initiative of Executive Management imposing it as a precondition for the attribution of these same resources. In either case, the stated objective is to "orient" the R&D programs towards the satisfaction of clients' needs, we will therefore seek to associate marketing with R&D management: a way of fully integrating innovation into the normal functioning of the company.

Having presented the different types of sets of projects encountered during our research, we now illustrate the interactions between structures and sets of projects.

The different types of sets of projects

Projects are grouped according to their related attributes. In our comparative study, we distinguish between several types of sets of innovation projects:

- project portfolios (PP), comprising a set of projects, and managed as such,
- "operational" classifications of projects (OCP), sets of projects, formalised and instrumented, but which are not managed in themselves: it is the projects that fall under this classification that are managed, contrary to project portfolios,
- "conceptual" classifications of projects (CCP), sets constituted as the opportunity arises, simple lists of attributes given to projects, either orally, or in writing (e.g. identification sheets and/or project monitoring sheets), to communicate on projects or to occasionally assist in project decision-making, but are not a stable management procedure.

The construction of portfolios and "operational classification" of innovation projects cover two aspects: the definition of the boundaries of the set of project and, if appropriate, the segmentation of the different projects within this set.

Interaction between corporate structures and project portfolio management

"Operational" classifications generally regroup projects outside portfolios but can also include projects included in a portfolio: we therefore observe overlaps between the boundaries of sets of projects, which can obviously lead to dysfunction: a project can be the object of conflicting decisions, made at two separate times and places.

In our opinion, the proliferation of this type of classification occurs in different circumstances:

- project portfolios and management structures have not yet settled into place or are in a process of reorganisation and the classifications are temporary solutions
- the company has yet to adopt a genuine project portfolio management system, but nonetheless has to manage the projects: the classifications are de facto project management tools
- there is disagreement among innovation staff over the management of the portfolio(s), and the operational classification is a means of opposition or at the least a way to circumvent the decisions made at portfolio level or within the existing structures.

We also found projects outside any set, and "reserved" budgets that were available to Executive R&D Management. These "exceptions" enabling staff to overcome inadequacies in classifications, structures and modes of decision-making, "standardised" by IPPM systems, and thereby bring very specific projects to fruition.

We also observed that, in certain companies, portfolios or operational classifications see their boundaries evolve, for reasons of management capacity. We observe a fragmentation into several portfolios and a modification of the decision-making structures when the number of projects becomes too large. We also noticed a homogenisation of the criteria for the constitution of portfolios so that each of them could be managed by a structure with specific skills in a domain.
Lastly, although two of the companies studied had constructed their portfolios or their project classifications in accordance with the specific criteria of innovation backing, the three other companies built their project groupings along the lines of pre-existing company structures. Instead of seeing innovation management integrating itself into the functioning of the company, we noticed that it is generally founded on the existing processes and structures, at the risk of losing the added value of management by portfolio. In these cases the portfolios are often constituted around the structures that handle or carry through the projects (Business Units or R&D Centres), in accordance with the types of projects they contain (e.g. projects belonging to a subdivision of the company and projects common to several subdivisions, development projects and groundbreaking projects) or in accordance with predefined management procedures (segmentation of a portfolio between projects requiring the intervention of such or such a management body and those requiring a different form of intervention).

CONCLUSION
The research conducted at LTS, Rhodia, Yoplait, Lafarge Mortiers and EJL, demonstrated the following key points:

The implementation of IPPM is an organisational initiative that is still in the course of development, initiated in a voluntary fashion, either by R&D management, anxious to obtain resources for their operations and therefore seeking to justify their programs of projects, or by Executive Management, with the stated aim of involving marketing staff in the process.

The number of project portfolios differs from one company to another, and can even differ within a same company, in accordance with the overall criteria for management of the company and not precisely the criteria for innovation management. Portfolios coexist with operational classifications, conceptual classifications, isolated projects and innovation activities carried out without project management.

The strategic intensity of innovation for a company is a factor that directs the degree of formalisation of the management of the projects in the portfolios and the coherence of the organisational solutions implemented to ensure IPPM.

The most frequently used IPPM tools are not the most sophisticated, and their role has as much to do with learning and reflection as it has to do with assistance in decision-making.

IPPM can become a means of action on the company and its organisation. It can notably lead to a clarification of an innovation policy or of the strategic axes, a reorganisation of the structures and circuits of decision-making in the company.

BIBLIOGRAPHY


