

ABC: A Franco-British Intra-Group Comparison

John Innes* and Pierre Mévellec†

Abstract

This case study describes the implementation of ABC in two factories within the one British multinational group in France and Britain. It also explores the similarities and differences between the assessment, implementation and use of the ABC system in these two factories. The French managers assessed ABC with the major objective of product costing whereas in the British factory ABC was used mainly for cost management. However, it is important to realise that the French homogeneous cost pools, based on a vertical analysis of the firm's organisational structure, make it relatively easy for French managers to move from ABC for product costing to ABC for cost management.

The driving force behind ABC differed between the two factories with the French Factory Manager and the British Finance Director being the two respective 'champions'. This had implications for the development of the ABC system with the French factory concentrating on the production overheads (and the resulting ABC product costs varying from +127% to -13% from the existing product costs); whereas the British ABC system included most overheads (such as production, administration and marketing) and developed useful brand profitability information. The French managers were interested in the fact that the ABC system attributed higher overhead costs to the sub-contracted products. The British managers developed more team working and a revised organisation structure following the introduction of the ABC system.

However, similarities also existed between the ABC systems in the French and British factories. The ABC process was viewed as a management rather than just an accounting tool and was considered to be complementary to Just-in-Time and Total Quality Management. Cost drivers were incorporated into the performance measurement system and the fact that ABC examines activities across departmental boundaries forced managers to think about business processes and to change their mental 'model' of the organisation. Despite such similarities this research project has shown that even in the same group and with similar factories ABC information can be used in different ways.

Keywords

Case Study, Activity-Based Costing, Product Costing, Cost Management.

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* Professor of Accountancy, University of Dundee, UK

† Professor of Management, University of Nantes, France

1. *Introduction*

Activity-based costing (ABC) has attracted a great deal of interest from both management accountants and managers in the late 1980s and the 1990s although earlier references to activity costing can be found (Solomons (1968), Staubus (1971) and Shillinglaw (1982)). Cooper and Kaplan (see, for example, 1988 and 1991) and CAM-I (see, for example, Berliner and Brimson (1989)) did much to publicise ABC. A review of the earlier literature on ABC can be found in Innes and Mitchell (1990), Boisvert (1991) and Mévellec (1991).

The early examples of ABC case studies concentrated on product costing. Instead of recovering overheads on the basis of volume based overhead rates (such as labour hours or machine hours) on a departmental basis, ABC introduced activity-based cost pools which crossed departmental boundaries and cost drivers to link these cost pools and the product lines. However, in recent years the cost management objective of ABC has become at least as important as the product costing objective. Brimson (1991), Turney (1991), Bellis-Jones (1992) and Brinker (1992) provide details of activity-based cost management.

Many of the developments in ABC have been reported in the form of case studies - in particular the Harvard Business School cases (Cooper and Kaplan (1991)). British case studies on ABC are reported for example in Innes and Mitchell (1990 and 1991), Gietzmann (1991) and Bhimani and Pigott (1992). French case studies on ABC can be found in Evaert and Mévellec (1991), Diard (1992), Adam (1993), Armitage (1993) and Mévellec (1993). However, despite the interest as indicated by the number of ABC conferences and the amount of ABC literature, relatively few organisations in the United Kingdom have actually implemented an ABC system. In the Innes and Mitchell (1991a) survey, 720 questionnaires were posted to members of the Chartered Institute of Management Accountants who worked for organisations either in the manufacturing or the financial services sectors in the United Kingdom. There was a 26% usable response rate (187 questionnaires) and only 6% (11 firms) were implementing ABC, 33% (62 firms) were currently assessing it, 52% (97 firms) had not yet seriously considered it and 9% (17 firms) had rejected it. No such similar survey has been conducted in France but it appears that relatively few French firms have implemented ABC.

However, the results of such surveys must be interpreted with care. For example, when individuals reply that their companies are implementing ABC what exactly does this mean? It may be that one company within a group is implementing ABC. This is one of the areas which this article explores. Do two companies in different countries but within the same group implement and use ABC in the same way?

This is both a descriptive and exploratory case study (Scapens, 1990). It describes the assessment and implementation of ABC in two factories within the same British multinational group in France and Great Britain. This case study also explores whether or

not two similar factories in different countries but in the same group assess, implement and use ABC in the same way. Ferreira and Merchant (1992) provide a good review of existing case studies in management accounting.

These two factories studied produce similar products for a particular segment of the consumer market. To date the group has no specific group policy on the implementation of ABC. This article explores the reasons why the French and British factories were interested in ABC, how these factories assessed and implemented ABC, how the ABC results have been used by the managers and the changes caused by the ABC project. The ABC experiences in the French and British factories will be discussed separately and the similarities and differences between these two ABC systems will be discussed in the conclusions.

2. *French Factory*

A research assistant helped with the development of an ABC system working full-time during a four month period. This is therefore an example of action research. In addition, other researchers made periodic visits to the factory to discuss the progress of the ABC system. After this system had been implemented, the research assistant made a formal presentation to an audience which included the two researchers and the French Factory Manager. This formal presentation was followed by three hours of discussion. Four months later a further interview was held with this Factory Manager for feedback on the use of ABC information.

3. *Background*

This British multinational has several French factories and the factory implementing the ABC system exports over 50% of its output. This factory manufactures six different types of products for a particular segment of the consumer market. This segment of the market is very competitive with several French and multinational competitors. In France this particular multinational is not the market leader for the products made in the French factory. The introduction of new products is an important element of the competitive situation with a new product appearing almost daily on the market and an old product being withdrawn.

This factory has 400 employees with overheads being approximately 25% of total costs. The system of recovering overheads was to charge 30% on the direct materials and direct labour cost. For sub-contracted items the overheads mark-up was 10%. This was also the basis for intra-group transfer pricing. The automated production lines are dedicated to each of the six types of product but each type of product has many different product lines. The Just-in-Time system is used in part of the factory. Total quality management is practised and certification under international standard 9002 was obtained in the spring of 1993. Managers considered that ABC would link well with both the Just-in-Time and Total Quality Management approaches.

The factory controller uses 'un tableau de bord' in the following matrix:

	Packaging	Direct Materials	Sub-contracted Items
Number of Receipts % of complaints % of quality problems % of rejections			
% of supplies under quality assurance % of supplies checked in laboratory % of supplies checked automatically			

The detail for the above 'tableau de bord' comes from the shop floor and there is a detailed monthly analysis for each performance indicator. Production is monitored by the efficiency of the production lines relative to the sales schedule and the good product despatched to customers. Production is also monitored on the basis of the actual direct labour time against the expected labour time. Budgeting is the main financial method of control. On the costing side five individuals calculate and monitor the production costs and the fact that the products are consumer products is illustrated by seven individuals calculating and monitoring the marketing costs. Further details of 'tableau de bord' can be found in Greif (1993) and Lebas (1993).

It is important to realise that the French cost accounting system has been developed during the last thirty years on the basis of an analysis of activities and of the organisation structure. The basis of the French cost accounting system today still relies on this idea of 'sections homogènes' or homogeneous cost pools based on a vertical analysis of the firm down the pyramid of the organisation structure (see Mévellec and Rochery, 1990, p.215, and Burlaud and Simon, 1993, p.215). Although this theoretical approach of homogeneous cost pools has been simplified in practice, it offers the possibility of calculating 'true' costs based on this vertical analysis of the organisation structure. This is the basic reason why, in France, ABC does not have a real advantage in terms of finding our 'true' costs unless it includes a horizontal or cross-functional analysis of the organisation. In other words, in France the introduction of an ABC system necessarily involves an analysis also of the business processes across the organisation. Therefore, this distinction between activity-based product costing and activity-based cost management is blurred in French ABC systems. You can move from ABC to ABCM without any major changes in the basic underlying system.

4. ABC Assessment

The major reason for assessing ABC was that the managers were unhappy with the existing costing system. For example one manager believed that 'the existing product costs do not reflect the real consumption of resources by a product'. The primary objec-

tive of the ABC system was therefore established as product costing. At the beginnings of the process little, if any, consideration was given to the cost management aspect of ABC. However, a secondary objective of the ABC system was to report details of the cost drivers to the managers. The driving force or the 'champion' behind the introduction of this ABC system was the Factory Manager.

The overheads were divided into three categories:

1. Controllable overheads for which the managers could control and therefore had responsibility such as salaries and depreciation of equipment.
2. Traceable overheads which were services provided such as quality assurance and central engineering. At present these overheads were reapportioned to production managers on bases such as number of employees or square metres of space.
3. Headquarter overheads which were reapportioned on the basis of prime cost.

The ABC system excluded category three above namely the headquarter overheads because although the headquarter office was visited, the objective was to explore the implementation of ABC within this particular factory concentrating on the production overheads.

Individual discussions were held with approximately 40 managers to determine the activities and the related cost drivers. It soon became apparent that an important activity was that of sub-contracting with sub-contracted items being 40% of total sales. Previously the cost drivers of the sub-contracting activity had not been seriously considered. The existing system was to add 10% to the cost of sub-contracted items as an allowance for the company's own internal overheads.

The interviews with managers and further investigations identified the volume of part numbers sub-contracted as being the most important cost driver for the subcontracting process. This analysis revealed that the internal overheads related to sub-contracted items varied greatly between the items sub-contracted depending on the above cost driver. Overall this ABC product costing analysis revealed that the total internal overheads associated with the sub-contracted items exceeded 10% of the cost of sub-contracted items. The managers were interested and surprised by some of the ABC costs for sub-contracted items.

As is usual with most ABC assessments, the managers identified a large number of activities and cost drivers. For example, the activities included planning, sub-contracting, quality control, maintenance, material receipts and movements, purchasing, packaging, engineering, management of human resources, accounting and computing. The managers identified from one to nine cost drivers for each activity during the initial interviews. However, after further investigations and interviews nine cost drivers (in addition to the one above for sub-contracting) were chosen as the basis for the ABC prod-

uct costs. Of these nine cost drivers, four related to the products:

1. number of part numbers produced;
2. total number of part numbers for company;
3. number of formulae;
4. number of different types of packaging;

Four cost drivers related to the volume of products:

5. Volume of products manufactured;
6. Number of production lines used;
7. Volume of products sold;
8. Number of pallets of finished product;

One cost driver related to the number of batches:

9. Number of batches multiplied by time to change set-up.

Further analysis revealed that two of the cost drivers namely total number of part numbers for the company and the number of production lines used could account for approximately 50% of the internal overheads (excluding the overhead costs related to sub-contracting activities). This information surprised the managers and, although the objective was ABC product costs, this raised questions from the managers about cost management. For example, does the company really need all the part numbers which are held at present? However, the objective was ABC product costing and this was developed using a Lotus spreadsheet to compare the existing costs and the new ABC costs by product line.

5. Results

The new ABC product costs changed the existing costs of product lines from +127% to -13%. The overhead element of the new ABC product costs changed from +1,400% to -50% from the former basis. The ABC product costs also revealed one particular product group with several different product lines which all made a loss. Following further investigations the managers agreed that the overhead element for this particular product group had been understated in the past.

An analysis of the detailed ABC product costs revealed four further general results. First, the manufacture of small volumes of a product line was very costly and much more expensive than even the managers had assumed. Secondly, and following on from this first result, the high volume product lines were subsidising the low volume product lines. Third, as the managers had expected, the former system of recovering overheads on the basis of 30% of direct cost did not reflect the real consumption of overheads by the different product lines. Fourth, the existing system of adding 10% of the cost of sub-contracted items for internal overheads understated the overhead costs driven by the sub-contracting system.

Four months after the end of this ABC project, the managers were generally happy

with its results. However, to date this ABC project has been viewed as a one-off project and the ABC product cost information has not been produced on a monthly basis. Nevertheless, one important change is that some of the physical cost driver information has been incorporated into the performance measurement system.

The ABC project has also affected the sub-contracting decisions. Some items are no longer sub-contracted and some sub-contractors who were previously not in the quality assurance scheme have either been dropped or included in the scheme. The method of calculating the internal overhead element for sub-contracted items has also been changed. Similarly, the ABC project has changed the managerial response to new products. In the past new products almost always used a new formula and new packaging. A programme was established to standardise formulae and packaging between different product groups. The managers generally saw great potential savings from such standardisation without adversely affecting the products. Managers now search for more standardisation with existing products including more standardisation on the packaging.

To date the one permanent change to the monthly overhead accounting system has been the inclusion of the volume of part numbers as an overhead basis of recovery. The possibility is being examined of employing a person full-time to implement and run the ABC system on a monthly basis but no decision has yet been taken on this. Generally, the managers consider that it may be better to produce the ABC information periodically on a one-off basis rather than run it as a monthly system. However, discussions are continuing within this French factory. What therefore is the ABC position within the group's British factory which produces similar consumer products to those of the French factory.

6. *British Factory*

A major difference from the French factory was that consultants and an internal team had implemented the ABC system within the British factory. The driving force or 'champion' behind the introduction of this ABC system was the Finance Director. A researcher therefore visited and spent a day with the Finance Director. This day included a slide presentation on the ABC system and further questions, discussion and examination of both documents and ABC information on a computer screen. Following this visit further discussion and correspondence took place including a write-up of the ABC system by the researcher which the Finance Director amended.

7. *Background*

This is one of several British factories within this group. This particular factory manufactures six different types of products for a segment of the consumer market. This market is very price competitive with several British and multinational competitors. New product development is extremely important. The British market is dominated by a

few, very large and powerful customers.

In this factory the overheads were approximately 50% of total costs with this factory doing little sub-contracting relative to the French factory. The existing costing system concentrated on contribution with overheads being deducted as a lump sum. The factory management had adopted an overall cost reduction approach and realised that they required more detailed information about where and why overheads were incurred. The factory had recently implemented a Just-in-Time (JIT) system and also MRP II and ABC was viewed as a complementary approach to such developments. Budgeting is an important method of control with the finance function having a total of 40 staff. Within the factory, management accounting is very much seen as the 'business language'.

8. Implementation of ABC

The primary objective for introducing ABC was to improve the overhead cost management. Managers had expressed an interest in managing, and in particular, reducing costs based on a better understanding of what drives the overhead costs. They were also interested in classifying activities as being either value added or non-value added. The JIT studies had encouraged such an analysis of value added and non-value added activities. Although cost management was the primary objective, secondary objectives for the ABC system were brand profitability and customer profitability.

Consultants were involved in the design of the ABC system which was driven by the finance function but always involved managers so that ABC was seen very much as a management tool. No more than four activities were identified for each major function or business process. The activity analysis was applied to all overheads including manufacturing support, information management, marketing, administration and research and development. Cost drivers were identified for these activities and at an early stage these cost drivers were related to brand profitability.

Brand profitability revealed that managers' assumptions about which were 'activity hungry' brands were generally incorrect. However, this factory did not replace its existing product costing system with its ABC system. The existing system concentrates on variable costs at the product line level. Managers viewed the new ABC information on brands (as distinct from individual product lines) as supplementary to the existing product line costing system. One major problem experienced was the maintenance and updating of the activities and the cost drivers. Originally a Lotus spreadsheet was used for the ABC information but a software package is currently being examined.

A development which interrupted the implementation of this ABC system was an internal company reorganisation. Cobb, Innes and Mitchell (1992) found in their research project that such implementation problems are very common in practice. After its successful implementation, the main use of the ABC information was for activity-based cost management. The managers considered its major advantage to be the new

cost visibility of overheads which raised questions about whether or not activities were really required and whether activities could be performed in different ways.

The Finance Director considered that the implementation of the ABC system had three major advantages:

1. aid to decision making directing management's attention to profit priorities;
2. activity-based cost management system encouraging
 - a) behavioural change
 - b) team working
 - c) development of process oriented structures
3. establishment of links between non-financial performance measures and financial results.'

The Finance Director expanded on these three advantages. First, the ABC information is an aid to decision making in several respects. It gives managers a better understanding of what drives the overhead costs and this can redirect managers' attention to profit opportunities. The ABC information also identifies not only brand profitability but also customer profitability. Again this new information enables managers to focus on profit opportunities.

Second, by concentrating on activities which cross departmental boundaries, managers are forced to communicate and work together to manage such overhead costs. This has encouraged more team working and also the development of a business process organisation structure. In addition, the ABC information has increased the accountability for and ownership of financial results. Third, this factory is attempting to link the physical cost driver performance measures with the financial results. This is proving to be difficult and to date little progress has been made but the Finance Director has high hopes that such links can be established in the future.

9. Post-implementation

In the period after the implementation of this ABC system managers were able to challenge the overhead costs more easily. However, managers also realised that activities such as purchasing took place not just in the Purchasing Department but across the organisation in other departments including the Finance Department. This has helped to break down barriers between different departments. Furthermore, a change of attitude has occurred with managers now accepting ownership of certain overhead costs. Managers now use activity analysis as a management tool.

A recent development is that managers are viewing the management of certain activities in strategic terms. It has now reached the stage where individuals are challenging their own activities. In particular, they are deciding which activities add value from the customers' perspective and how can the performance of such activities be improved. In contrast managers are taking actions to eliminate or at least reduce non-value added

activities. Activities are being related to 'value propositions' or mission statements to determine what is a non-value added activity. For example, the mission of Information Systems is now not to write new computer programmes but -

- a) to buy computer software
- b) to challenge managers
- c) to avoid changing computer programmes.

The physical measures for the cost drivers are used as performance measures in some cases although these are used only after careful analysis of the possible behavioural consequences of using such performance measures. Another recent development is that the factory is now basing its internal transfer prices for products on its activity-based costs. However, perhaps the most important post-implementation development has been the increased detail available about brand profitability and in particular about customer profitability.

Previously customers were viewed in terms of their gross sales less variable costs namely contribution. However, the ABC information on brands has now enabled customers to be analysed in terms of contribution less their related activity-based costs. This gave a very different view of customer profitability and could have an important influence on future decisions. This customer profitability information is held in a database which managers can access when making decisions. The managers consider that this database approach to ABC information has great potential.

10. Conclusions

The Factory Manager in the French factory and the Finance Director in the British factory have seen this article and corrected any errors. It is interesting that, although there are regular factory managers' and controllers' meeting within this group, the basic conclusion of this research project is that the French and British managements implemented and used ABC in different ways. There are, of course, some similarities but what are the major differences between these two factories. First, the two factories had different reasons for assessing ABC. The French management assessed ABC with the primary objective of product costing whereas the British management had the primary objective of cost management. However, it is important to remember that with the 'homogeneous cost pools' based on a vertical analysis of the firm's structure, it is very easy for the French managers to move from ABC for product costing to ABC for cost management. Second, although the two factories manufactured similar products for the consumer market, the French factory did more sub-contracting than the British factory and this sub-contracting process drove a significant part of the French factory's overheads which affected the ABC system.

Third, the French management assessed and implemented ABC with the assistance of a research student whereas the British management used consultants. Fourth, the

French Factory Manager and the British Finance Director were the respective driving forces or 'champions' behind ABC. This meant that in France the Factory Manager did not have the authority to include the marketing costs within the ABC system and, therefore, the French system concentrated on production overheads. In contrast the British ABC system covered a wider range of overhead costs including marketing costs. As was to be expected with the different objectives for assessing ABC, so the use of the ABC results differed between the two factories.

Fifth, the French management concentrated on the new ABC product costs which varied significantly (+127% to - 13%) from the existing product costs. In contrast the British management concentrated on the cost management implications of the new ABC information. For example, the French managers were particularly interested in the facts that the ABC system attributed higher overhead costs to the sub-contracted products and that one product group (with several product lines) was loss-making on the basis of the new ABC information. Similarly, the French managers were interested in the ABC cost of manufacturing small volumes and also at how the high volume product lines subsidised the low volume lines. In contrast, the British managers concentrated on how to eliminate or at least reduce the cost of non-value added activities and how to improve the value added activities. This had led to behavioural changes, more team working and revised organisational structures to reflect the fact that activities cross existing departmental boundaries.

The above are important differences between the French and British factories as regards their assessment and use of ABC but some similarities also exist. First, neither factory is producing the ABC information on a monthly basis. Basically, the new ABC information has been added to the existing management information. Second, within both factories the managers were entirely involved in the ABC process so that it was not viewed just as an accounting but as a management tool. In both factories ABC was viewed as complementary to Just-in-Time and Total Quality Management giving an overall coherent approach.

Third, the interviews with managers identified similar activities and cost drivers. Fourth, both the French and British ABC systems produced cost drivers and some of these physical cost drivers were incorporated into the performance measurement system of both factories. Fifth, the introduction of ABC has helped to change the mental 'model' of the organisation in both the British and French factories. The fact that ABC examines activities horizontally across departments forces managers back to think about the organisation structure and to act in a different way relative to the old costing system.

Sixth, the above distinction between product costing in the French factory and cost management in the British factory is important but the French factory had ABC elements of cost management and the British factory had ABC brand and customer profitability. It can be argued that the French 'tableau de bord' itself has elements of ABC cost management but that, of course, was in operation before this ABC assessment.

However, after this ABC assessment the French managers changed their sub-contracting decisions and aimed for more standardisation in their formulae and packaging. Similarly the British managers were particularly interested in the development of ABC customer profitability which was developed from the ABC database. Both the French and British ABC systems had elements of product costing and cost management although the primary objective differed between these two systems.

This research project has shown that, even within the same group and between similar factories, the reasons for assessing ABC, the use of the ABC information and the resulting changes can vary. Undoubtedly similarities exist between the ABC experiences of the French and British factories but probably more significant are the ABC differences summarised above. This suggests that the results of postal questionnaire surveys in management accounting although useful must be interpreted carefully. This project implies that it may be wrong to suggest that management accounting is the same in all companies within a multinational group. This is an area requiring further research. Although the core features of activities and cost drivers were common to both the French and British factories, this research project shows that ABC is a term used to cover different systems involving product costing, customer profitability and cost management.

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