
EMPIRICAL INVESTIGATION OF ABC

- An Evolutionary Implementation -

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ABSTRACT

The concept of Activity Based Costing often has a different meaning to academic researchers and to people involved in business. As organizations are rapidly changing in ways we have never seen or could have expected, theories are often corrected by reality found in business. In the world of rapidly changing global environments complex problems within companies more often are solved through the use of integrated multi-dimensional variables. With reference to the theory-development of ABC we have focused on problems with implementation of ABC in a very specialized service organization.

This article deals with three parts involved in one case: Theory, implementation and practical business operation. The enterprise involved in the case is Telia (33000 employees) and more specifically a subsidiary Telia Handel AB in Sweden (300 employees). The enterprise is the largest telecommunication operator in Scandinavia and is a distinctly service management unit. It is our aim to further develop theory connected to ABC action learning from this enterprise. The actual case was initiated in the autumn 1996, the empirical work started in January 1997.

The most important contribution is: The "institutionalized norms" of ABC show considerable tension and misfit between business reality and theory. Other contributions were: 1. The founding of a new factor related to the activity workforce that activities signify. 2. This study confirms earlier theory that it is a complicated and time-consuming process to find correct activity-drivers. 3. Traditional cost-allocation as the aim of an activity-based cost-system counteracts an effective implementation of ABC due to different purposes.

Key words: ABC, ABM, implementation, business reality, action learning.

1. INTRODUCTION

An increasingly number of questions have been raised during this decade concerning the problems with traditional cost accounting in service organizations. Limitations and uncertainty using traditional cost accounting systems have given focus towards the importance of the customer in relation to business activities (Brignall et al, 1991; Widengren, 1993; Kullvén, 1994; Kaplan and Norton, 1996; Kaplan and Cooper, 1998; Cooper, 1989). The development of ABC theory has influenced information to practice substantially and an the awareness of cost allocation problems has increased (Ask and Ax, 1997). Brignall et al (1991) point out that service organizations are facing special problems in product costing concerned with the nature of services as intangible and perishable. Thus, the ideas of ABC can be useful in product costing in some service organizations because it may enable better understanding of indirect cost behavior (Ibid; Rotch, 1990). And from a general point of view the "impact of the information era is even more revolutionary for service organizations than for manufacturing companies" (Kaplan & Norton, p.3, 1996) and Drury (1996) assert that ABC systems are superior to traditional costing systems when dealing with accuracy of cost measurement.

Skår (1997) shows that organizations, characterized as low task complexity with high organizational complexity, are encompassed by strategic management control and thereby "the limits to control are set by the ability to establish the logic of designing control relationships" (Ibid, p. 23). This character of complexity (Loft et al, p 229, 1993) corresponds with the research object in this study. When new challenges were faced in a context of system changes in an organization and its environment, complexity and ambiguity occurred when we worked with new ideas and were trying to create possibilities of explanatory in contrary to "the rational model" (Weick, 1995) in an action learning process. However, research related to ABC-systems introduced during recent years shows success in several cases, while cases of failure and their problems have scarcely been studied (Malmi, 1997). On the other hand, survey studies show that very few organizations have gone through the process of ABC implementation (Björnenak, 1997).

This report will discuss the problems with design, implementation and relevance of an activity-based cost system put in practice from one case-study. In the perspective of action learning we do take into consideration the thoughts of Czarniawska-Joerges (1993), that ignoring past experience is as important as remembering the past, when discussion concerns learning from experience. During a period of design followed by a period of implementation of a new control system we agree with Whetten (1987) that learning organizations have problems in overcoming competence developed in earlier course of actions. The phenomena of change, when proceeding from traditional cost accounting to an ABC/M-system, creates several problems. Difficulties involved in the process

are for instance generally resistance, economic reasons, politics and culture (Malmi, 1997). The relationship between culture and the dialog in the social network (Källström, 1993) combined with implementation of a new and for the organization, an unknown system must be paid very careful attention. Learning from experience as trial-and-error and as organizational search (Levitt & March, 1988) was then a confronting and challenging phenomena when considering this case study as a cultural dependent research object as a whole (Alvesson, 1992). This phenomenon successively changed the focus from ABC implementation towards ABM as a matter of understanding and control.

2. SERVICE ORGANIZATIONS AND COSTING INSIGHTS

Kullvén (1994) identified two groups of actors active as controllers in service organizations – one group relying on accountability and the other relying on understanding. The first group had a high belief in information from accounting systems and the other group was controllers relying on their understanding of business. Controlling through insights of an activity-based management however puts emphasis on the individual actor's behavior in the business process (McGowan & Klammer, 1997). Hixon (1995, p 30) define ABM as “the management and control of enterprise performance using activity-based information as the primary means of decision support”. To communicate ABC there is a necessity that actors speak the same language (Dedera, 1996). To understand ABC, the understanding of business processes and behavioral consequences (Shields, 1995) of management control using systems related to ABC are of vital importance. McGowan and Klammer (1997) found that implementers of ABC should focus attention on the motivational effects of incentives and the process of influence in the organization. Actors engaged in local economy work (opposite to central economy) show an increasing motivation and responsibility in the process of management accounting (Solli, 1991; Shiller et al, 1992; Westin, 1993). The ABC-system traces cost-to-cost objects using a two-stage allocation process (Innes & Mitchell, 1990, Turney, 1992; Drury, 1997). In the first stage the costs are allocated to activities through resource drivers. The second stage represent the cost allocation from activities to cost objects through activity drivers. Though this process of activities show the importance of ABM.

But what do indicators show when the time has come to change the costing method? An evident symptom points out the problem when separate units within a company starts to develop separate individual costing systems. Another symptom occurs when competitors sell at, what it seems, unrealistic low prices (Cooper, 1989). Turney (1996) considers that it might be a habit to sell products for less than the costs for manufacturing. A third reason for a change of systems would be when indirect costs sharply increase. History does not show this tendency however that cost-structure has been changed in a majority of companies but only in separate companies (Ax & Ask, 1995). Teliä Handel AB, the research object, has during the study gone through a process of change in terms of actors' action learning and our own learning by gradual stages of increased understanding. Analysis, system-design, implementation and being in full operation in praxis has been carried out in a comprehensive and deep descriptive action research case study. The purpose is to develop theory by illustrating problems within a service organization when a change in the financial control method takes place – both problems with individual costing activities as well as general problems with activity-based costing.

The study has concentrated on implementation and the following operational work with the phenomena ABC and successive moving our interest towards ABM in a service organization. We have studied the same enterprise as Kullvén (1994) did though our research object represents another subsidiary - Telia Handel AB. Kullvén focused on the larger subsidiary Telia Mobitel AB. Telia Handel AB has today 300 employees and the Telia group a total of 33000 employees.

Telia AB has the greatest telecommunication market share of in the Nordic countries and the Baltic Sea area. The market position of the enterprise is affected by changing rules in the market, intensified competition, rapid technological progress and changing consumer behavior. Because of the deregulation of the market, the market share of Telia AB will decline and competition will force the enterprise to become more effective.

The research object, Telia Handel AB was formed in 1996. The company is continuously growing and restructuring. Flexibility is therefore a keyword in the organization. Telia Handel AB distribute, pack, market and sell Telia AB's telecommunication services to private persons and organizations through a well-developed network of retailers. The company's function is to establish connections with new market areas and then hand the customers over to other Market Companies in the Telia group. Telia Handel AB never has direct contact with the final customer. It is instead the retailers who establish this contact. In return the retailers receive compensation from Telia Handel AB. The income from the final customer goes to one of Telia AB's Market Companies, which are divided after target groups. That's why Telia Handel AB doesn't get income direct from customers besides in exceptional cases. Instead Telia Handel AB gets income from the Market Companies in Telia AB.

The Market Companies within the Telia Group only sells through their own stores. The role of Telia Handel AB is of vital importance because customers do not always contact Telia's own stores, but other stores who also provide products from Telia AB's competitors. The competition has during the last ten years grown harder. It is observed that new companies don't have the opportunity to establish their own stores. And as a consequence the role of Telia Handel AB by management is judged to become more important and meaningful in the future.

Telia Handel AB's organization is build up like a matrix, with head of both markets and products. For support there are also units of staff, handling for instance personnel and financial issues. The greatest department is the Support Department, whose function is to support the retailers and register their orders. The Sales Unit is the next largest and is divided into teams, with one responsible for each team. The organization also contains a Marketing Department and a Strategic Issues Department.

It was obvious that information from Kullvén's study and attempts made to communicate the results from Kullvén's study from Telia Mobitel to Telia

Handel AB have been somewhat successful in terms of an awareness of different costing problems in the company that need to be analyzed. In summary; the new subsidiary consists of different parts from the former "Telia Handel AB" and Telia Mobitel. The reason for the new formation of a trading company was a tread-shift from internal sales towards external sales on account of clearly increased competition.

Telia Handel AB - was it an imaginary organization (Hedberg, 1994)? The answer was to be found in the context of business using information technology, networks, alliances, customer relations and a desire to carry on business activities reaching outside the borders of the organization based on co-operation and synergy effects from external actors. In this mixture of endogenous and exogenous variables a pattern clearly displayed the research object as an imaginary service organization (Ibid).

In old organizations insight inertia and manoeuvre inertia (Hedberg & Ericsson, 1979) are parts of actors' patterns of reaction. Old solutions have been stored as sediments (Danielsseon, 1983) on top of each other during years of business activities. Even though Telia Handel AB is a rather new business configuration most of the actors come from the "old" Telia company and the actors are used to an established policy, earlier regulations and working procedures, systems, structures, restrictions etc. These parts form a comprehensive culture in the company with different phenomena such as products, markets, finance, leadership and research. Alvesson (1992) considers that culture is "active" at present time. It is then important to take into consideration the lapse and continuing processes during the time that lead to the "present" (Söderbom, 1995). The two parts of inertia and accumulated sediments were phenomena that followed the process of action learning in this study especially during the phase of implementation and during the explanation of the new costing of business operation. Ignoring and remembering the past (Czarniawska-Joerges, 1993) does then become highlighted when a discontinuous phase replaces a continuous period (Hedberg & Jönsson, 1977) of actions. During a phase of discontinuity certain actors' behavior could be regarded as egoattributed (Ibid). We consider that Telia Handel AB has started its new business life as a myth (Ibid; Jönsson & Lundin, 1977) in an organizational sense – the number one in its future history.

After the indicatory part of this study an analysis model was designed in order to structure the implementation. An action learning process then started successively. The process incorporated phenomena such as strategic uncertainties, goals, flexibility, cost management and cost component definition. The awareness of a process perspective (Whittington, 1993; Lawson, 1994) is of importance when an activity-based cost system is designed (O'Guin, 1991; Turney, 1996). If the researcher then becomes involved as an active part of a learning process when successive change of language take place, this puts great emphasis on the awareness of the problem of short-sightedness.

We must take into consideration that accounting is not merely a process of technical matters and process, but it is also processes of social and political activities (Loft, 1986). These social processes can be understood when and only when we study the processes from within an organization on the actors own conditions (Jönsson, 1990:1). So to be able to "catch reality in flight, to explore the dynamic quality of human conduct and organizational life and to embed such dynamics over time in various layers of context in which streams of activity occur", (Prettigrew, 1997, s 345) this becomes the task of the researcher hovering between operational work and meta level extremes in the processual analysis. But it is also important that a case study – when judged as successful - does convince readers of the validity of description and analysis (Lukka & Kasanen, 1995).

The use of management accounting and more specifically new design, implementation and operation in daily work with ABC applications means that not only actors directly associated with actual costing work should understand accounting as a language, (Drury, 1996) but also several other actors not directly associated in the field of cost management in a service organization. The next part of this article deal with the actual action research case. Not only few questions did emerge in the entry of the case in January 1997 followed by an inductive comprehensive concentration on primarily the implementation.

3. COSTING PROBLEMS

The head of Telia AB had decided to implement ABC in each subsidiary company. The Finance department in Telia Handel AB only had a fragmental picture over the problems that the ABC-system could solve. It was though obvious that there were problems. Telia Handel AB engaged two researchers from Department of Computer Science and Administration at University of Borås to design and implement the ABC-system. A project group was formed during autumn 1996 and consisted of these two researchers and one supervising controller from the Finance Department. Because of the vague problem formulation the project group had to begin with a pilot study and the first phase started (illustrated in figure 4). This formed the foundation for the research. Telia Handel AB had an interest in discerning the results of the two objects; products and retailers. But the company faced obvious problems in tracing overhead costs to these objects. The overhead costs were equivalent to 23% of total costs, according to the existing coding system. The problems were caused by an inconsistent system for coding and internal transactions. This overarching problem caused the following problems:

- Cost information for decisions was deficient.
- Management accounting offered information that was hard to understand and interpret.
- Management accounting was not flexible enough to deal with changes in the organization.
- Information was obtained too late.
- There was disbelief in cost information.

The implementation of the ABC-system would form the first step in order to solve these problems. To fulfill this concept the Finance Department gave the project group directives to allocate all costs to products and retailers in the best possible way. The reason for this was that all activities performed by Telia Handel AB have in the long run the purpose to sell more products to final customers. Since all products are sold through retailers the costs also would be possible to allocate to retailers.

3.1 Design

The design phase 2 (shown in figure 4) started in February 1997 by the new project group. A Steering Committée was linked to the project group in order to bring guidance and response. The control group consisted of five representatives from the Sales, Products, Marketing, Strategic Control and Finance Departments.

The project group was part of a network between several companies in

Telia AB working with ABC-projects. The network was established to share experience and strive for concordance among the ABC-systems.

Extensive work had to be done to design the ABC-system in Telia Handel AB. Interviews were introduced to discern resources, resource drivers, activities and activity drivers. The selection of initial respondents was guided by the structure of the organization. Heads of departments were interviewed first to make up an overarching picture of the organization. They were then able to indicate which people that should be interviewed. It was made obvious that it was of great importance to interview people at lower organization levels. In order to find resources, resource drivers, activities and activity drivers the project group found it necessary to interview altogether 37 employees who had different tasks. The project group was met by a positive attitude from the employees. Almost everyone could see the advantage of and fields of application for the system.

In the middle of May 1997 the cost system was preliminary designed and consisted of three resources, 17 activities and 31 cost objects. The ABC-system included only overhead costs. Direct costs were excluded as Telia Handel AB already had satisfactory assignment of those costs to products and retailers through a system of coding. The resources corresponded to labor, systems and plant area. How the overhead costs should be assigned to resources was not yet decided. The resource driver for the personnel resource was equivalent to usage of hours. According to Norkiewicz (1994), the costs are with advantage assigned after estimation of the personnel over how many hours they have spent on different activities. The costs were therefore assigned to activities according to how many hours of personnel they claimed. The 17 activities are shown in table below.

-
- | | |
|---|--|
| • Development of new products | • Registration of goods |
| • Introducing new products | • Registration of internet subscriptions |
| • Establishment of new retailers | • Handling of commissions to retailers |
| • Advanced training of retailers | • Handling requirements of commissions to retailers |
| • Sales promotion | • Issuing information to retailers |
| • Advanced business support | • Managerial undertakings |
| • Registration of mobile subscriptions | • Financial issues, information technology and personnel issue |
| • Verification of mobile subscriptions | |
| • Supporting of retailers of mobile subscriptions | |
| • Registration of products connected to the main system | |
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Table 1: Telia Handel AB's activities

The activities included all tasks performed in Telia Handel AB. The classification was extensive, since many tasks were included in each activity. Since Telia Handel AB just had started to make process descriptions of the organization, it would be possible to take effort from this work to make the ABC-system more detailed within a year when the process descriptions were suppose to be finished. The low degree of details of the first version of the ABC-system would make an upgrade like this simple.

The cost objects were of two kinds; products and retailers. The products had been grouped into nine principal groups and are shown in table 2.

-
- | | |
|--------------------------|--|
| • Clerical exchange | • Datakom |
| • Terminals | • Products connected to the main system concerning private persons |
| • Mobile subscriptions | • Products connected to the main system concerning companies |
| • Internet subscriptions | |
| • ISDN | |
| • Centrex | |
-

Table 2: Cost objects; products

The retailers were grouped after in what team they were members, which totally amounted to 22 groups. The products were grouped into nine groups and the retailers into 22 groups by the Steering Committée and represented a very low degree of details. The reason was to make the system flexible and user friendly. However, there was a possibility of adjusting the system after the desire to illuminate specific resources, activities, products and retailers. Probably this

would also be necessary as the organization changes continuously.

For cost assignment two models were elaborated. They are shown in the two following figures:

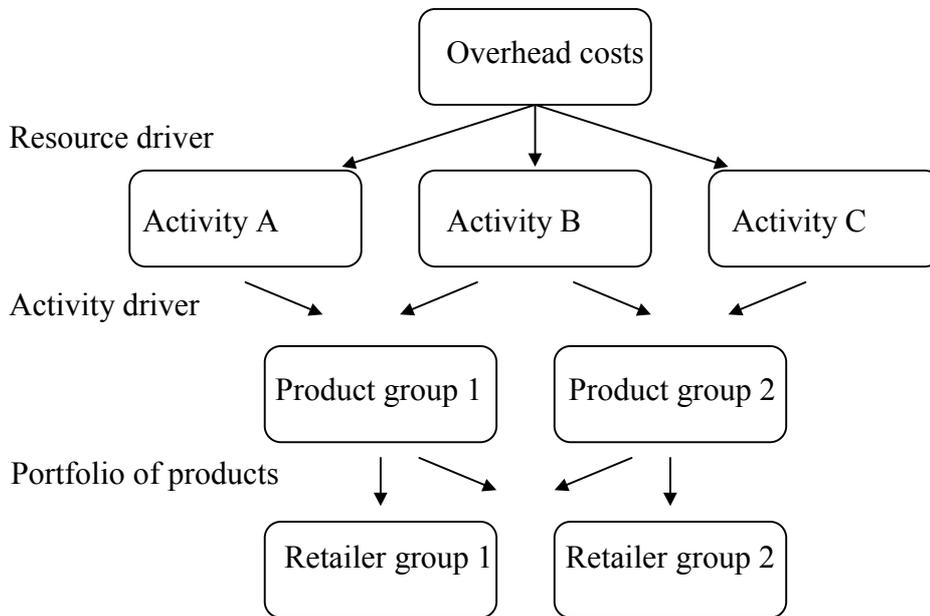


Figure 1: Cost assignment via Product groups.

Eleven activities were directly assignable to products. Costs that in a second stage were assigned to products were assigned to retailers by means of existing product portfolio for each retail group, as shown in figure 1.

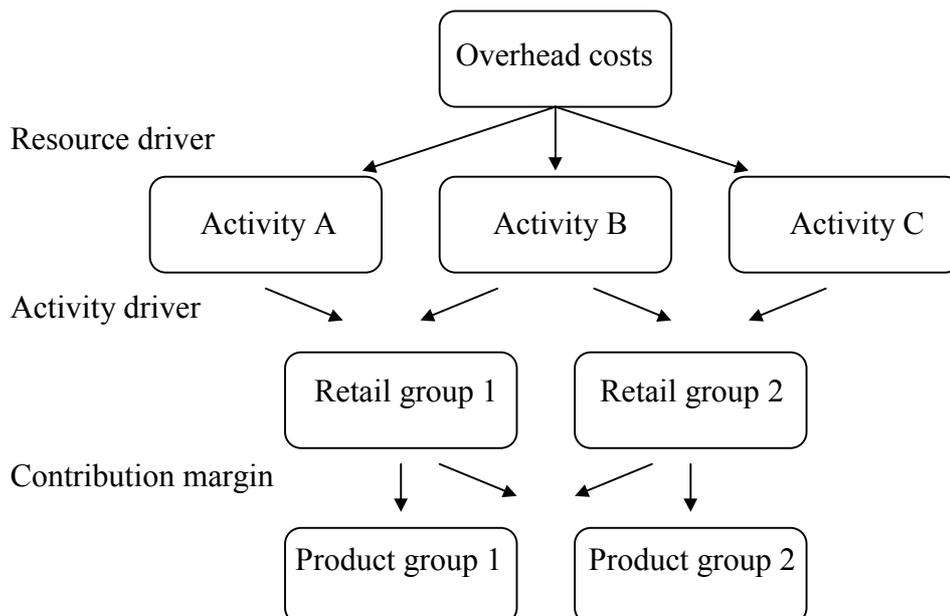


Figure 2: Cost assignment via retail groups

Seven activities were directly assignable to retail groups. The costs allocated to those activities were initially assigned to retail groups. According to figure 2, the costs were assigned further to product groups through contribution margin of the product groups.

Figure 1 and 2 correspond to an extended version of the two-stage model (O'Guin 1991; Lawson, 1994). The purpose of this extended model for cost assignment was to use the most accurate activity drivers. Some activities were strongly connected to product groups and others to retail groups. Since it was a desire from the Finance Department that all costs should be allocated to both products and retailers the two models had to be elaborated. Eleven activities should be assigned to cost objects according to figure 1 and seven activities according to figure 2. Unfortunately, the chosen software for the system did not oblige this model as the costs were not able to be assigned from retail groups to product groups. Consequently a new model had to be created. Instead each activity got two activity drivers, one to products and one to retailers. For example, costs associated with the activity named "Education of retailers" were assigned to products after how many days of education for each product that was offered. To retailers, on the other hand, the activity was assigned according to the number of sellers who had participated on these occasions.

During design the allocation of costs to resources appeared to be problematic. Therefore we found it necessary to divide the first stage in the two-stage model presented on page 108. The entire model for the ABC-system looked as follows:

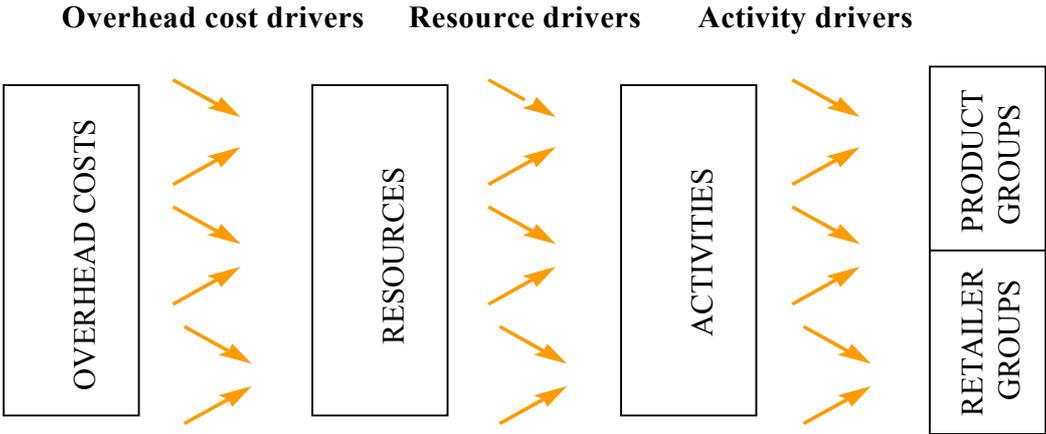


Figure 3: The new three-stage model

The new three-stage model presented in figure 3 contains a new stage for the allocation of costs to resources. There is a need to find an overhead cost driver for every cost account in order to exhibit the total costs of the resources, because resources can cause different kinds of costs. The model also shows problems that can appear with having different cost objects. Since both product groups and retail groups were to be followed up, each activity was given two activity drivers, one to product groups and one to retail groups. The overhead cost box contains cost accounts, without internal transactions. The resources correspond to personnel, plant area and systems. The 22 activities are presented in table 1 and the product groups are presented in table 2. In order to assign costs to activities from resources, time consumed on different activities is used. Telia Handel AB's ABC-system was temporarily designed in the end of May 1997. Now it was time start working to implement the new three-stage model.

3.2 Implementation

The implementation of the new ABC-system took place during June, July and August 1997. The Financial Department had chosen data software² in the beginning of the project. Before the implementation the project group took two days of training, including how to implement the system, use the system and take out information from the system. The operational work with implementation of resources, activities and cost objects went on rather smooth as it in many cases was possible to transfer the information directly from other systems³.

After the operational work an arduous task took place to gather information from people and systems regarding cost drivers, resource drivers and activity drivers. The resource drivers were based on the estimation by the employees of how many hours they spend on different activities. The interest in reporting time was low this first time, but the interest will probably increase as the ABC-system shows results and fields of application.

Information about the activity drivers could in many cases be collected from the systems⁴. Examples of activity drivers were the number of orders, number of rows on orders and number of payments to retailers. It was made obvious that the collection of some activities took too long time. There was a need in the future to make the collection easier if the system would survive.

The cost items would be imported into the system and allocated to resources (overhead cost drivers), that required much more work than expected. To begin with the profit and loss account had to be cleared from internal transactions, which required studies of individual transactions. When the cost

² Cost Control, QPR Sweden AB

³ Microsoft Excell; Microsoft word; Hat.

⁴ Order registration system, Pengvin; system for handling commissions, Commission; cost-benefit analysis system, Hat.

items had been implemented in the software it was hard to find drivers suitable to each type of cost item. Some cost items had been coded to resources, but the coding was not consistent. Consequently the cost items in some cases had to be assigned arbitrarily based on the understanding of the project group.

The data software admitted an implementation of income in order to make comparisons between the income that the cost objects generate and the cost of the activities and resources that they require. Neither did the implementation of income go perfectly smoothly, since the connection to products was not clear. The income consisted mainly of commission from other companies in the Telia Group, but also other payments from retailers and final customers. Because of these problems it was obvious that coding had to be improved.

The theory on Activity-Based Costing (O'Guin, 1991; Lynch & Cross, 1995; Turney, 1996; Drury, 1997) is foremost concentrated upon activity drivers, but even to some extent resource drivers. The project taught however that the assignment to resources, i.e. overhead cost drivers, weren't obvious. The existing systems can even complicate the assignment further because of uneven purposes. The object of coding and internal invoicing is to allocate costs as accurately as possible, which is in accordance with one of the objects of an ABC-system. But there is one thing missing, as the traditional systems as coding and internal transactions don't show the cause of the arisen costs. Costs are coded to responsibility centers in order to show who is performing the activity. This information can be used to discern the costs of the resources. Internal transactions instead show who needs the activity to be performed and not which department who is actually performing the activity. If these two systems are used side by side the information can't be used to discern the cost of the resources. As long as the ABC-system is not totally reliable the company won't let go of the former systems. Since it is impossible for the ABC-system to become perfectly reliable if the former systems aren't abandoned, great contradictions arise. The optimum method for the ABC-system to become totally reliable would be to use the coding system in order to allocate costs to resources.

The first version of the ABC-system was now implemented (phase 3 illustrated in figure 4) and it was time for the project group to hand over responsibility and administration to the Finance Department. It was made through an extensive documentation and several days of instruction. The project ended with a management meeting in the middle of August 1997, where the project group presented the characteristics, output, limits and possibilities of the system. The management seemed pleased and saw many possibilities with the system.

The Director of Telia Handel AB criticized, though, the low degree of details, since the system did not manage to produce cost information about specific retailers. Through discussions it was made clear that the cost system would be too complex if every specific retailer should attend, especially as Telia

Handel had thousands of them. Conceivably would it be possible to satisfy the desire to analyze each retailer in the future when stable routines for information gathering have been built up.

3.3 Evaluation

In May 1998 it was time for a new meeting in Stockholm to evaluate the new dynamic system and make plans to keep the system updated. This formed the initial stage in phase 5 (shown in figure 4). Three controllers and one external member from the original project group were participants. The system had been utilized for eight months and had been updated once (phase 4 shown in figure 4). The controllers had felt that the system needed a thorough reconstruction, foremost since the organization had been restructured. The process descriptions were now finished and the ABC-system could be made more detailed by means of that work. It was now possible to make the system more detailed and therefore also find better activity drivers. Due to the organizational changes the resources had to be regrouped. Criticism had been encountered towards the activity "Sales Promotion" as being too overarching. The activity had to be divided in order to find more satisfactory activity drivers. One problem was that the system had not been applied as much as the Finance Department would have wanted. There was a need to evaluate the causes of the low application. The systems results in the form of reports and diagrams had been shown at various meetings. At internal invoicing negotiation within the Telia group, the system had been particularly useful. Telia Handel AB could with the help of the ABC-system show that the commission for some products did not cover the cost associated with the registration of the orders of those products.

The controllers used the ABC-system internally in order to indicate the products that were the most profitable, particularly for sellers and executive managers in order to direct their attention towards these products. The system was also able to visualize that some products were very resource demanding and that the profitability of the retailers depended a great deal on what products they sell. Some non-value-added activities had been highlighted with the help of the ABC-system and the revelation has lead to action towards reducing these activities. The system made simulation possible, i e the system showed how much more resources an increased revenue demanded and vice versa. But the Finance Department had not yet put down efforts in learning the logic and found therefore problems in interpreting the information from the simulation. It would probably require a few days training from the suppliers of the software for this purpose.

Through the employment and presentation of the results of the ABC-system many questions had come up and some adjustments were necessary before the update. The work to adjust the system would follow a pattern. Because of the unexpectedly low application of the system there was a need to consider and list all possible fields of application for the ABC-system. On the evaluation meeting in May 1998 the following list over possible fields of application was established. The following fields seemed most pressing:

1. Among the companies within the Telia Group for pricing and contract negotiation
2. Cost-benefit analyses
3. Contract negotiation with retailers

The following items also seemed important:

- Budget and influence behavior
- Pricing for internal invoicing
- Illuminating non-value-added activities for action towards more effective business
- Evaluating campaigns and activities
- Reporting to the parent company

The next step in adjusting the ABC-system was to evaluate the components of the system. As far as the cost objects were concerned, there were a lot of questions to be answered. What cost objects were to be followed up? Are some objects specifically interesting to evaluate? How many cost objects are possible to follow up if the system is not going to be too complex? The activities also had to be examined particularly because of reorganization. Had some new activities emerged or had some disappeared? Ought any activity to be divided or some activities combined? Does any activity have to change name to harmonize with process descriptions? The resources had to be overlooked because of changes in employment. Also the activity drivers had to be examined to make the system more credible, since finding correct drivers is essential for increased application.

At the evaluation meeting in May 1998 an action plan was established that were to be used every time the system had to be updated. The action plan emerged as follows:

1. The first stage contains a review of the components of the system including cost objects, activities, activity drivers and resources.
2. When the adjustments are finished they have to be implemented in the software. The employees also have to estimate their time spend on the activities (resource driver). Information about activity drivers per cost object must be collected from the systems. Overhead cost drivers should be

established and implemented.

3. The project to adjust the system should end with a meeting where representatives from each unit of the organization are participants in order to discuss if the result is reasonable and reliable. If the ABC-system is to be applied everyone must trust the system and be able to interpret and understand the information that the system provides.

During the evaluation meeting it became obvious that an update of the ABC-system would involve extensive work. It requires a lot of effort just to maintain the system. Consequently, Telia Handel AB decided that one controller should be responsible for the system and its updates (phase 6 shown in figure 4) and hopefully this would be the controller's one and only assignment. At the meeting it was also decided that one new steering Committee should be formed. The role of the Steering Committee would be to guide and support the controller responsible for the ABC-system.

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6
<i>Operational level</i>	Discussion, decision & pilot study realization	Design	Implementation of System I	Upgrade and implementation of new cost	Evaluation	Continuous ABC development System II
<i>Learning process</i>	Leaving traditional thinking and moving towards a high degree of reorientation. Strong emphasis on action learning in a trial and error process.			An evolutionary period begin and the degree of reorientation is becoming lower.		
<i>Managerial level</i>	<p style="text-align: center;">ABC is during the learning process highlighting the role of ABM</p> <p style="text-align: center;"> </p>					
<i>Time schedule Nominal scale</i>	Autumn 1996	February 1997	June 1997	January 1998	May 1998	August 1998

Figure 4 The six Phases of the ABC-project

4. ACTIVITY-BASED-COSTING AS A PROVOCATIVE DYNAMIC CAPABILITY - DISCUSSION

This paper argues for increased attention not only in ABC design and implementation in a service organization but also for an understanding of the total progressive and changing learning process within organizations that an ABC- process of theory, design and business reality implies. Zuboff's (1989, p xv) experience that included "my continuing efforts as a consultant to organizations teach me never to underestimate the magnetism of the past and forces of inertia upon which it thrives" have been kept in mind during the action research in the case. Early in this study we raised the question "Will a change actually take place and will new costing insight be a guide to the organization for a move in a direction of a new language of improvement and understanding". In the study we noticed insight inertia, opposition and resistance to the thinking in using new economic terms and confidence in the present system (we are successful so why change the coding system or anything at all). And the "institutionalized norms" of ABC show considerable tension and unfit between business reality and theory. Below we will discuss and examine the interplay between implementation and learning and try to formulate an answer to the question above.

The Telia Handel AB case gives positive indications of the importance of empiric action oriented learning studies in the field of service business. We believe that ABC will serve as a provocative dynamic capability in certain service organizations in order to build constructive attitudes for insight in the field of management control. In this case 23% of the total costs were overhead costs. Telia Handel AB acted in the market very successfully during this study and was, as we learnt, quite aware of the competitive forces in the environment.

Control to achieve "lean overhead costs", through the new three-stage model, shows in this case a tendency to bring advantages such as better cost-efficiency and improved RoI. The research however strongly indicates that the learning process will start when, but only when, the aim concerning ABC design, implementation and operation is fully accepted with a clear commitment from top management. In this case the actual work can result in long-term positive development of management accounting in a service business. Perhaps this commitment is the most important tool if some success should be made possible. It was also discovered that when insight into the costing problems increased a degree of reorientation could be recognized in the company. By the assistance of communication soft information through the different groups (earlier mentioned) and further out in the organization during the implementation, a change in thinking and talking about "the economy" and the associate daily problems got focused and offered new possibilities not only from management control but also as an embryo for a new interesting employee

control system.

To answer the above question the experience from the study points to three findings. First, it clearly shows that the learning process during design and implementation must engage not only the Accounting and Finance Department but also the Executive Director, Management, the Marketing Department and the Sales force etc – gradually the whole organization. Traditional cost-allocation as the aim of an activity-based cost-system counteracts an effective implementation of ABC due to different purposes. Second, during the operational stage of daily work with the new system it is most important that it is kept alive and continuously developed and also further implemented in the organization. It is a complicated and time-consuming process to find correct activity-drivers. Third, it is very important to employ persons that only work with the ABC-system. The work is very time-consuming and requires, in a large organization, full attention concerning operation, support, seminars and further education. We don't believe that the costs of design, implementation and operation should frighten from change of systems in organizations similar to this service organization case study. Finally, we know that a change can take place and new costing insights are possible if learning, persistence, trust of the new system and guidance through talk, decision, design, implementation and operationalization can be made possible.

REFERENCES

Alvesson M (1992) *Ledning av kunskapsföretag*. Nordstedts juridikförlag, Kristianstad.

Ask U, Ax C (1997) *Produktkalkylering i litteratur och praktik*. BAS, Göteborg.

Björnenak T (1997) Diffusion and accounting: the case of ABC in Norway. *Management Accounting Research*, vol 8, no 1, March. Academic Press.

Brignall T J, Fitzgerald L, Johnston R, Silverstro R (1991) Product costing in service organizations. *Management Accounting Research*, Vol 2, s 227-248.

Cooper R (1989) You Need a New Cost System When...*Harvard Business Review*, Jan-Feb, s 77-82.

Czarniawska-Joerges B (1993) *The Three-Dimensional Organization, A Constructionist View*. Studentlitteratur, Lund.

Danielsson A (1983) *Företagsekonomi – en översikt*. 3:e uppl. Studentlitteratur, Lund.

Derera C R (1996) HarrisSemiconductor ABC: Worldwide implementation and total integration. *Journal of Cost Management*, Spring, vol 10, issue 1.

Drury C (1997) *Management Accounting for Business Decisions*. International Thomson Business Press, London.

Hedberg B, Ericsson A (1979) *Insiktströghet och manövertröghet i organisationers omorientering*. Ingår i Hedberg B & Sjöstrand S-E: *Från företagskriser till industripolitik*. Liber, Malmö.

Hedberg B, Jönsson S (1977) *Strategy Formulation as a Discontinuous Process*. *International Studies of Management and Organization*, vol VII, nr 2.

Hedberg B (1994) *Imaginära organisationer*. Liber-Hermod, Malmö.

Hixon M (1995) *Activity-based management: its purpose and benefits*. *Management Accounting*, June, p 30-31.

Innes J, Mitchell F (1990) Activity-Based Costing: A Review with Case Studies. Chartered Institute of Management Accountants.

Jönsson S (1990) Vart är företagsekonomisk forskning på väg? – En kommentar. FE-rapport nr 1990:302. Företagsek Inst Handelshögskolan vid Göteborgs Universitet: 1990:1.

Jönsson S, Lundin R (1977) Myths and Wishful Thinking as Management Tools. Red. Nystrom P & Starbuck W, Prescriptive Models of Organizations. Studies in the Management Sciences, vol 5.

Kaplan R S, Norton D P (1996) The Balanced Scorecard. Harvard Business School Press, Boston.

Kaplan R S, Cooper R (1998) Cost & Effect; Using Integrated Cost System to Drive Profitability and Performance. Harvard Business School Press, Boston.

Kullvén H (1994) Ekonomisk styrning ur ett tjänsteperspektiv. BAS, Göteborg.

Lawson R A (1994) Beyond ABC: Process-Based Costing. Journal of Cost Management, Fall, s 33-43.

Levitt B & March J G (1988) Organizational Learning. Annual Reviews Inc, 14:319-40.

Loft A (1986) Understanding Accounting in its Social and Historical Context: The Case of Cost Accounting in Britain 1914-1925. London Graduate School of business Studies, London.

Loft A (1994) Accounting and visibility: A discussion of the link between cost accounting and control in the history of the factory. P 226-248. Accounting Research in Lund, Lund.

Lynch R L, Cross K F (1995) Measure up! How to Measure Corporate Performance, Blackwell, Cambridge.

Malmi T (1997) Towards explaining activity-based costing failure: accounting and control in a decentralized organization. Management Accounting Research, nr 8, p 459-480. Academic Press.

Mc Gowan A S, Klammer T P (1997) Towards explaining activity-based costing failure: accounting and control in a decentralized organization. *Management Accounting Research*, nr 8, p 459-480, Academic Press.

Norkiewicz A (1994) Nine Steps to Implementing ABC. *Management Accounting*, April, s 28-33.

O'Guin M C (1991) *The Complete Guide to Activity Based Costing*. Prentice Hall, New Jersey.

Prettigrew A M (1997) What is a processual analysis? *Scandinavian Journal of Management*, Dec, vol 13, nr 4. Pregamon.

Rotch W (1990) Activity-Based Costing in Service Industries. *Journal of Cost Management*, Summer, s 4-14.

Schiller S (1992) Lokal ekonomi för underhåll – vad är det? I Polesie T och Johansson IL. (red) *Management Accounting Research*, vol 3, nr 1, p 1-34.

Shields M D (1995) An empirical analysis of firms' implementation experiences with activity-based costing. *Journal of Management Accounting Research*, 9:215-166.

Skår (1997) On the limits to management control. *Scandinavian Journal of Management*, vol 13, nr 1, p 51-64.

Solli R (1991) *Ekonomi för dem som gör något. En studie av användning och utformning av ekonomiinformation för lokala enheter*. Studentlitteratur, Lund.

Söderbom A (1995) *Förändringsförloppet i ett storföretag, En studie om strategiskt handlande, strategifaser och företagsmyter*. Studentlitteratur, Lund.

Turney P B B (1992) What an Activity-Based Cost Model Looks Like. *Journal of Cost Management for the manufacturing industry*, Vol 5, No4, s 54-60.

Turney P B B (1996) *Activity Based Costing - The Performance Breakthrough*. Kogan Page, London.

Weick K (1995) *Sensmaking in Organizations*. Sage, London.

Westin O (1993) Informationsstöd för lokal ekonomi. BAS, Göteborg.

Whetten D A (1997) Organizational growth and decline process. Ann Rev Social, 13:355-358.

Whittington R (1993) What is Strategy – and does it matter? Routledge, London.

Wiedengren G (1993) Lönsamma kunder Lönsamma företag. Samarbetande konsulter AB och Brombergs Bokförlag, Halmstad.

Zuboff S (1988) In the age of the Smart Machine, The Future of Work and Power. Heinemann Professional Publishing, New York.