

Compared Activity-Based Costing Case Studies in the Information System Departments of two Groups in France: A Strategic Management Accounting Approach¹

Gregory WEGMANN
Maître de Conférences en Sciences de Gestion

Université de Bourgogne – LEG (UMR Cnrs 5118)

**FARGO – Centre de recherche en Finance, Architecture
et Gouvernance des Organisations**

Cahier du Fargo n° 1100501

Mai 2010

Abstract: This paper analyses the strategic management accounting concept with an instrumental point of view. We try to show in what extend the ABC developments could be included in a strategic approach of the management accounting and to test if the ABC is a relevant tool to drive the strategy. The first part synthesizes the strategic management accounting developments, which try to improve the Activity-Based Costing method. In the first part, we describe them using the Strategic Management Accounting stream, with a link with cost management and ABC. The second part exposes a taxonomy of the reasons why using the ABC method. In a third part, we confront our developments to the field reality with two case studies.

Key words: Strategic Management Accounting; Activity-Based Costing; Case Study.

JEL Classification: M 41.

Contact: Grégory WEGMANN, LEG/Fargo, Pôle d'économie et de gestion, 2, Boulevard Gabriel, BP 26611, 21066 Dijon Cedex, France.
Email: gregory.wegmann@u-bourgogne.fr

¹ Paper presented at the International Conference on Business and Information (BAI2010), Kitakyushu, Japan, July 5-7, 2010.

COMPARED ACTIVITY-BASED COSTING CASE STUDIES IN THE INFORMATION SYSTEM DEPARTMENTS OF TWO GROUPS IN FRANCE: A STRATEGIC MANAGEMENT ACCOUNTING APPROACH

INTRODUCTION

This paper analyses the strategic management accounting concept with an instrumental point of view. We try to show in what extend the ABC developments could be included in a strategic approach of the management accounting and to test if the ABC is a relevant tool to drive the strategy.

Our reflexions conduct us to explain that the ABC method seems to be a relevant strategic management accounting tool. Its features should permit a refined analysis of the organizational architecture so that we could understand the link between the operational and strategic management. Then we test this hypothesis using a “state of the art” approach and two case studies.

It is the reasons why the first part of the paper synthesizes the strategic management accounting stream, with a link with cost management and ABC, and the second part exposes a taxonomy of the reasons why using the ABC method and the strategic potential of the ABC models in this context. In what measure could the recent ABC proposals (stakeholder ABC, time-driven ABC, ...) reinforce its strategic potential? In a third part, we confront our developments to the field reality with two case studies. We have studied two ABC developments in computing departments of two groups in France, industrial for the first one, banking for the second one. These case studies enable us to conclude about the interest of ABC to drive the strategy. Are the ABC studied Strategic Management Accounting tools?

1. STRATEGIC MANAGEMENT ACCOUNTING AND ACTIVITY-BASED COSTING

In this part, we develop the Strategic Management Accounting concept with a focus on the ABC method. With the first developments above, we wonder if the ABC method could be a Strategic Management Accounting tool.

1.1 The concept of Strategic Management Accounting

The conventional approach to management accounting (Anthony, 1993) discloses an opposition among the processes of strategic management, management control and operational control. Johnson and Kaplan (1987) explain that the coordination between these processes is difficult to obtain. The Strategic Management Accounting stream is a concept and practices trying to solve this difficulty of coordination.

There has been a growing interest in SMA² since the early 80's (Simmonds, 1981³). In a firm, a SMA instrument exists when it can connect strategic and marketing decisions to operational ones. Under the SMA concept, we put together work insisting on marketing aspects (Roslender and Hart, 2003) and work insisting on strategic dimensions (Shank and Govindarajan, 1989). For instance, Simmonds (1981) and Bromwich (1990) suggest using qualitative and external measures with three dimensions of analysis: the products & customers (their level of satisfaction for instance) dimension, the competitive (level penetration) and the environmental one.

² In our meaning, SMA refers to various other expressions like Strategic Costing, Strategic Control (Bromwich, 1990) and Strategic Cost Management (Shank and Govindarajan, 1989).

³ Simmonds has been the first one to use this expression.

The concept has been deepened over the years (Wilson, 1995).

Three SMA types could be specified (Teller, 1999, p. 40-41).

- A SMA restrictive approach. In this context, Management Accounting is a tool to decline the strategy and to control it. It is a lagging approach of the control of the strategy that does not justify a deeper analysis of strategic cost drivers. A few indicators to observe the competitive environment and to test the customers' expectations seem enough. It is useless to question the organizational architecture. This type of SMA does not need to increase the knowledge.

- A SMA medium approach. In this context, Management Accounting is a tool to validate the strategic hypotheses. This time, it is a leading perspective of the strategic control which requires analysing more deeply these strategic hypotheses. In fact they are key success drivers that management accounting sets along the firm's value chain. In that way, Shank and Govindarajan (1989) explain that the key value drivers are in fact Cost Drivers that the ABC method is able to put in evidence.

- A SMA extended approach. In this context, Management Accounting is a fundamental part of the Strategy design and leading. This approach requires three conditions:

1. Strategy design and leading have to be strongly connected.

2. The management control system has to be interactive, in a similar way as the concept of interactive control designed by Simons (1995). According to the strategic situations and the environmental uncertainties, the author explains that the managers choose some management accounting tools that become interactive control ones, because they use them to articulate the strategic and operational management processes and to put in evidence new strategic opportunities.

3. The new strategies have to emerge step by step.

SMA restrictive version fits more with a contractual type of management. It suggests a disciplinary approach (Agency and Transaction Costs theories) where the objectives of Management Accounting are (Jensen and Meckling, 1992; Brickley et al. (1997)):

- To reduce conflicts and provide control,

- To tie the strategy to the resources allocation,

- And to facilitate the firm's internal coherence.

SMA medium and extended versions imply a more participative approach of employees' activities concerning management accounting processes. Several French empirical studies (Bollecker, 2007) describe this kind of situations where the management accountants are just counsellors of a process and the employees the designers of management accounting tools. From a theoretical point of view, this process refers to a knowledge-based approach of management as developed by Argyris and Schön (1978) with the Organizational Learning Theory. In this context, the value creation is the result of an increase resources (Resource-based View approach, Penrose, 1959) and competencies (Core-Competencies theory, Hamel and Prahalad, 1990).

The reasons for implementing a SMA tool, according to the academic literature (Johnson and Kaplan, 198), lie in the evolution of the environment. This is described in successive stages: stable and predictable, unstable and difficult to anticipate and finally turbulent and unpredictable. Another main reason is that the organizations are more and more complex. As a consequence, the management accounting tools like ABC must take into account the strategic and organizational aspects and integrate them into the company's drive. In order to be an efficient decision tool, a SMA system must closely follow each step of the implementation of the strategy and the achievement of pre-defined objectives.

Tomkins and Carr (p. 165, 1996) explain that “...there is still no agreed comprehensive conceptual framework for what SMA is..., and it is still the case”. But Hoffjan and Wömpener (2006, p. 248) put in evidence that several SMA tools are well developed in the firms (customers profitability analysis, target costing, ABC method, future costs, ...)

In the same way, Cinquini and Tenucci (2006) present the results of an empirical study about medium size Italian firms. They describe the fourteen SMA tools the most used and explained that most of them integrate marketing and commercial measures (p. 14). Is the ABC method able to drive each step of the strategy process and to control the achievement of the strategic goals? Moreover, is it able to validate the strategic hypotheses and to stimulate new strategies?

In this paper, we develop an instrumental point of view of SMA focusing on the strategic dimensions of the ABC method.

1.1 Activity-Based Costing as a tool to drive strategically the costs

In this paragraph, we want to show that the ABC developments are founded on the Strategic Management Accounting stream. First of all, a few sentences to remind what is the ABC method.

The ABC method was designed in the United-States during the 80's (Cooper and Kaplan, 1988)⁴. It is a refined cost system which enables classifying more costs as direct, to expend the number of indirect-cost pools and to identify cost drivers. ABC favours better cost allocation using smaller cost pools called activities. Using cost drivers, the costs of these activities are the basis for assigning costs to other cost objects such as products or services. Since the work of Johnson and Kaplan (1987) on the “Relevance Lost” of management accounting practices, the Anglo-Saxon scholars have been very dynamic. The majority of management accounting developments is based on the Strategic Management Accounting stream⁵. With the historical research of Johnson and Kaplan, we understand the context from which ABC arose. Looking for management accounting methods which could clarify the decision making process, Johnson and Kaplan suggest: First, to analyse more deeply the organization activities and processes and second, to link together the strategic and the operational management. These proposals announce the development of the Balanced Scorecard (Kaplan and Norton, 1996) and of a strategically oriented ABC.

The structure of the ABC method also explains its strategic orientation: the central role of the cost driver concept as a variable to explain the costs consumption and to describe the value chain concretizes the link between strategic and operational management.

We specify that SMA is based on a process approach of management accounting. In this context, the company is described as a network of horizontal, flat and transverse structures where the activities are organized according to market imperatives. The development at the bottom of the process constitutes a fundamental driver to integration. In this context, the ABC method represents a competencies-based tool. There is a significant relationship between the processes and the competencies of an organization.

The ABC method was conceived mainly to correct misleading overhead allocations.

⁴ According to Bouquin (p. 85-86, 2006), General Electric experimented with a kind of ABC during the 60's.

⁵ Organizations like the Cam-i (Consortium of Advanced Management, International: <http://www.cam-i.org>) and the IMA (Institute of Management Accountants: <http://www.imanet.org>) support these investigations.

At first, it was a response to the inaccurate standard costing American methods. But several scholars, like Lebas (1999) in France, explain that rapidly, the ABC method has gained managerial (ABM) and strategic dimensions. Jones and Dugdale (2002) put in evidence the links between the ABC method and the Strategic Management Accounting school. Shank & Govindarajan (1989) have developed an operational model with the definition of Key Success Factors, determined in using a competitive analysis of the environment and an analysis of the internal processes of the company, with the help of the ABC method. It is integrated in a SMA system with Life-Cycle and Value Chain analyses processes. Using the works of Porter (1985), the authors suggest integrating the customers and suppliers dimensions in the cost allocation system.

To synthesize our developments, we consider that the ABC method could be a relevant SMA tool. It seems able to deeply decipher the organizational architecture and the links between strategic and operational management, to question the strategic hypotheses and to enlighten the new ones. Let us precise that our purpose is not to analyse the limits of the ABC method, but to study the evolutions of its functions. This is the reason why we now present the management accounting and ABC uses, according to the academic and professional developments of the techniques (part 2), and according to two case studies about ABC implementations (part 3).

2. THE ACTIVITY-BASED COSTING USES AND THEIR STRATEGIC POTENTIAL

In this part, we first develop a typology of the potential functions of the ABC methods. Then, we deepen some of those functions using the recent developments of the ABC method. Our question is: Do the recent developments on ABC (Customer-Driven ABC, Time-Driven ABC, ...) emphasize its strategic potential? We try to validate our theoretical developments about the strategic nature of the ABC method.

2.1. The ABC uses dimensions

The table 1 presents a synthesis of the ABC uses dimensions. This typology is a result of a state of the art review (academic and professional).

TABLE 1. SYNTHESIS OF THE ABC USES DIMENSIONS (Wegmann, 2009)

ABC uses dimensions	Tools examples
<p><u>1st dimension: the stakeholders</u> Spatial widening of the cost perimeter: to the customers, suppliers, and other stakeholders</p>	<p>Customer-Driven ABC Benchmarking-Driven ABC Interorganizational Cost Management Target Activity-Based Costing</p>
<p><u>2nd dimension: temporal widening</u> of the cost perimeter: analyse of future costs on a life cycle, on a project, ...</p>	<p>Planning and Activity Based Budgeting Beyond Budgeting Project Management Accounting Target Activity-Based Costing</p>
<p><u>3rd dimension: complexifying</u> of the analysis model Refined resources allocation stage diversified cost drivers rationalization of the model</p>	<p>Feature costing Resource Consumption Accounting statistical methods to correlate the costs Time-Driven Activity-Based Costing</p>
<p><u>4th dimension: simplifying</u> of the analysis model Simplified resources allocation stage reduced number of cost drivers & activities</p>	<p>Direct costing Time-Driven ABC & other equivalence methods Lean Accounting Process Costing</p>

In this table, we distinguish four uses dimensions. A tool can gather one or several of those dimensions.

- The first one concerns a stakeholder approach of management accounting. It deals in the field of the Stakeholder Theory (Freeman, 1984). It is an instrumental approach of this theory that is to say we consider that taking account of the stakeholders in a firm has a positive impact on its performance. For instance, with the Customer Profitability Analysis (Horngren, 2005), we try to optimize the customers' relations processes.

- The second one concerns a prospective approach of management accounting. The tools presented in the table one enable a prospective approach of the costs (Antos and Brimson, 1999, Horvath, 1998, Cokins 2002).

- The third one regroups more complex management accounting systems. Taking into account the several pitfalls of the ABC method as explained before, some scholars have developed management accounting systems with:

- more refined activities and tasks architectures,
- more rationalized allocation processes of resources to activities,
- statistical approaches to correlate the resources and activities consumption to the cost drivers;

In this way, Keys and van der Merwe (2002 a and b) have developed the Resource Consumption Accounting (RCA) method who improves the ABC method at the resources allocation process level. The RCA method adds a new allocation phase from the resources to a level called resources pool. Moreover, we systematically distinguish the variable costs from the fix ones.

-On the contrary, the fourth one regroups simplified management accounting

techniques. But we have to imagine a continuum between the third and fourth dimensions, a management accounting system can combine simplify and more complex parts⁶. The Lean Accounting movement (Maskell and Bagaley, 2003) is more radical. It is a simplified accounting system based on a variable costing logic.

In fact, many scholars and practitioners admit that ABC has several pitfalls (Anderson and Young, 1999; Datar and Gupta, 1994; Foster and Swenson, 1997; Malmi, 1997). We can make a list of the major criticisms as follow:

- A lot of practitioners explain that ABC systems are expensive to implement, time consuming and hard to adjust.

For instance, Kaplan and Anderson (p. 5, 2007) describe the ABC system of Hendee Enterprises, a Houston-based manufacturer of awnings. They explain that the ABC software took three days to calculate costs for the company's 150 activities, 10 000 orders and 45 000 line items.

- A lot of failures have been compiled, especially in the service industries.
- Finally, a lot of people think that the ABC method is too complex. As a consequence, it sometimes fails to clarify the decision making process and the strategy of the firm.

This is why since its early stages several specific applications based on the ABC method have been suggested. Their objectives are:

- To diversify the costs objects (products, services, processes, customers, markets, ...),
- To widen the analysis perimeter (spatial and temporal widening),
- And to determine the relevant level of details to analyse the costs.

These purposes display a common objective: to direct the costs calculations towards the key value factors of the firm.

Now, we present some recent improvements of the ABC logic that can be classified in the dimensions of the table 1. We question their strategic potential.

2.2. The strategic orientations of Activity-Based Costing models

In this part, we will describe several techniques and we will interpret and discuss them.

Some of them can be classified in the first dimension of the table 1, that is to say techniques which enable a spatial widening of the costs perimeter. Some of them suggest to broaden the costs analysis to the customers (Customer Profitability Analysis ABC), others to the competitors (Benchmarking-Driven ABC), to the environment (Environmental-Driven ABC), or to the suppliers and partners (Interorganizational Cost Management and Open-book Accounting). This list of solutions is not exhaustive.

We have noticed that since the first proposals, the ABC has aimed to allow managers to make better decisions about customer relationships. Lebas (1999) has explained that it is a suitable method to deal with marketing questions. He describes the way to organize an ABC structure starting from the customers' features. Other French specialists insist on this ABC approach. Mevellec for instance (2005) describes different versions of ABC relevant to organize the costs analysis around customers' questions (ABC011 p. 228-239, ABC101 p. 250-259 and ABC111 p. 270-279). Kuchta and Troska (2007, p. 18) explain that the ABC is a relevant tool to compare

⁶ Horngren (2005) presents the Kellogs' case. Its accounting system combines a « job costing » part, that is to say a detailed accounting process, and a « process costing » part, that is to say a more global accounting process.

profitabilities between customers.

But the original ABC has been designed for manufacturing companies. The activities describe the production processes (supply chain, manufacturing, adjustments, ...) and the cost drivers express mainly production concerns (labour and engine hours, batches and numbers of fabrication orders, adjustment minutes number, ...) In a lot of cases, the value creation is made outside the production process and sometimes, the customer relations is the key value factor. This can explain the development of several Customer Profitability Analysis (CPA) models.

The CPA consists in reporting and analysing the revenues earned from customers and the costs incurred to earn those revenues. With the CPA, we can describe customer-profitability profiles. The purpose for managers is to ensure that customers making large contributions to the operating income of a company receive a level of attention from the company matching their contribution to the company's profitability.

The principle of the CPA is to reorganize the ABC architecture so that it deals with the commercial and marketing aspects of management. Kuchta and Troska (2007) explain that the ABC is a good method for profiling customer profitability. They believe that a Customer-Driven ABC "...can help determine which products and customers are the most profitable, which activities are customer-focused, whether processes are customer value-added or not, and where efforts toward customer-related improvements should be made" (p. 18).

We can extend the cost analysis perimeter to suppliers and even to partners (in this case, we need an Open-book Accounting approach). Cooper and Slagmulder (2004) describe a methodology called Interorganizational Cost Management (IOCM) which originates from the observation of Japanese case studies. The costs analysis and reduction processes include at least two firms. The ABC method helps to describe the value chain between them. With Target Costing, a first firm can identify an estimated price customers are willing to pay and then, with a second firm, it computes a target cost to earn the desired profit. One important question is: what costs to include in the target-cost calculations? Frequently, cost-reduction efforts need to extend to all parts of the value chain, from R&D to customer service, including seeking lower prices from suppliers for materials and components. The relevant costs are all future costs because in the long run, a company's prices and revenues must recover all its costs.

Then, the ABC helps to determine which activities and costs fall into value-added or non-value-added categories. It helps to identify costs throughout the value chain and to summarize the effects that design changes will have on those costs. Cooper and Slagmulder call this process the "Costs Interorganizational Investigation". More generally, we observe the development of researches on "interorganizational control"⁷. Let us precise that a knowledge-based perspective is important to analyse an interorganizational control. As explained by Agndal and Nilsson (2009) the levels of cooperation and information exchange between the partners are factors to characterise the type of interorganizational management.

Some of this new ABC approaches can be classified in the second dimension of the table 1. Their common purpose is to analyse the future costs; this means a temporal widening of the costs perimeter. This is the case for instance of the Activity-Based Budgeting (ABB) method (Antos and Brimson, 1999), the Activity-Based Planning and Budgeting and the Beyond Budgeting model (Cam-i), the Life-Cycle Costing

⁷ Cf. special review of Accounting Organization & Society (vol. 33). Caglio and Ditillo (2008) did a state-of-the-art review about this topic.

ABC, the Target Costing ABC (Horvath et al., 1998) or the Feature Costing (Cokins, 2002). The last one (Brimson, 1998) introduces another level of analysis in the ABC method: the products' features.

Several researchers have soon identified the links between the ABC and the Target Costing methods. Lebas (p. 506-507, 1999) explains that ABC implies taking into account the value that the customers attribute to the products. This is a principle of the Target Costing method and this has a strong impact on the firm's costs analytic structure.

With the RCA systems, we try to provide decision makers with more granular information about the operations. With the third dimension of the table 1, we put together techniques which propose to determine the relevant level to analyse the costs, depending on the features (strategic and organizational) of a firm. In some cases, the processes and strategy complexity is great. The ABC method is not sufficient so we need another approach to allocate the resources. The Resource Consumption Accounting method (RCA, Keys and van der Merwe, 2002 a and b) complete the ABC with a deeper analysis of resources.

Within complex organizations, the variety of resources is great so that we need to multiply the number of resources drivers and allocations. Thanks to the RCA method, resources originated from different departments of an organization are classified in several resources pools (see figure 4). In this way, it becomes easier to allocate the resources to the activities.

We could think that ABC instruments of this category are less strategically oriented. But a tool like RCA enables a better identification of the allocation processes so that managers could have a better understanding of the consequences of their strategic decisions.

Conversely, some scholars explain that the resources allocation question represents a problem and must be examined strategically. In some circumstances, the activity is an excessive level of detail (standard processes, just-in-time approaches, specific sectors like the chemical industry,...) and the ABC can lead to a useless and non relevant analysis. It is why the Process Costing and the Lean Accounting supporters suggest bringing together the activities in processes, value chains or "value streams". These techniques belong to the fourth dimension of the table 1.

When the processes complexity is low, the standard ABC method is too detailed. So, we need a simplified ABC, bringing together several activities to set up a "meta-activity" or a process with a single cost driver. This is the general principle of the Process Costing (Hornigren et al., p. 594 s., 2005) and the Lean Accounting methods⁸. We also have the Time-Driven ABC (Kaplan and Anderson, 2007) which is an "equivalence method". It is the most recent ABC development. It is clearly a simplification of the ABC. With this technique, the activity cutting can be more simple (like with the Process Costing and Lean Accounting). But it can also be more refined (like with RCA).

The principle of the Time-Driven ABC (now TDABC) is to translate the costs drivers in time-equivalents (standards of working hours). The standards can be revised when the production conditions change. The TDABC is a way to re-introduce the standard costing approach into the ABC methodology. With the TDABC, we can highlight sub-activity costs.

⁸ <http://www.Lean.org>

Let's take the example of a sales department where three activities are performed: the management of sales orders, complaints and payment. Instead of cutting the department into three distinct activities and allocating their costs with relevant costs drivers, we construct a time equation based on standards.

$$T = 8 \text{ mn} \times X1 + 44 \text{ mn} \times X2 + 2 \text{ mn} \times X3$$

With:

Mn = minutes,

X1 = number of orders to manage,

X2 = number of complaints,

X3 = number of invoices.

The TDABC is founded on a strong hypothesis. The cost generation is based on the time consumption. This is the case only in certain circumstances. It is the case for supply chain management, some standardised production processes, call centres, hospitals, some consulting activities, ... But it is not the case for the research and development process, the marketing one, some complex productions, ... In addition, some mistakes are possible when establishing the standards. Moreover, the TDABC depends on internal time consumption measures. It deals with an internal constraints approach. Maybe it could be useful to extend the TDABC methodology to some customer variables (spending time when phoning for a request, distance to the first shop, ...)

3. COMPARED CASE STUDIES

In this part, we present and compare two case studies concerned by ABC developments. These two French experiences take place in the information technology departments of two international groups. The first group is a steel industrial giant; we call it Group 1. The second one is a banking group; we call it group 2. We have interviewed different managers and employees of the two groups between the beginnings of 2007 until the end of 2009. We have used different documents coming from the two firms. More precisely, we have interviewed the project managers, the members of the projects groups, two consultants (each one for each firm) and several management accountants of the two groups. The first interviews were conducted at the beginning of the project (spring 2007), then during the spring of 2008, the spring of 2009 and finally at the end of 2009. It was semi-directive interviews.

We analyse these case studies in reference to our developments of the first and second parts.

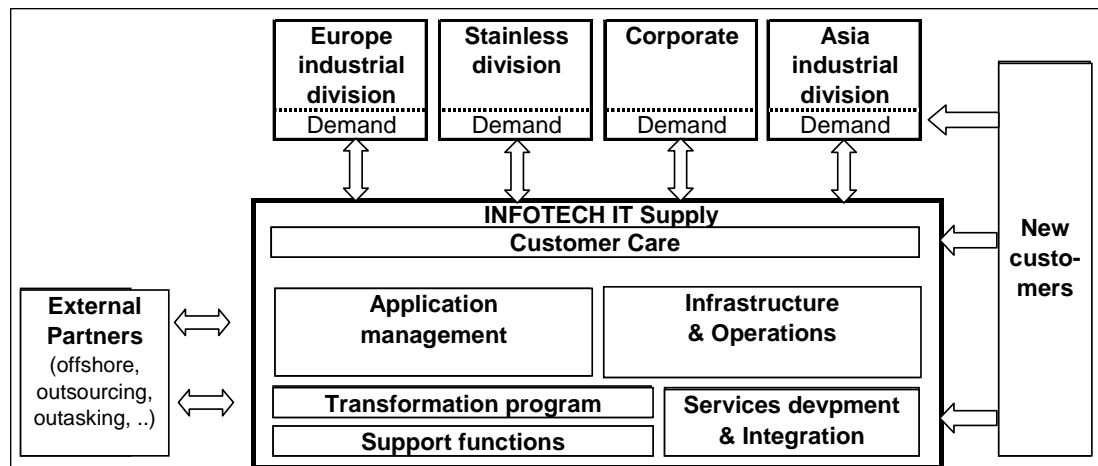
3.1. Group 1: A simplified ABC

First, we examine the premises of the table 1 with a case study that takes place in a computing services context. We focus on the interorganizational dimension of the ABC method in a supply chain management context. We have deeply studied the ABC implementation in an IT supply division (called Infotech) of an international and diversified industrial group.

We have deeply studied the ABC implementation in an IT supply division of an international and diversified industrial group. We call this division INFOTECH. The figure 1 presents the links between INFOTECH and the other divisions of the group. INFOTECH is a profit center and sell computing services into and outside the group. So, inside the group, we have a supply chain process concerning the different kinds of computing activities: hardware, software and services (hotline, ...) So that the supply chain process would be more relevant, the staff decided to implement an ABC system

dedicated to this process.

Figure 1. INFOTECH ORGANIZATION



The old analytic model was based on cost centres P&L (profit and loss) reporting of costs, that means:

- It did not easily report global INFOTECH figures for the same activity,
- It did not explain relationship between costs and activities,
- Projects reporting were not managed.

So, in order to make the links between costs of resources given by the SAP system and services defined by the commercial teams, a new tool is required.

In 2007, the financial controller of INFOTECH decided to develop the ABC method to calculate more accurately the costs of the different activities of his division. He was convinced that the ABC method is a relevant Strategic Management Accounting tool. The objective is to define relevant prices depending on the computing services asked. The ABC project has six steps:

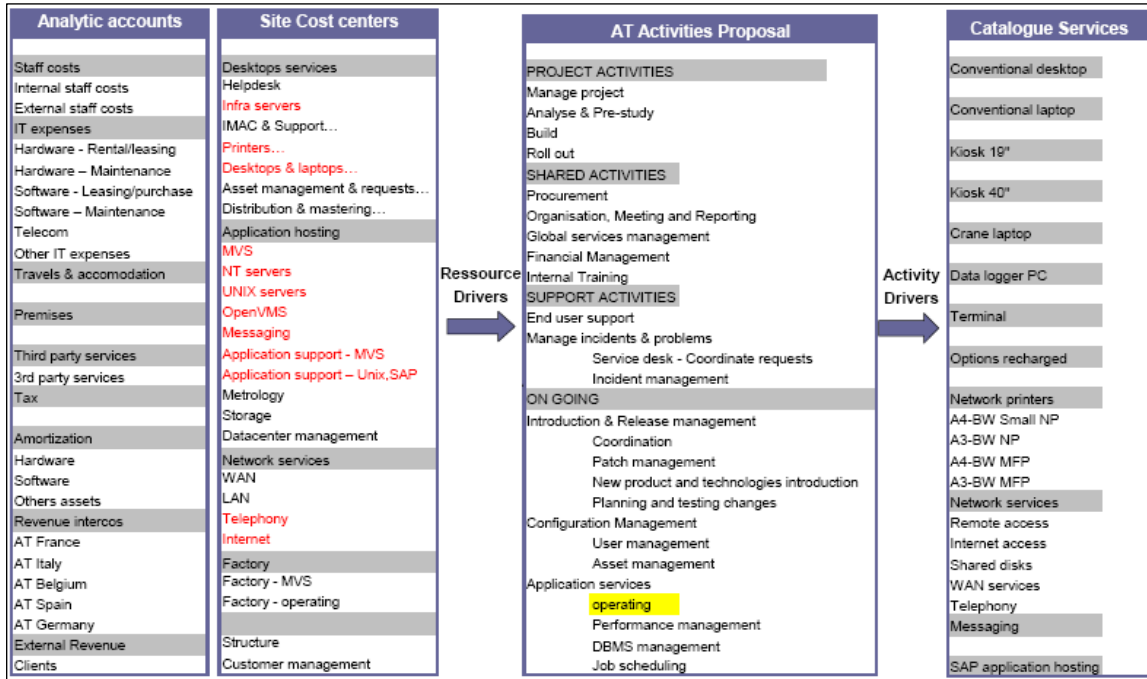
1. At the beginning: diagnostic, planning, and project team constitution,
2. Activities identification with interviews of managers. The activities are identified on a process basis, referring to the strategic objectives of the division which are declined in the key processes of the organization.
3. Calculation of the activities costs with the elaboration of a Timesheet,
4. Definition and collection of the activity drivers and calculation of the full costing. This is a fundamental step which enables linking the strategic objectives to the activities.
5. Calculation of the profitability,
6. Validation, corrections and results analysis.

This methodology allows:

- The allocation of dedicated and shared resources to activities,
- To manage activities as basic components of processes,
- To track costs of services which are aggregation of all components of the activities nomenclature,
- To be definitively focused on process improvements rather than structure improvements,
- To facilitate benchmarking,
- To monitor the performance of partnership by improvements in processes.

The figure 2 shows an extraction of some analytic accounts, site costs centers, activities proposal and catalogue services. In fact, around fifty activities were designed.

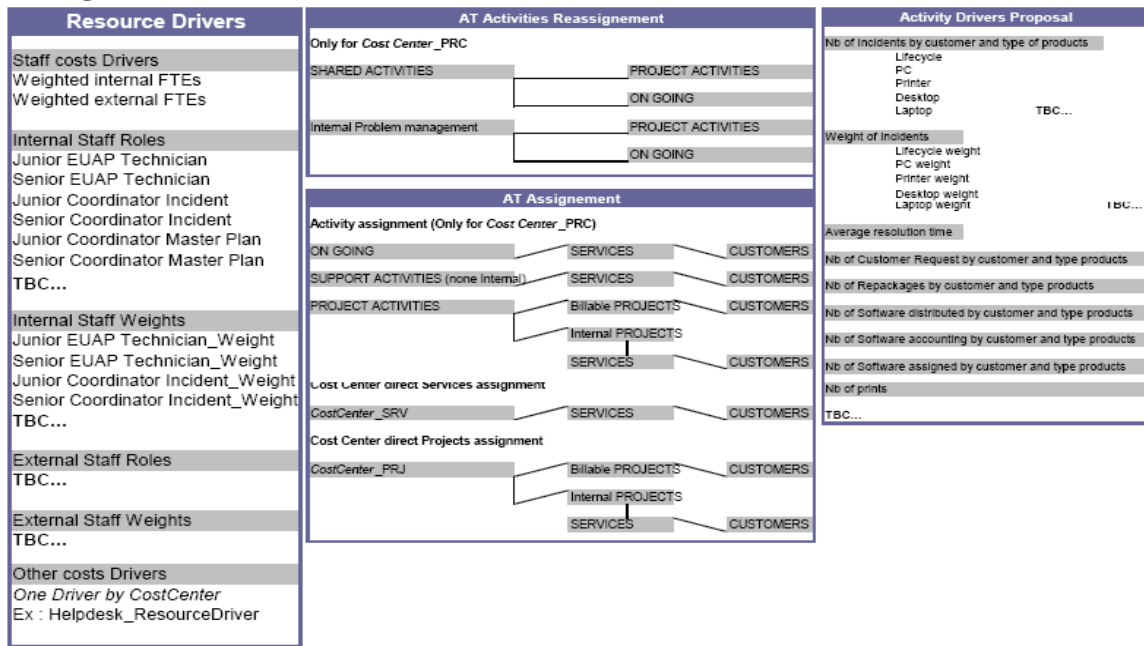
Figure 2. EXTRACTION OF ANALYTIC ACCOUNTS, SITE COST CENTERS, ACTIVITIES PROPOSAL AND CATALOG SERVICES



The model distinguishes the project, shared, support and on going activities. The last three types of activities are the most difficult to determinate. For instance, the costs of the “printers management” activity is allocated to a costs object depending the numbers of printers delivered to a customer. The costs allocation of the “helpdesk” activity depends upon the number a customer calls the department.

The figure 3 describes some resource drivers and the activities reassignment logic.

Figure 3. RESSOURCE DRIVERS AND ACTIVITIES REASSIGNMENT



To implement the ABC system, INFOTECH chose ALG software and an instrument called EPO (Enterprise Performance Optimization). The figure 4 presents the EPO synthetic dashboard.

Figure 4. THE EPO DASHBOARD



With the EPO, the financial controller extracts P&L statements by customer, by region, by type of service, ...

This case study illustrates our typology presented in the table 1. The ABC described combines four dimensions:

- A CPA (first dimension) one so that the customers (internal and external) are the more important cost objects,
- A TDABC (fourth dimension) logic with the build of a timesheet used to define a great part of the resource drivers,
- A simplified ABC (fourth dimension) with a number of activities around fifty,

– An IOCM logic (fourth dimension) with the integration of the external customers in a supply chain ABC so that the IT services could be more efficient.

The group project realised that the strategic dimension of the ABC constructed was really important. Moreover, it is a transversal model with meta-activities that can go through several costs centres. The time-driver is an important resource driver because it is the IT experts that create the most part of the value. Differently, there is a greater variety of activity drivers as the “number of incidents per customer/per service”, “the number of requests”, “the different types of services for one customer”, “the number of visits per year for one customer”, etc. The main partners can use the ABC calculations to understand the price of a service. The tool also enables internal and external benchmarking practices. At the end, the ABC instrument is also used to improve the reporting and to communicate (via an intranet, with a link to a Balanced Scorecard).

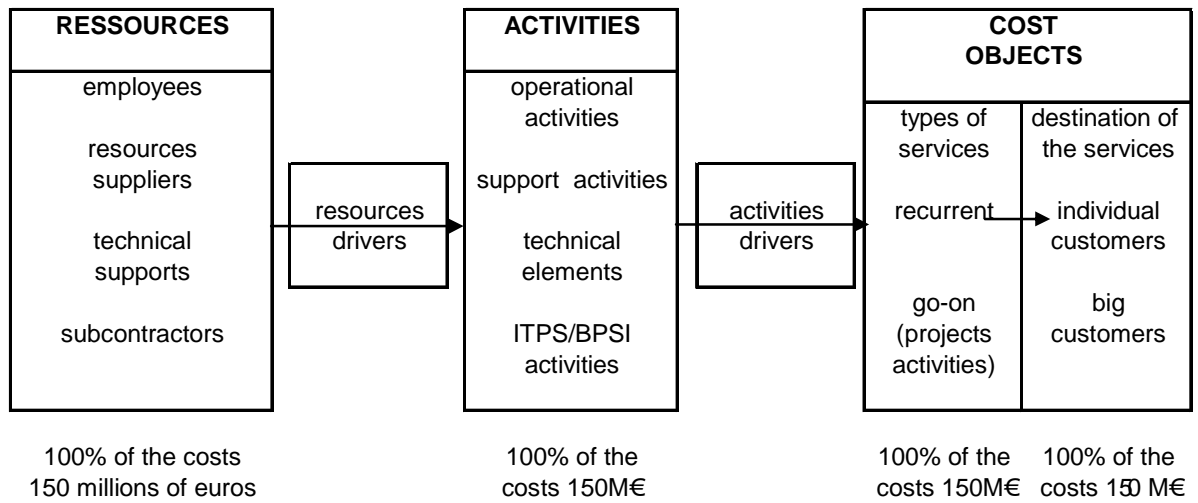
3.2. Group 2: A more complex Activity-Based Costing system

The ABC project of the second group began in 2004-2005. The purpose was to strengthen the cost allocation process so that we could assign relevant costs for customers and services. For the chief executive officer of the group, the ABC project is a priority. The department “Management Accounting and Information Systems Projects” is in charge of the project. About six employees work for the ABC project with a consultant. Let us precise that the group two delivers banking services to big customers like “Carrefour” so that it needs a refined management accounting system that enables to calculate for example the cost of the services delivered to “Carrefour”. The computing costs are a main part of the value of these services. This is the reason why the project group has to adapt the ABC method to the specificities of computing activities in a banking context.

At the end of 2008, a main task of the project group is to differentiate the types of credits. Because of a really diversified credits offer, the analytical system to build is more refined than the first one. The types of the resources consumed are more diversified and a “time driver” is not enough to explain the costs causality. Moreover, several activities are subcontracted so that we need an interorganizational approach to construct the ABC model.

Figure 5 depicts the general process of this ABC building.

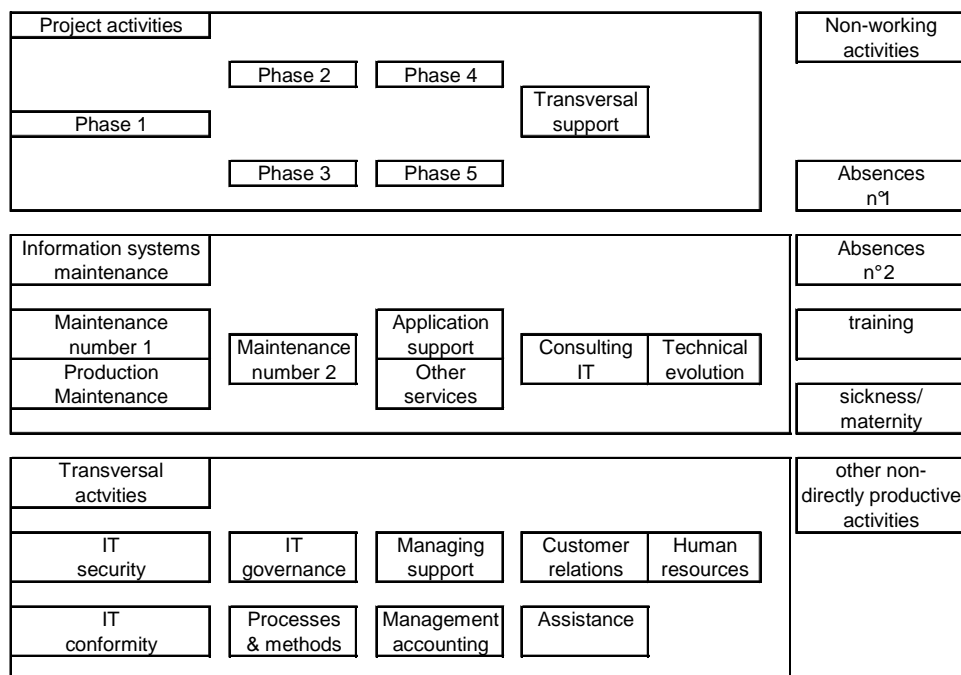
Figure 5
ABC process applied to the computing services of Group 2



Costs of the computing resources are allocated to the computing activities (operational, support, projects, ...) thanks to the resources drivers (time consumed, m², quantities, types of orders, ...) Activities costs are then allocated to the types of computing services thanks to activities drivers (mainframe power, specificities of the proposal, ...), these computing services consuming the activities. Costs of the computing services are finally allocated to the customers, service per service. Recurrent activities consume about 55% of the total resources.

Figure 6 presents a map of the computing activities of Group 2.

Figure 6
Map of the computing activities of Group 2



The process described lead to full costing by type of services, customers, geographic

areas and countries. We can calculate for instance the cost for a service in progress, for a service ended, for saving files or covering costs. The main banking processes are modelled such as the credit process, the risk management process, etc.

The last step of the project occurred from June 2009 until the end of the year. At this time, the group project leader was able to present an income statement by service/customer/country built from the ABC architecture. Since July 2009, the main customers have been concerned so that a costs interorganizational investigation could be developed.

3.3 Synthesis of the two case studies and discussions

These two case studies show the ways to build strategic ABC systems for computing departments.

To synthesize the first case study, we can say that the management accounting system of Infotech is a simplified ABC (see table 1, fourth dimension), which integrates customers and suppliers dimensions (table 1, first dimension). Moreover, it uses the working time consumed as a main resources driver. From an organizational perspective, it is a participative process. The project group needs to be closed to the practical situation, using people competencies. This is the reason why a bottom-up approach has been favoured, the project group combining experts and operational people. This approach has enabled knowledge spreading (cf. knowledge-based perspectives such as the organizational learning theory).

Concerning the second case study, we observe the same customers and processes dimensions as for the first case. This shows that the two case studies put in evidence a strong strategic perspective of the ABC. Concretely, the managers of the two groups have used the ABC results to adjust prices. In the second case for instance, controllers could calculate costs per credit/per customer so that selling managers could decide the relevant price for the services they deliver.

Differently, the ABC of the Group 2 is more sophisticated because it appears in a banking environment, where processes are immaterial and costs less homogeneous than in an industrial one. The project group of the first case has also deliberately wanted to simplify the model so that some limitations have appeared: some overhead absorption costs and old projects are uneasy to allocate. But in our point of view, with these simplifications, the ABC system did not fail to help the strategic decision. Our observations show the difficulty and subjectivity to determine the good equilibrium between an easy-use tool and a refined one. In the second case, the project group did some statistical tests to evaluate the degree of homogeneity of the activities costs and to correlate the cost drivers so that the model is more accurate.

Moreover, in the second case study, the project is less participative because the top-management is more involved in the project and wants fast results. So, the project leader is more commanding. With a longer period of observation, we may say if the second ABC studied is too sophisticated or not.

To sum up, the two firms observed succeed in building strategic ABC in a computing services environment. They illustrate the medium approach of the Strategic Management Accounting (cf. part 1). They even can illustrate the extended approach of the Strategic Management Accounting because for example some cost calculations could put in evidence a bad choice about subcontractors and finally lead to a strategic change. The ABC systems of the two groups also enable to optimize the computing organizations.

CONCLUSION

In this paper, we have reviewed the Strategic Management Accounting concept focusing on the ABC method. We have classified different dimensions of management accounting uses, showing that several strategically oriented ABC applications can be integrated in our typology. The developments reveal that the ABC logic remains a good way to improve management accounting systems to drive strategic decisions.

With two French case studies, we have put in evidence two ABC systems with features in accordance to the potential dimensions described in the first part: customers, suppliers, processes and time-driven dimensions. The two ABC systems are Strategic Management Accounting tools, the second one being more complex than the first one.

For a future research, we would like to develop other case studies in other fields. We could also more focus our observations on actors' relations to describe organizational-learning processes.

REFERENCES

- Agndal, H. & Nilsson, U. 2009. Interorganizational Cost Management in the Exchange Process. *Management Accounting Research*, 20, 85-101.
- Anderson, S.W. & Young, S.M. 1999. The Impact of Contextual and Process Factors on the Evaluation of Activity-Based Costing Systems. *Accounting Organizations and Society*, 24 (7), 525-559.
- Anthony, R.N. 1993. *La fonction contrôle de gestion [The Management Accounting Function]*, Paris: Publi-Union.
- Antos, J. & Brimson, J.A. 1999. *Driving Value Using Activity-Based Budgeting*, New-York: John Wiley & sons.
- Argyris, Ch. & Schön, D.A. 1978. *Organizational Learning*. Readings, Addison-Wesley Publishing Company.
- Bollecker, M. 2007. La recherche sur les contrôleurs de gestion : état de l'art et perspectives [Research on Management Accountants: State of the Art and Perspectives]. *Comptabilité Contrôle Audit*, 13 (1), 87-106.
- Bouquin, H. 2006. *Comptabilité de Gestion [Management Accounting]*. 4^{ème} édition, Paris: Economica.
- Brickley, J.A., et al. 1997. *Managerial Economics and Organizational Architecture*. Mc-Graw Hill.
- Brimson, J.A. 1998. Feature Costing: Beyond ABC. *Journal of Cost Management*, January-February, 6-12.
- Bromwich, M. 1990. The Case for Strategic Management Accounting: The Role of Accounting Information for Strategy in Competitive Markets. *Accounting Organizations and Society*, 15 (½), 127-146.
- Caglio, A. & Ditillo, A. 2008. A Review and Discussion of Management Control in Inter-Firm Relationships: Achievements and Future Directions. *Accounting Organizations and Society*, 33, 865-898.
- Cinquini, L. & Tenucci, A. 2006. *Exploring the Relationship between Strategy and Strategic Management Accounting Techniques*, Working Paper Series, Social Science Research Network.
- Cokins, G. 2002. Integrating Target Costing and ABC. *Journal of Cost Management*, July-August, 13-22.
- Cooper, R. & Kaplan, R.S. 1988. Measure Costs Right: Make the Right Decisions. *Harvard Business Review*, September-October, 96-103.

- Cooper, R. & Slagmulder, R. 2004. Interorganizational Cost Management and Relational Context. *Accounting Organization and Society*, 29, 1-26.
- Datar, S. & Gupta, M. 1994. Aggregation, Specification and Measurement Errors in Product Costing. *The Accounting Review*, 69 (4), 567-591.
- Freeman, R.E., 1984. *Strategic Management: A Stakeholder Approach*. Boston: Pitman.
- Foster, G. & Swenson, D.W. 1997. Measuring the Success of Activity-Based Cost Management and Its Determinants, *Journal of Management Accounting Research*, 9, 109-141.
- Hamel, G. & Prahalad, C.K. 1990. The Core Competence of the Corporation. *Harvard Business Review*, 68 (3), 79-92.
- Hoffjan, A. & Wömpener, A. 2006. Comparative Analysis of Strategic Management Accounting in German – and English – Language General Management Accounting Textbooks. *Schmalenbach Business Review*, 58, 234-258.
- Hornigren, C.T., et al. 2005. *Cost Accounting – A Managerial Emphasis*. 12th edition, Upper Saddle River, New Jersey: Pearson Education.
- Horvath, P., et al. 1998. Linking Target Costing to ABC at a US Automotive Supplier. *Journal of Cost Management*, 12 (2), 16-24.
- Jensen, M.C. & Meckling, W.H. 1992. Specific and General Knowledge, and Organizational Structure. In *Contract Economics* (Eds, Werin, L., Wijkander, H.). Blackwell, 251-274.
- Johnson, H.T & Kaplan, R.S. 1987. *Relevance Lost: The Rise and Fall of Management Accounting Systems*. Boston: Harvard Business School Press.
- Jones, T.C. & Dugdale, D. 2002. The ABC Bandwagon and the Juggernaut of Modernity. *Accounting Organizations and Society*, 27: 121-163.
- Kaplan, R.S. & Anderson, S.R. 2007. *Time-Driven Activity-Based Costing*. Boston: Harvard Business School Press.
- Kaplan, R.S. & Norton, D.P. 1996. *The Balanced Scorecard - Translating Strategy into Action*. Boston: Harvard Business School Press.
- Keys, D.E. & van der Merwe, A. 2002 a. The Case for Resource Consumption Accounting. *Strategic Finance*, 83 (10), 30-36.
- Keys, D.E. & van der Merwe, A. 2002 b. The Case for Resource Consumption Accounting. *Strategic Finance*, 83 (11), 41-47.
- Kuchta, D. & Troska, M. 2007. Activity-Based Costing and Customer Profitability, *Cost Management*, 21 (3), 18-25.
- Lebas, M. 1999. Why ABC? Accounting Based on Causality rather than Activity-Based Costing. *European Management Journal*, 17 (5), 501-511.
- Malmi, T. 1997. Towards Explaining Activity-Based Costing Failure: Accounting and Control in a Decentralised Organization. *Management Accounting Research*, 8, 459-480.
- Maskell, B.H. & Bagaley. 2003. *Practical Lean Accounting. A Proven System for Measuring and Managing the Lean Enterprise*. Productivity Press.
- Mévellec, P. 2005. *Les systèmes de coûts. Objectifs, paramètres de conception et analyse comparée [The costs systems. Objectives, conception parameters and compared analysis]*. Paris: Dunod.
- Penrose, E. 1959. *The Theory of the Growth of the Firm*. Oxford UK: Oxford University Press.
- Porter, M. 1985. *Competitive Advantage: Creating and Sustaining Superior Advantage*. New York: The Free Press.

- Roslender, R. & Hart, S.J. 2003. In Search of Strategic Management Accounting: Theoretical and Field Study Perspectives, *Management Accounting Research*, 14, 255-279.
- Shank, J. & Govindarajan, V. 1989. *Strategic Cost Analysis: The Evolution from Managerial to Strategic Accounting*. Illinois: Burn Ridge Inc.
- Simmonds, K. 1981. Strategic Management Accounting. *Management Accounting*, 59 (4), 26-29.
- Simons, R.L. 1995. *Levers of Control*. Boston: Harvard Business School Press.
- Teller, R. 1999. *Le contrôle de gestion, pour un pilotage intégrant stratégie et finance [Management Accounting to drive the strategy and finance]*. Paris: Editions Management et Société.
- Tomkins, C. & Carr, C. (Eds) 1996. Special Issue on Strategic Management Accounting. *Management Accounting Research*, 7, 165–167.
- Wegmann, G. 2009. The Activity-based Costing Method: Development and Applications. *The IUP Journal of Accounting Research and Audit Practices*, VIII (1), 7-22.
- Wilson, R.M. 1995. Strategic Management Accounting. In *Issues in Management Accounting* (Eds., Ashton, D., et al), New York: Prentice Hall, 2nd ed.