Activity Based Costing
Is it applicable in an event organising company?

Bachelor thesis within Management Accounting

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Abstract

Companies need different information about their operations, so that they can make better decisions and be more effective in the business world. One way to obtain that information is through looking at how costs are assigned to different cost objects, such as products or services. Of special interest is the allocation of indirect costs, because if these costs make up an important part of an organisation, then grasping them will help the firm be more competitive and respond better to customers and their needs.

One method of allocating indirect costs is called activity based costing, or ABC, and it looks upon what activities that are being performed by a company, how much they cost based on resource usage, what drives the costs, and most importantly, it assigns these expenses to products/services.

The aim of this thesis has been to investigate whether the ABC method can be applied in an event organising company. In order to reach the purpose we have used the example of Elmia AB, an event and trade show organiser situated in Jönköping, Sweden. The focus of our investigation was exhibition stands used in trade shows.

We have come to the conclusion that activity based costing is applicable when it comes to event organisers in the sense that it is possible to identify major activities and depict resources. However, problems emerge when trying to estimate costs of resources because it is hard to know in advance what customers want, and therefore one cannot clearly distinguish or set fixed and variable costs, nor can one easily cope with problems of unused capacity, that is resources that are supplied but not used. This is especially the case with customised exhibition stands. The process is somewhat easier when it comes to standardised offerings, because they are less complicated since they are already set and cannot be much altered by the customers.

Furthermore, cost drivers can be applied in this setting, at least theoretically because they provide help in determining what processes the customers might find important. On the other hand, they might be rather difficult to measure. Finally, the actual assigning of costs to cost objects is hard, because for the complex solutions, one cannot easily find common activities across different stands, but this can be easier to do when exhibition stand packages are standardised and demand is better traceable.

We have based our results on one company as a generalisation of event organisers as a whole, and we can argue that the example that we have chosen can be a good representative of this particular branch of the service industry, because it shows how important indirect costs are to this dynamic business and also it reveals the importance of customers and their role when applying activity based costing to the environment. However, in order to have a complete conclusion with respect to our aim, more research is needed in other event and trade show organising firms because there are company specific situations in terms of size, structure, culture, etc, of a company that makes ABC a special case that changes according to different objectives of different users.
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1 Introduction

Management accounting can be seen as a tool with which companies are able to obtain information that will help them in their decision making and effectiveness (Drury, 2000). One way to retrieve relevant information about the profitability of a company is to look at cost assignment and the way costs are allocated to cost objects (products/services) in order to, among other things see what part of the organisation is successful and what part is not.

An interesting component of cost allocation is the assignment of indirect costs to products and services. It does not appear to be an easy task, but nonetheless an important one, because these indirect costs are difficult to grasp, and sometimes they might constitute a significant part of the business.

The proportion of indirect expenses varies from firm to firm (Drury, 2000). For instance, manufacturers usually have a small proportion of indirect costs, as they usually trace direct material and direct labour to products. Service companies on the other hand have a high percentage of indirect costs. If they are in fact a vital component to an organisation, then knowing the ‘true’ costs of something will help businesses be more cost efficient, as well as competitive (Kaplan & Cooper, 1998). They will be able to set better costing strategies and respond to the markets in a more professional way in order to perform well when it comes to their activities, processes, products, services and customers. This is why the allocation of indirect expenses is attention-grabbing and important to study.

One method for the allocation of indirect costs is called ABC, or activity based costing, which implies that indirect costs are allocated to products and services by looking at what resources and activities lead to the making of these cost objects (Drury, 2000). It is a means for investigating the cause and effect of the indirect costs and it differs from the traditional methods where these expenditures are spread throughout different departments and assigned to cost objects primarily with direct labour- or machine hours.

1.1 Background

Activity based costing emerged during the 1980s in the U.S.A., as a result of a study that Professor Robert S. Kaplan of Harvard Business School and his junior colleague Robin Cooper, a British accountant from the Claremont Graduate School conducted on 31 American and European manufacturing companies (Ax & Ask, 1995).

The conclusions made by the two scholars were that there was a need for a new costing system. The reasons behind this were the threats and opportunities coming from the new advanced manufacturing technology (AMT) and the increasing influence from Japanese manufacturers on U.S. markets, with their just-in-time (JIT) and total quality management (TQM) systems (Jones & Dugdale, 2002). American dominance with mass production was losing ground as consumer markets were starting to change. New ways of working emerged, such as automatisation, adaptation to the customers and product differentiation, and they were affecting product calculations (Ax, Johansson & Kullvén, 2003). In addition, traditional costing systems in U.S. firms were in fact inadequate, the return on investment (ROI) was misused, and one could see a quite dominating financial accounting mentality in companies (Jones & Dugdale, 2002). The management accounting systems needed to be revised and computer-based systems improved, since they only had traditional accounting programs.
Even though the Harvard cases are seen as the source of ABC, its early indications could in fact be spotted in the 1960s General Electrics’ practices and in the Bain & Co. and Boston Consultancy Group in the ‘70s and ‘80s (Jones & Dugdale, 2002). Perhaps the new system was another way of saying the same thing. Nonetheless, ABC appeared as a new, better means of allocating overheads to products and it helped pricing and outsourcing decisions (Jones & Dugdale, 2002). It was thought of as an expert system that managers might lean on while facing global risks from more competitive actors and bigger markets. However, in the first part of the 1990s, doubts appeared regarding the validity of ABC (Jones & Dugdale, 2002). Cobb, Innes and Mitchell (cited in Major & Hopper, 2005) found that managers often turned down ABC systems because implementation was costly and troublesome. It was problematic to select and find what was driving costs, and it was troublesome to define activities. The ABC method became instead a subjective tool with different objectives, a tool that everyone could interpret differently (Jones & Dugdale, 2002).

During the 1990s, ABC systems were being developed and implemented at several manufacturing companies around the world, such as Hewlett-Packard and Tektronix in the US, Siemens in Germany; and Ericsson and Kanthal (heating wire manufacturer) in Sweden (Jones & Dugdale, 2002). In addition, a lot of research emerged as well. For instance, Björnenak (1997) investigated ABC in the manufacturing sector of Norway and found that out of 75 companies, 30 had taken on ABC, but most have done it as an idea, and mainly large companies that had good infrastructure for this method. He also came to the conclusion that those with a high number of indirect costs where first to go for ABC and those organisations that did not adopt ABC were facing high competition and were semi-standard in their production. It was however not possible to explain why some firms adopted ABC and why others did not (Björnenak, 1997).

At the same time, service organisations, for instance banks, transportation companies and health care institutions were also beginning to use costing systems with the same structure as those observed in manufacturing companies (Jones & Dugdale, 2002). The reason behind this was that the new environment had taken hold of service companies as well. They have until recently been regulated government owned monopolies, without pressure to reduce costs and improve efficiency and quality of their operations (Kaplan & Cooper, 1998). Prices were set high in order to cover the inefficiencies and tax payers replaced the losses. The financial systems were simple.

Competition increased together with the need for the service companies to respond to customers on time. They could do that only if they understood the real costs of their products/services/customers (Kaplan & Cooper, 1998). Service companies were starting to introduce ABC into their system after the traditional systems have been widely regarded as obsolete and also, they did not have to meet financial accounting stock valuation requirements (Drury, 2000). Furthermore, ABC was developing further as service companies took it on, thus avoiding some problems that the manufacturing companies already went through.

In the final part of the 1990s and the first few years of the new millennium, the research done on ABC includes both manufacturing and service companies combined. For instance, Baird, Harrison and Reeve (2004) say that there have been low rates of adoption of ABC, as well as a wide variety in the adoption across companies in general, since the introduction of the method. They believe that this is because the definition of what ABC is has been unclear. There are also possibilities that ABC in fact has been adopted in firms at different levels, but this has not been recognised before. Baird et al., (2004) investigated 400 Australian firms (manufacturing and service), and found out that actually quite a high percentage
(over 75%) was using ABC. Also, there were more large firms among the adopters, as well as firms that had more use of cost information and which were more innovative and had an outcome oriented culture. There was however not so much adoption at the highest ABC level, mostly partial systems such as activity analysis (identification of activities) or activity cost analysis (identifying costs of each activity) were used instead, because they were considered enough (Baird et al., 2004). The method was most important when it came to making decisions and giving information about costs. Advantages of ABC were recognised by firms that had problems with cost distortions in product and service costs (Baird et al., 2004).

Innes, Mitchell and Sinclair (2000) conducted a survey in 64 U.K. companies in 1994 to see how many were using ABC and they came back in 1999 to see the situation then. They found that the use and interest in ABC had not increased over the years. The proportion of users had fallen both in the manufacturing, service and financial sectors. In both surveys it has been found that large companies and financial companies were more likely to have ABC. Everyone had different reasons for taking on activity based costing. Most common were cost reduction, pricing and performance measurement. Also, some used the method for product profitability, strategic development and operational staff awareness. Those that were still using ABC in 1999 (17.5% and only in some parts of the business) saw it as a success.

Drury and Tayles (cited in Drury, 2000) made a survey, also in the U.K. and found out that service companies are more likely to implement ABC. Around 51% of financial and service firms had activity based costing, compared to 15% among the manufacturers.

### 1.2 Problem

Activity based costing has been investigated a lot in manufacturing firms, and recently, service companies have become integrated into the research field as well. These two different industries have been treated more or less the same. However, we have seen that the emphasis is still mostly on the manufacturers. Therefore, we would like to expand the research on service firms by focusing on ABC in that particular industry. From the literature, we have seen that ABC has emerged in for instance hospitals and banks. What about other branches of the service industry? Could ABC be applied there as well?

The reason why service companies deserve more attention is because usually, almost all of their costs are indirect and their resources need to be supplied in advance (Kaplan & Cooper, 1998). The type of resource supplied will depend on the customer. In addition, manufacturing firms can define their products, but service firms cannot always classify their offerings in a clear fashion, as services tend to be intangible in nature (Grönroos, 2000). Also, the service industry is becoming more and more established and important in the world today, as well as the costs that come along with it. All of this makes ABC a good platform of research, as well as adding complexity to it at the same time.

To be more specific, we have not come across previous research of ABC with respect to event and trade show organising companies, so this is a chance to acquaint ourselves with it as well as the reason to choose exactly this business area. Another reason why event organising companies are of interest is because they are the new economy (Pine II & Gilmore, 1998). If we take a look at Scandinavia alone, around 350 trade fairs are arranged in the Nordic countries each year, and considering Sweden in particular, the market for trade shows is currently enjoying a strong phase, where exhibitors are expected to invest nearly 4 billion SEK in exhibitions during 2007 (Fairlink, 2006). In addition, IRM, the Swedish Institute for Advertising and Media prognoses claims that the event and trade show industry
can look forward a 5% growth in 2007, compared to the previous year (Fairlink, 2006). Trade shows have become one of the most important marketing channels and are together with the personal meetings ‘hotter’ than ever, thus actively affecting the development of the business industry (Fairlink, 2006). The organisation of events are especially contributing to the service sector, which is relationship-oriented and focused on direct interactions with customers, listening to their needs and demands (Pine II & Gilmore, 1998). Most importantly, events are full of activities, and that is also what ABC is all about. Moreover, trade shows and exhibitions are a good platform for companies to meet customers that are otherwise difficult to get hold of, that look for focus and constantly change their demands (Pickton & Broderick, 2005). These gatherings are a good opportunity to create contacts and make impressions. Because of that, a good exhibition requires a lot of planning and all the materials, staff, furniture and equipment need to be ready and transported at the right time and arrive in a good condition. Therefore, as it is a complicated procedure, costs and management of costs would be very interesting to study in an environment like this.

### 1.3 Purpose

Hence, the purpose of our thesis is to investigate the applicability of activity based costing in a particular branch of the service industry, namely in an event organising company.
2 Theoretical framework

2.1 Traditional costing system

Before going into detail on the activity based costing method, we will briefly present the traditional costing system and say how it differs from ABC.

The traditional costing system traces indirect costs to products/services through a single, or a few rates (Drury, 2000). Firstly, indirect expenses are assigned to production and service departments. After that, the costs from the service departments are moved to production departments. Separate rates are made per department and indirect costs are assigned to products/services through direct labour or machine hours. What we will see with ABC is that this method differs so that activities are used instead of departments and indirect costs are assigned to main activities in a company. One looks at what drives costs and does not only use labour or machine hours (Drury, 2000).

2.2 What is ABC?

Activity based costing is like a bag of tools from which anyone can take what they need at the time (Jones & Dugdale, 2002). On the other hand, ABC might be closed in the everyday accounting practices as it tends to promise more accurate product costs. This method is mostly about experimentations (Innes et al., 2000).

Nowadays the name ABC is full of competing and contradictory ideas and practices with so many authors that there appears to be no clear guidance. What is clear is that this method simply cannot be separated from the activities and events to which it is connected (Jones & Dugdale, 2002).

We did find some definitions by different scholars. According to Langfield-Smith, Thorne and Hilton, (cited in Baird et al., 2004), an activity-based costing system is a system that focuses on the costs of a variety of activities required to produce a product or service. Also, activity based costing can be thought of as a process of designing and developing transaction cost for the services and products provided by a business (Frost, 2005). According to Bromwich and Hong (1999), ABC is a method that repackages existing information. Kaplan and Cooper (1998) say that an ABC model is an economic map of the company’s costs and profitability based on company activities. It is meant to be a management tool and not a new accounting or costing method for products/services/customers.

We have decided to agree with all the definitions. In one way or another, they are more or less stating the same things. Therefore, we see ABC as a map/plan that helps organise and estimate costs in a company, and this is how we will see it throughout this thesis.

2.3 ABC step by step

If a company has a good costing system it can design products and services that meet the expectations of their customers and that are profitable for the organisation (Kaplan & Cooper, 1998). Furthermore, this system can signal when there is a need of quality improvements, efficiency and speed and it can enhance the learning of employees. It can guide product mix and investment decisions, price negotiations and supplier selection, as well as structure distribution and service to the target markets. Accurate cost information is necessary for strategic decisions and operational improvements.

Cost systems provide three functions (Kaplan & Cooper, 1998):
- Valuating inventory and measuring costs of goods sold for financial reporting
- Estimating the costs of activities, products, services and customers
- Giving feedback to managers and operators about process efficiency.

Traditional costing systems still work fine for the first function, since external stakeholders do not care about cost distortions and do not take into consideration marketing, sales and distribution costs, which are in fact very important. However, managers do not get enough information from the simple costing systems (Kaplan & Cooper, 1998). This is where ABC comes in. A relatively simple model should give accurate activity and process costs in the range of 5-10%, while the traditional systems cannot even do that, as claimed by Kaplan and Cooper (1998). An ABC system is supposed to give managers a reasonable economic map of costs and profitability of activities/products/services/customers. It needs time to grow, receiving years of feedback, learning and adaptation.

The ABC model does not really differ between a service and a manufacturing company (Kaplan & Cooper, 1998). This is because in the manufacturing companies, ABC regards the ‘service’ component of the firm. Those are the services provided to the manufacturing process, as well as marketing and sales.

When we present the different steps of activity based costing, we will take into consideration both manufacturing and service firms.

### 2.3.1 Step one – identify activities

When using the ABC method you see the company as a set of activities, such as work assignments and so on. Every task that is performed in a company can be named activities. These activities vary from company to company since the companies are different. Some examples of activities in a consulting company for instance are planning an assignment, performing the service, securing the quality, following up the assignment performed, etcetera (Ax et al., 2003). For another firm it could be set-up machines, purchase materials, process customer orders and issue chequebooks (Drury, 2000).

In step one, look at what activities are being performed by the indirect and support resources of the organisation and identify the main activities in a dictionary (Kaplan & Cooper, 1998). In order not to get too detailed here, a rule of thumb is used. Activities that require less than 5% of a resource capacity or a worker’s time are not included. An approximation of 10-30 activities per dictionary is appropriate. Also, various activities must be independent of each other in order for costs to be distributed more accurately (Bromwich & Hong, 1999).

What is important to consider for service firms in particular when identifying activities is that the company can determine and control the efficiency of its internal activities, but it is the customer who almost completely determines the demand for the operating activities (Kaplan & Cooper, 1998). If the customer triggers demand, which later influences the usage of resources, then one must start by finding out what activities the customer will require.

By mapping out the activities in the process of providing the service, one can see what choices the customer makes, how much the customer requires from the service and how much he/she is involved in the process (Zeithaml & Bitner, 2003). Most importantly, costs
will be depicted. Another aspect to consider here is actually finding out which activities that are important in the eyes of customers. Any activity that the customer does not care for is non-value added (Schlesinger & Heskett, 1991). This is also connected to the fact that customer expectations are difficult to extract, because sometimes even the customers do not quite know what they prefer (Grönroos, 2000).

There are different attributes of activities. They outline the activity hierarchy. The hierarchies form a structure when, for example, creating calculations for the costs of different cost objects, or when the companies want to study long-term as well as short-term decisions (Ax et al, 2003).

2.3.1.1 Activity hierarchy of manufacturing firms

In figure 2-1 below is the activity hierarchy for a manufacturing firm.

![Activity hierarchy diagram](image)

Figure 2-1. An activity hierarchy in a manufacturing company (Ax et al, 2003).

Unit/entity level activities are performed for each unit of product/service and are proportional to volume (ex: drilling holes in metal parts) (Kaplan & Cooper, 1998).

Series/Batch-level activities have to be done for each batch or setup of work (ex: setting up a machine, purchasing materials). Resources required per batch activity do not depend on the number of units in a batch (Kaplan & Cooper, 1998).

Product sustaining activities (see figure 2-1) enable the production of each product/service while Customer sustaining activities enable the selling to a customer (Kaplan & Cooper, 1998). Examples are: maintain and update product specifications, test tools and give technical support. These two types of activities are easy to trace but do not depend on volume produced and sold.

On the production process level, product development and advertising are brand- or product-line sustaining activities because they support the entire brand/product line (Kaplan & Cooper, 1998). Examples such as pricing and invoicing are order related here, but independent of volume and content.

On the company level, there are facility sustaining activities done by plant managers and the administrative staff and Channel sustaining activities consider trade shows and advertising catalogues (Kaplan & Cooper, 1998).
2.3.1.2 Activity hierarchy of service firms

The activity hierarchy consists of activity levels that may differ from company to company (see figure 2-2 below).

![Activity hierarchy diagram]

Figure 2-2. An activity hierarchy in a service company (Ax et al, 2003).

The activities at the unit level are performed in every unit of an assignment (Ax et al, 2003). The activities at this level are said to be proportional to the volume (i.e. the number of working hours). Two examples of such activities are: performing the assignment and controlling the quality.

At the assignment level, the activities are carried out for every assignment no matter the size of it (Ax et al, 2003). Creating offers, customer visits and planning the assignments are a few examples of activities that are being executed at this level.

Activities at the service level (see figure 2-2) are performed as support for the individual services of a company (Ax et al, 2003). Such services can be IT, strategy and logistics and the activities can then be recruiting new personnel, education and marketing.

The business level is concerned with the activities in the company as a whole. The activities here are achieved on the behalf of the entire company. They can be in form of personnel, security, finance and administration (Ax et al, 2003).

As mentioned before, the levels, as well as the examples of activities can differ between branches and companies within the same branch (Ax et al, 2003).

2.3.2 Step two – find the cost of each activity

The costs of resources consumed over a particular period are assigned to every activity through cost pools/cost centres to determine why the costs happened (Kaplan & Cooper, 1998). The number of cost centres varies and it is a matter of cost versus benefit, but usually there are 30-50 cost centres (Drury, 2000).

Here you look at how much it costs to perform an activity or a process, based on historical expenses from the most recent period (Kaplan & Cooper, 1998). Through step two, a
Activity based costing primarily focuses on indirect costs, but we will also consider direct costs and general overheads throughout the thesis.

With ABC, companies can focus on high-cost areas where improvement can help the company prosper (Kaplan & Cooper, 1998). Resource expenses under 1% of total spending are irrelevant to ABC. Instead, one should look for large, growing costs in indirect and support resources. If you have an operation whose costs are direct labour and direct materials, thus traceable directly to products, then you do not need ABC. Also, if you produce only one product in the entire organisation, then no system is necessary.

2.3.2.1 Fixed and variable costs

The ABC method deals with a specific calculation problem – the division of expenses (Ax et al., 2003). Usually problems occur when costs are inseparable. Biddle and Steinberg say (cited in Major & Hopper, 2005) that joint costs occur when the same resource is shared by several products. For instance, labour, lighting and heating costs are shared by several activities and they must be allocated through resource cost drivers (Drury, 2000). Property taxes, depreciation of machinery and insurance of building and machinery should be included only if they affect decision-making, such as determining a selling price.

Bromwich and Hong (1999) say that you need to treat costs of products as independent of other costs and products. Outputs should not be joint and resources used for each product need to be separable. In reality, cost cannot be separated (Homburg, 2001).

Just by looking at fixed and variable costs, they are in fact ‘neither essentially fixed nor variable’ (Jones & Dugdale, 2002), but there is a need to divide them into these two categories to create some simplicity.

In most organisations, the variable costs are material costs, energy costs, telecommunication services and salaries of temporary workers. They change as demand changes (Kaplan & Cooper, 1998). However, most costs for the indirect and support activities are fixed in the short run. There are contracts and commitments made to the resources for a certain activity regardless of whether these resources are actually used (buildings, engineers, supervisors). The contracts make it cheaper and more reliable. The supply of these resources cannot be lowered in the short run if the number of activities suddenly declines. This resource
supply can be left for future rise in demand (Kaplan & Copper, 1998). Through ABC, managers can try to turn as many costs as they can into flexible ones, so that they supply resources based on demands for the activities that the customer wants, instead of supplying them based on historical spending patterns (Kaplan & Cooper, 1998). This way only what is needed is used. It is important to know which costs can be treated as variable and which can be fixed, because this is closely connected to the capacity of a resource and how much of it that will be used. The difference between supplied and used resources is unused capacity (Kaplan & Cooper, 1998).

2.3.2.2 Unused capacity

Due to the fact that it is difficult to estimate demand for certain activities and resources, unused capacity creates problems for companies, as resources go to waste and unnecessary costs are incurred. This is especially the case for service companies. In a service organisation, the customer is deciding on the nature of the service and the activities that provide it (Grönroos, 2000). Since services are customer specific, it is hard to standardise resources and to supply them in advance. There are customers that are unpredictable and that constantly change volume and timing of orders (Kaplan & Cooper, 1998). These customers must realise that they are causing unused capacity and therefore need to be prepared to carry unused capacity costs.

However, due to the difficulty of knowing what demand will be like, service firms usually have to supply resources in advance in order to be prepared (Kaplan & Cooper, 1998). Anything that is unused goes to waste. An ABC model that is customer oriented can help organisations offer different services to customers based on what these customers individually prefer and need. When service companies understand what each segment prefers, the offerings are tailored in order to satisfy the preferences. Furthermore, special resources are spent only where needed and not necessarily wasted on customers that can settle with the standard ones (Kaplan & Cooper, 1998).

Another way to deal with unused capacity is by analysing the commitment of resources to activities during a recent period (Kaplan & Cooper, 1998). By studying the past, employees and managers can take action to reduce inefficiencies and transform unprofitable products into profitable ones by shifting the no longer needed resources to processes, products, services and customers that might use them better. One can also try to increase the demand for some activities or even outsource. This way, the same mistakes can be avoided when proceeding into the future with for instance pricing, design and customer/supplier relationships, thus excluding the inefficiencies, if one can estimate their amount.

Moreover, the capacity of resources that are performing an activity can be taken from the maximum performance over a year that did not involve delays, poor quality, and overtime and stressed employees (Kaplan & Cooper, 1998). From the theoretical capacity one subtracts maintenance time, repairs, start-ups and shut-downs, protective capacity. Practical capacity for the employees is the theoretical capacity minus coffee breaks, gossip and chitchats, and scheduling fluctuation, which constitute the human part of unused capacity.

When it comes to unused capacity in terms of humans, it could be argued that cost control at every level might be inefficient, because certain workers that might seem unprofitable could in fact be very important to customer satisfaction (Schlesinger & Heskett, 1991). If you fire an employee in a service company, then the service becomes worse and the customer is unhappy.
2.3.3  Step three – find cost drivers

A cost driver can be described as a quantitative measure of the output from the company’s activities (Ax et al, 2003). In practice, cost drivers are used to divide activity costs between the cost objects. They can therefore be seen as special distribution keys. As with activities, there are no fixed sets of cost drivers; they vary between companies.

Below, in figure 2-3 is a description of activities within a service branch that triggers different cost drivers.

<table>
<thead>
<tr>
<th>Service Company Activities</th>
<th>Cost Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning an assignment</td>
<td>The number of planning hours</td>
</tr>
<tr>
<td>Draw up a document</td>
<td>The number of documents</td>
</tr>
<tr>
<td>Performing a service</td>
<td>The number of performed hours</td>
</tr>
<tr>
<td>Securing the quality</td>
<td>The number of hours securing the quality</td>
</tr>
<tr>
<td>Presenting the assignment</td>
<td>The number of assignments</td>
</tr>
</tbody>
</table>

Establish a cost driver for each activity. The driver should be easy to measure, easy to find and it must be identifiable with the products (Drury, 2000). There are usually 30-50 cost drivers approximately used. According to Kaplan and Cooper (1998), these are the different types of cost drivers:

- **Transaction drivers** (number of purchase orders processed, number of inspections performed) count the number of times you perform an activity. They are cheap and inaccurate, because they assume that the same quantity of resources is needed every time. They are however good to use when there is no variation in the resources used.

- **Duration drivers** (set-up hours, inspection hours) are about the amount of time required to perform an activity. They are expensive and useful when there is a variation in the activities required for various outputs, but it is assumed that the cost objects require same resources regarding personnel or premises (Ax et al., 2003).

- **Intensity drivers** directly charge for the resources used every time you perform an activity. They are very accurate, very expensive and specific, and deal with special complex products. Here, activity costs are charged directly to the output, based on for instance, work orders. Good for expensive and constantly variable resources.

- **Process drivers** (quality of incoming materials, training and skill levels of employees) look at the efficiency of doing an activity. One highlights the choices which create costs, understands what triggers an activity and takes the least possible amount of resources to make that happen. The cost itself is not important.

Step three asks the questions: Why do activities need to be performed? What causes a particular activity to consume resources and gain costs (Drury, 2000)? Is the process worth do-
ing? Here one looks at the relative difficulty of performing a task for various customers/products.

When considering an ABC system, one needs to choose either between accuracy and complexity (Homburg, 2001). When there is high accuracy, there are a high number of cost drivers to be used. On the other hand, the fewer cost drivers there are, the cheaper and more understandable it is for managers, as Merchant and Shields (1993) claim (cited in Homburg, 2001).

In order to capture both accuracy and complexity, one might try to combine certain cost drivers, because it could lead to a smoother allocation of indirect costs (Homburg, 2001). This is connected to the fact that all activities that are triggered by the same event can have the same cost driver.

Cost drivers need to be updated from time to time (Homburg, 2001).

2.3.4 Step four – assign costs to products/services

Calculate a cost driver rate by dividing the cost of supplying the resource capacity to do the work with the quantity of work that the resources can perform (Kaplan & Cooper, 1998):

\[
\text{Cost driver rate} = \frac{\text{expense}}{\text{cost driver}}
\]

What this equation is saying is that when you have several products/services, you look at where they are using the same type of activity. Then the cost of this activity is summed from each product/service and in total it represents the expense part (Drury, 2000). This is then divided by the sum of cost drivers used for this activity in each product/service, given that they are the same drivers. The cost driver rate is then the expense per driver and when wanting to calculate the actual indirect expense for an individual product/service, you multiply it by the number of drivers used by that particular cost object.

Cost driver rates are usually estimated from historical data (Kaplan & Cooper, 1998). However, ABC should also be used to estimate costs for future activities. This way decisions can be made, since it is not interesting simply to reflect on the past. One can find driver rates from the budget expense data for coming periods’ resources. The cost driver rate can be calculated in advance in the beginning of the period and used in real time. Managers no longer need to wait until the end of the period to learn how much each activity costs. This way one also avoids including both the costs of resources used as well as resources supplied, but unused (Kaplan & Cooper, 1998).

2.3.5 Summary of the steps

Below in figure 2-4. is the ABC model, with all the steps:
Figure 2-4 is a simplified version that summarises the four steps of the ABC method. In addition to the model, direct costs should be debited to the object directly. They should not be distributed (Ax et al., 2003). Also, general and administration overheads are not included in this model, since they usually stand on their own and represent the costs for the entire company.

### 2.4 Pricing decisions

Firms make important decisions when they set prices for their products/services. They have to take into consideration future capacity, competition and market knowledge (Drury, 2000). One way to set prices is through cost-plus pricing. Basically, firms determine the costs for the cost object and then add a percentage mark-up, and the selling price is set. There are different types of this system. One way is to assign only direct variable costs to a product. The mark-up is then quite high and is supposed to cover direct non-variable costs, indirect costs and other sustaining costs (brand, product line). Also, a contribution margin is created (Drury, 2000). This is useful for short term decisions and when indirect costs are not a large part of the overall costs of a company. However, this type of cost-plus pricing is allocating indirect costs through direct costs, which leads to arbitrary results. One could use cost-plus pricing where one considers indirect costs, but this requires help from ABC. Cost-plus pricing should usually be used when demand for cost objects cannot be estimated very easily (Drury, 2000). This method falsely assumes that price depends only on costs, but it is easy and fast to conduct.

### 2.5 Activity based management

Parallel to Kaplan and Cooper’s development of ABC, Professor Tom Johnson of Portland State University, based on his study of the Weyerhaeuser Corporation introduced the thought that the accuracy of costs is not important, but the way they influence the company and how they are used by managers is what matters (Jones & Dugdale, 2002).
should manage activities instead of costs. Johnson’s conclusions lead him towards the development of activity based management (ABM), which is to some considered the same as ABC and used interchangeably (Jones & Dugdale, 2002). We believe it to be strongly connected to activity based costing and will incorporate it into our studies.

ABC enables the analysis of the business in order to determine what customer actions drive costs (Frost, 2005). The method reports product and customer profitability and is included in the activity based management. Activity based management is about using information from activity based costing to provide managers with guidance on how to deal with company’s resources (Frost, 2005). For instance, activity based costing tells you what it should cost to provide a certain service, while ABM compares your calculated ABC costs with actual expenses incurred during a given time period. That way you know how well you are managing your resources and where improvement is needed.

Through ABM, a firm can reach its goals by using fewer resources at a lower cost (Kaplan & Cooper, 1998). There is an operational and a strategic ABM:

- **Operational ABM**: Demand is given. Meet it with as few resources as possible. It is about improving the efficiency of performing activities, increasing the capacity of resources and reducing the cost driver rates of activities (ex: reducing setup times and eliminating non-value added activities). The results are reduced costs, higher revenues due to a better resource utilisation and the expanded resource capacity will require more capital and labour.

- **Strategic ABM**: It is about changing demands for activities and reducing the cost driver quantity demanded by unprofitable activities (ex: reducing the costs of processing orders). Here, decisions about product design, development and supplier relationships are taken into consideration as well.

ABC and ABM are useful if the information is integrated into the entire company’s budgeting process (Kaplan & Cooper, 1998). Activity Based Management should be adapted so that it "fits" with other organizational initiatives such as total quality management and employee empowerment (Value Creation Group, Inc., 2005). When one understands the needs and the objectives of a company, the implementation approach is possible.

### 2.6 When does ABC work?

Different scholars have conducted research on ABC both in manufacturing and service companies worldwide. Their findings (both quantitative and qualitative) have been conducted in Finland, Norway, Australia, Portugal, the U.K. and U.S.A., which could indicate that ABC is facing similar problems and benefits regardless of country or industry.

There are some benefits that come along with the adoption of the ABC system. Firstly, costs appear more accurate, they are controlled, reduced, in some places up to 30%, without reducing value added (Major & Hopper, 2005; Soin, Seal & Cullen, 2002; Innes et al., 2000). Second, ABC seems to be good for pricing, investment and decision-making, and it meets external demands (Major & Hopper, 2005; Innes et al., 2000). Further benefits include the fact that uncertainty is decreased (Malmi, 1997; Björnenak, 1997) and that there is a new understanding of products, customers and competitors and their profitability (Soin et al, 2002; Innes et al., 2000). Finally, ABC opens up people’s eyes. The different departments of a firm are forced to collaborate and they see the other side of the same problem, through a different perspective (Soin et al, 2002).
However, problems with the ABC method are encountered as well. For example, what might be troublesome is that activity based costing presents different objectives and needs depending on who uses it, at what level and why (Major & Hopper, 2005; Soin et al., 2002; Malmi, 1997). Furthermore, personnel does not like to be monitored on what they do in detail, especially if they are unprofitable and used to hiding these costs, or assigning them to other units (Major & Hopper, 2005; Soin et al, 2002; Malmi, 1997; Innes et al., 2000). Also, employees can lose their job if they are shown to perform unnecessary tasks and activities that incur extra costs. Because of this they resist ABC (Jones & Dugdale, 2002; Major & Hopper, 2005; Soin et al, 2002).

Accountants are usually seen as most important through the implementation of ABC; in other words there can be a shift of power from lets say process oriented engineers to market oriented marketers, as well as change in the ordinary way of doing things, which gives rise to conflicts (Jones & Dugdale, 2002; Major & Hopper, 2005; Malmi, 1997; Innes et al., 2000). Finally, ABC is too complex (difficult to identify cost drivers and to distribute costs directly), too expensive, and it wastes employee’s time (Major & Hopper, 2005; Soin et al, 2002; Malmi, 1997; Innes et al., 2000).

The different scholars present certain aspects, which need to be taken into consideration in order for activity based costing to work in a company. For starters, there need to be clear objectives on what to do with ABC (Innes et al., 2000; Major & Hopper, 2005). Furthermore, a support from managers is needed (Malmi, 1997; Innes et al., 2000; Major & Hopper, 2005). Another important issue is the adequate training of everyone involved, as well as good communication and integration into company structure and culture (Malmi, 1997; Cagwin & Bouwman, 2002; Innes et al., 2000; Major & Hopper, 2005). In addition, adequate resources are required; thus the company needs to be large (Malmi, 1997; Baird et al., 2004; Innes et al., 2000). However, Hicks (1999) (cited in Cagwin & Bouwman, 2002) argues that ABC works equally well in small and in large firms.

Other aspects include the presence of diverse products and processes with many indirect costs and a large need of accurate costing (Baird et al., 2004; Cagwin & Bouwman, 2002; Drury, 2000; Kaplan & Cooper, 1998). However, a large diversity and customisation of products might on the other hand mean that it is costly and complex to develop ABC (Björnenak, 1997). Innovation, competitive spirit, action orientation, need of detailed planning and a sophisticated information technology all help the success of ABC (Baird et al., 2004; Cagwin & Bouwman, 2002; Drury, 2000; Kaplan & Cooper, 1998). The method needs to be used in cooperation with other methods, such as JIT, TQM (Cagwin & Bouwman, 2002; Innes et al., 2000). No excess capacity in the company is desirable and there should be few intra-company transactions (Cagwin & Bouwman, 2002).
3 Method

3.1 Choice of method

In the field of research, there are usually two research methods, qualitative and quantitative (Denzin & Lincoln, 1994). The quantitative method focuses on measures and analyses of causal relationships between variables. It is value-free and the researchers that apply quantitative methods use mathematical models, statistical tables and graphs (Denzin & Lincoln, 1994). The qualitative method on the other hand studies things in their natural settings, trying to understand a phenomenon in terms of the meaning that people bring to these settings. This method tries to secure an in-depth understanding of an issue. It has however no specific theory or paradigm, nor does it have a set of methods that are entirely its own (Denzin & Lincoln, 1994).

Our thesis is focusing on the qualitative method of investigation. The object of our study is a company called Elmia AB, an event and trade show organiser situated in Jönköping, Sweden.

The reason why we are studying only one company is because different scholars argue that (even though we have seen important quantitative findings as well) lately, ABC research needs to focus on qualitative interpretations because it is more in depth and although more tedious and slow, can contribute to the research by showing a broader picture and not just the costing method per se. Another reason is that we simply have not had the time or the resources to investigate more companies.

Studying only one organisation however can lead to general conclusions that will be more relevant, as well as applicable elsewhere when a wide variety of event organising companies are investigated in similar ways, and not only regarding one project and one sub segment of the firm, but other departments and activities as well. This is related to a criterion for judging qualitative research called transferability (Prinsloo, Vorster & Sibaya, 1996).

The purpose of transferability is to provide knowledge through research that can be applied to other situations and similar settings. The attention in the research is on understanding and solving practical problems. In this setting, the researcher is a sensitive observer who records phenomena as truthfully as possible by using the participant’s language and conducting a field research in a qualitative way to ensure internal validity (McMillan & Schumacher, 1993).

In addition to this, we are testing ABC in Sweden, but we have seen that the same problems and benefits occur no matter where in the world you are. For now we dare to argue that ABC is not country specific (until proven otherwise). Therefore, we can generalise in this way and instead focus on a specific branch. This does not mean that we can explain the entire service industry with this one company, or event and trade show organisers in particular, and that is not our intention, but we simply want to add to the ABC studies in service areas.

We are also well aware of the fact that those scholars that have studied ABC in depth in a firm have done it for a year or two (Major & Hopper, 2005; Soin, et al., 2002). We do not have that kind of possibility and have visited Elmia only two times overall. Therefore, as already mentioned, our findings will be of a more general nature. Nonetheless, we hope to contribute to the research anyway.

Furthermore, as we cannot investigate the whole of Elmia, and as the company has expressed interest in the investigation of a project such as organising trade shows, our ABC study must be narrowed down to one particular part within this Elmia project, namely the exhibition stands used in trade shows. Magnus Ringquist, the Business Controller of the
company (personal communication, 2006-10-05) says that one project can be a representative of Elmia as a whole, in miniature format, which we see as positive for our thesis. Also, it is stated that further research is in fact needed in smaller business units regarding activity based costing (Cagwin & Bouwman, 2002). By focusing on a small segment, we can grasp the ABC concept more easily, and also it will be easier to document our procedures in the thesis. This brings us to another criterion for judging qualitative research, namely confirmability (McMillan & Schumacher, 1993). Confirmability deals with objectivity and refers to the quality of the data created by the ways of collecting and analysing data and not by the researcher’s personal characteristics. We have documented our procedures so that the data can be checked throughout the study, taking into consideration both positive and negative aspects of the research.

3.2 Interviews

Two areas of qualitative method are called structured and unstructured interviews (Denzin & Lincoln, 1994). These two areas differ in several ways. Concerning a structured interview, the respondents are asked a set of pre-established questions. The researcher treats each respondent the same and there is little flexibility in the way questions are asked. The aim of this type of interview is to minimize errors in order to produce an ideal interview. In contrast, unstructured interviews are about understanding rather than explaining the establishment of a relationship between the researcher and the respondent (Denzin & Lincoln, 1994). In this case, there is no formality and the conversation can move in any direction.

Our investigation consists of interviews with three employees of Elmia AB, Magnus Ringqvist, the Business Controller, Ingemar Rygert, the General Manager of Operations and Jonny Svensson, the General Manager of Administrations. Initially, we had developed a set of questions for the company, basing them on our assumptions of how Elmia’s costing system might be structured in connection to theory (see Appendix 1). However, during the interview, we were not able to follow our structure as planned. One reason is that before meeting the company we had described what kind of things we were interested in investigating, and therefore the company representatives were prepared and they answered most of our questions as the interview/discussion went along, without us having to ask all of the questions on the list.

One can say that our investigation was a mixture of both structured and unstructured elements. We needed to adapt to the circumstance because we also realised along the way that the situation in the company was different than what we had initially predicted. This is connected to dependability (Denzin & Lincoln, 1994). Dependability is a basic component of trustworthiness. It refers to the stability of the findings over time and to the internal logic of the data in relation to what is found, and in relation to interpretations and recommendations. In addition, this reliability in qualitative research refers to the stability of the researcher’s interactive style, data recording, data analysis and the interpretations of what the participants think of the data (McMillan & Schumacher, 1993). Overall, the researcher is responsible for accounting for the changes that have occurred in the process of the research and how they have affected the study.

As we found our selves in a situation that required more assumptions and theoretical discussions rather than mathematical solutions, we had to revise our analysis approach. Even though we encountered a different circumstance than the one that we assumed from the start, we were able to recognise many various elements regarding ABC and its implementation that we read about in the literature. Because of this, we feel that we have managed to
obtain a reasonable picture of the state of the company and its costing system and that this will be helpful when drawing conclusions about event organisers in general.

The reason why we have chosen to conduct interviews is because we needed personal opinions and information on the state of the company and its costing systems from different business areas. This way of collecting data seems most appropriate here. As mentioned previously, we needed to consider time and resource constraints, so it would not have been possible for us to get involved in the operations at Elmia ourselves, collecting data for our research based on practical participation and real observations.

A possible weakness with the choice of interviews includes the reluctance to give out information and the occurrence of bias, as we only interviewed three persons in a company. However, they are the experts and know best about these things, so we need to trust them. Also, Elmia is interested in ABC and would like to see whether this way of costing can help them be more efficient, as their Business Control & Planning department was established on the 1st of September 2006. (M. Ringqvist, personal communication, 2006-10-05). This gives them the reason to be open and cooperative and helpful, without feeling that they need to hide information.

Guba’s and Lincoln’s (1985) criterion credibility is suitable in this case, since it involves coming to the conclusion that the results of the qualitative research are credible or believable. The participants are the only ones who can verify the credibility of the results, since the purpose of the research is to understand the interest from the participant’s eyes. The results that we come up with are based on the view of the company as a participant in the project. We put trust in the information that we have obtained from them, since it is a prerequisite for the continuation of the thesis. As the analysis of the results is based on the authors as participants, we are aware of the fact that we have many assumptions and that our opinions are subjective in nature. However, we are basing them on and connecting them to literature, which adds to the credibility side of it.

Another aspect to take into consideration with respect to credibility is that the actual implementing process in an organisation is out of the scope of our knowledge. This is a problem as we have seen that ABC cannot only be a theory, but must exist in practice. Also, as Cagwin and Bouwman (2002) argue, the evidence regarding ABC and its benefits has usually been restricted to theoretical models. Our findings cannot be completely relevant unless we actually not only theoretically implement activity based costing in Elmia, but also use it. Thus, we have seen that the method cannot be separated from its environment. Moreover, real results obtained from activity based costing might not visible or measurable for years to come (Cagwin & Bouwman, 2002). Still, we believe that by exploring the possibilities of applying ABC to this company, we will be able to draw general conclusions about the method in connection to event organisers, and perhaps the company might find that there is something useful in ABC that they could adopt later on. At least our results can be useful to them.

3.3 Literature review

Considering the theoretical framework, we have Kaplan and Cooper (1998) as the main starting point for the actual ABC method. We trust them as they are perhaps somewhat of the ‘founding’ fathers of the method, however we wish to compliment them with other views in the area, such as Johnson’s ABM for instance. In addition, there are Ax et al. (2003), Drury (2000), and Grönroos (2000) with his view of the characteristics of service firms. This way we hope to achieve a more objective view of the theory and see the whole picture through different perspectives.
Our main article source is the *Management Accounting Research* journal. This can appear as biased, but it is a very good journal that is specified in our area of research and it provides many different ABC articles with a wide variety of views, which is desirable for this type of work. Also, we have seen different scholars come up with similar findings and therefore we trust these articles. Same names appear repeatedly in many places and everyone sees Cooper and Kaplan as the ABC itself. For instance Jones and Dugdale say that if they study Kaplan, then they study activity based costing as well (2002).
4 Elmia AB

4.1 The company

Elmia was founded in 1961, starting off as a trade fair for agriculture and forestry (Elmia Homepage, 2006a). The company is situated in Jönköping, Sweden and its business consists of arrangements of events such as fairs/trade shows, theme shows, concerts and congresses, as well as renting out space.

Elmia is the third largest trade fair centre in Sweden (Elmia, 2006a). The leading one is the Fair of Stockholm, with 563 million SEK earned in 2005, followed by the Swedish Fair, with 647 million SEK in revenues for 2005 (Fairlink, 2006). According to the annual report, there are 72 employees in Elmia and its earnings in 2005 were around 212 million SEK (Affärsdata, 2006).

The company arranges around 15 trade fairs per year (Business Controller, personal communication 2006-11-22). Some of their biggest fairs are Elmia Wood, Elmia Subcontractor, the Truck Exhibition and the Scandinavian Caravan Show. The trade fairs usually attract 350,000 visitors each year (Elmia, 2006a).

The firm takes part in regular auditing, but this is not done for financial purposes, but rather regarding the number of visitors and similar statistics (Business Controller, personal communication, 2006-11-22).

The major shareholder of the company is Jönköping City Hall, as they own 82% of the company. Other shareholders are among others the Chamber of Commerce and Småland’s Football Association (Business Controller, personal communication 2006-11-22).

The vision of Elmia AB is to be the trade fair company of the future within the business-to-business sector, creating value added for the customers before, during and after each fair and exhibition (Business Controller, personal communication 2006-11-22).

There are six business units in the company (see figure 4-1 below). The Operations deals with constructions and the Administration deals with finance. The two business units support the rest of Elmia (Business Controller, personal communication 2006-10-05). The Meetings unit is for conferences and the Joint Venture takes care of Elmia’s collaboration with other organisations in terms of organising events. Trade Shows are not open for the public; they are B2B, while Theme Shows welcome consumers (Business Controller, personal communication 2006-11-22).

There are also four important corporate functions, namely Business Control & Planning (established in September 2006), Human Resources, Information and Secretary Service (Business Controller, personal communication, 2006-10-05).

Our thesis will, as already mentioned, deal with a project that is within the Trade Shows unit (although the exhibition stands are available for theme shows and joint-venture shows as well).
4.2 The project

It takes about 12-18 months to plan a project such as a trade show in Elmia and there are usually three people assigned to lead each project (Business Controller, personal communication, 2006-10-05). There are many activities in the planning stage and it depends on the actual project which activities will be most important. Roughly, it starts with the planning of the budget. After that, a project team is assigned. They need to attract exhibitors and visitors and get them to interact with each other by organizing for instance a conference for them to meet. One also comes in touch with the media/press in order to create awareness (Business Controller, personal communication, 2006-10-05). In addition, agents abroad are contacted when necessary. In the end, different projects are usually benchmarked against each other.

4.2.1 The budget

When deciding upon the budget, one looks at the schedule to see how many trade shows are set and approximates how much money can be used for these events (General Manager Operations, personal communication, 2006-11-22). Below in table 4-1 is the budget for a particular trade show. Every trade show has its own special budget (General Manager Administrations, personal communication 2006-11-22).

<table>
<thead>
<tr>
<th>REVENUES:</th>
<th>COSTS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhibitors</td>
<td>Marketing</td>
</tr>
</tbody>
</table>
Table 4-1. Budget for a trade show (General Manager Administrations, personal communication 2006-11-22).

<table>
<thead>
<tr>
<th>Entrances</th>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conferences</td>
<td>Travelling and Sales</td>
</tr>
<tr>
<td>Exhibitor service</td>
<td>External partners</td>
</tr>
<tr>
<td>Advertising and Catalogue services</td>
<td>Other external services</td>
</tr>
<tr>
<td>Restaurant and parking</td>
<td>Arrangement costs/other external manufacturing</td>
</tr>
<tr>
<td>Administration</td>
<td>Arrangement costs/program</td>
</tr>
<tr>
<td>Others</td>
<td>Conferences</td>
</tr>
<tr>
<td></td>
<td>Exhibitor service</td>
</tr>
<tr>
<td></td>
<td>Advertising and catalogue services</td>
</tr>
<tr>
<td></td>
<td>Restaurant and parking</td>
</tr>
<tr>
<td></td>
<td>Other fair/trade show costs</td>
</tr>
<tr>
<td></td>
<td>Temporary staff costs</td>
</tr>
</tbody>
</table>

Also, personnel costs (for the project team) and internal personnel costs such as Production, Exhibitor service, Conference, Text & Graphics, Trade fair info/host-hostess are included. Everything is summed up and there is hopefully a net profit.

Most of the costs from table 4-1 are treated as direct and fixed (General Manager Administrations, personal communication 2006-11-22). This is because a large part consists of the staff, thus, the direct cost (Business Controller, personal communication, 2006-10-05).

Overheads are usually separated from other costs. Those include rent for the facilities and electricity. Electricity per stand (such as lamps upon customer request) is a separate cost. It is incorporated into the Exhibition service part in table 4-1 and it is usually outsourced together with the plumbing and the carpeting of the stands.

The personnel are divided for different tasks, so there are no joint-cost problems there (General Manager Administrations, personal communication, 2006-11-22). Dividing joint costs does not really provide the company with any additional information.

Regarding the intra-company transactions, there are some internal costs, but these are not evaluated (General Manager Operations, personal communication, 2006-11-22). Elmia does not really evaluate the percentage of indirect costs based on total costs.

4.2.2 Exhibition stands

4.2.2.1 Stand design

For the trade show, Elmia offers their customers (the exhibitors) a special product and service package in connection to advertising space. These are exhibition stands made from either wood or aluminium (Elmia Homepage, 2006b).

The process begins when the customer books stand space/exhibition area in m² (General Manager Operations, personal communication, 2006-11-22). Elmia has a computerised sys-
tem that tells them when a customer has done a booking. Within two weeks, the company uses marketing communication to reach the customer. Once a meeting is set, depending on the customer, it can take place by phone, fax, or e-mail. Also, exhibitors can choose stands over the Internet. However, too few use this type of service. A reason is that it is difficult for the customers to describe over the net in details what they want. Elmia still needs to contact them for further information. However, in 2007, Elmia will introduce a 3D-modelling program. It will be like a big LEGO box that helps the customer better plan their stand (General Manager Operations, personal communication, 2006-11-22).

Elmia markets its stand solutions and checks with the customers about what kind of level they might want (General Manager Operations, personal communication, 2006-11-22). The company has one department for the simple stands and one for the specially designed ones. Elmia offers a selection of standard stand packages in different price categories (Elmia, 2006b). There are stands that are complete and ready to be used immediately, while other can be more or less adapted to the requirements of the exhibitors. Examples of both simple and complex stand solutions are provided in Appendix 2.

If the customer is interested in a designed solution, a designer works out a preliminary plan on a computer and then sends it to the customer for revision. The company used to have an old computer system where one had to combine different programs in order to make any kind of drawing. The process took days and it was very inefficient. Nowadays, sketches can be made in minutes (General Manager Operations, personal communication, 2006-11-22).

The customer gets two drawings to choose between. Two additional changes of the stand are possible, but if the customer wants further changes, it is going to cost. However, the cost price is not rearranged, it stays the same.

**4.2.2.2 Stand offerings**

As already mentioned, one can choose basic stands, or advanced set-ups and packages at a fixed price, everything based on the budget, goals and design preferences of the exhibitors, with the aim to attract the attention of visitors (Elmia Homepage, 2006b). The customers of Elmia tend to be relatively demanding and they change their preferences quite often and they might have wishes that are outside of the standard offering (General Manager Operations, personal communication, 2006-11-22). For example, one customer wanted an espresso machine at their stand, so Elmia took care of it, and this was then added as a new item on the price list. Probably the most extreme case that Elmia has had in terms of customer demand was when someone ordered sand to be spread all over their floor area. Perhaps an indirect cost in this case could be a disposal fee for the sand, once the trade show is over (Business Controller, personal communication, 2006-11-22).

Basically, the customer’s needs are crucial when it comes to exhibition stands (General Manager Operations, personal communication, 2006-11-22). Elmia gives advice to exhibitors on what kind of stands they might need (Elmia, 2006c). The stand has to fulfil the purpose of the exhibitor. If the customer’s main aim is to increase brand awareness, an open stand with free spaces and eye-catching displays is a good idea. Those who wish to attract smaller groups of visitors and have in-depth business discussions should have enclosed stands that have separate areas for such types of activities. The company also advises customers to plan ahead and order items for the stands months in advance, so that everything can be ready on time (Elmia, 2006c). That is a way to deal with uncertainty in terms of demand.

Elmia also guides customers on how to use colour, shape, furnishings and lighting in order to attract many visitors (Elmia 2006c). The logos, graphics, and signs are offered in differ-
ent colours, materials, shapes and sizes. The Text & Graphics team can produce messages based on the exhibitor’s original drawings and ideas, or create new ones. Stand walls are also available in different colours. If the customer cannot find a colour that they like, they can state which one they might prefer instead, and Elmia takes care of it (Elmia, 2006c). The same thing goes for the carpets.

If something turns out wrong with any part of the stand solution, the customer tells the company about it, or the company finds out one way or the other (General Manager Operations, personal communication, 2006-11-22).

Elmia offers cleaning services for the stands every evening after the trade show closes so that everything is nice and ready for the next day. Cleaning is done at the hourly rate (Elmia, 2006c). In addition, there are Fair Information desks that also offer printing and copying services. Also, exhibitors can hire professional photographers to take photos of their stand, as well hire hosts and hostesses for the stands, who provide interpretation services, demonstrate products and register visitors. They are also hired on an hourly rate. Furthermore, since Elmia’s employees are on site, they can provide immediate assistance to the exhibitors that need help with the exhibition area (Elmia Homepage, 2006b). There are also evening activities at the stands when the trade show closes, and catering services as well.

4.2.2.3 Pricing of stands

As mentioned previously, the stands are made either from aluminium or wood. Aluminium is cheap and has a very long life time (General Manager Operations, personal communication, 2006-11-22). However, in order to construct a 1 m wall, there are five different items that need to be put together. When it comes to the wood, the wall boards are simply connected. It is easier to put them together. The walls that divide two stand areas are included in the floor price that the exhibitor pays (General Manager Operations, personal communication, 2006-11-22).

There is a cost pricing system for the walls and for the furniture that are provided within the stand solution. To take the example of a chair: one takes the purchasing price of the materials for a chair, then calculates the economic life time of the chair (the number of rentals/year) as well as the handling time in minutes, and gets the cost price. If the chair costs 15 000 SEK, it is rented 15 times a year, and there is a 10 minutes handling time, the cost price is:

\[
\frac{15000}{15 \times 10} = 100 \text{ SEK/min}
\]

And if a chair needs 10 min setting up, it will cost 1000 SEK for the entire exhibition period. However, after the chair had been used 15 times, the company will break even. Since the costs for the construction of stands consist of Elmia’s own materials, as well as the materials bought from suppliers, the company adds a percentage mark-up, which in turn forms the actual cost price offered to customers (Business Controller, personal communication, 2006-11-22).

Another example is as follows: if one wall board costs 80 SEK, it is used 25 times a year and it takes 5 min to set up, then its cost price is:

\[
\frac{80}{25 \times 5} = 0.64 \text{ SEK/min}
\]
As the set-up time is 5 minutes, the cost per wall is 3.2 SEK. However, after the mark-up, this wall is priced at 25 SEK/unit (General Manager Operations, personal communication, 2006-11-22).

Nowadays, it is usual to offer 30% discount for a total stand solution, because previously, the customer was always arguing that Elmia was expensive. It was difficult for the exhibitor to understand how for instance the handling time of a chair can be seen as a cost (General Manager Operations, personal communication, 2006-11-22).

Continuing with the chair example, each chair is loaded on a small wagon and carried to the different stands where it is set up. The actual transportation time with the wagon is not included in the costs, only the set-up time. If one chair takes 10 min to put together, then it is assumed that 4 chairs will take 40 min, which is a false assumption (General Manager Operations, personal communication, 2006-11-22). It is also difficult to measure how many times a chair has been used during a trade show. The indirect and support costs are even harder to estimate and all those activities are not being measured at the moment. The only thing considered so far is just labour time of moving the margin products, which are own products, outsourced ones and others. In these circumstances, the company must also consider the design of the chair. The actual object has a life time of 10 years, in terms of functionality and quality, but what about fashion? Will it still be in style all these years (Business Controller, personal communication, 2006-11-22)? Depreciation of furniture is not included in the determination of the selling price. It is handled separately as general overheads (General Manager Operations, personal communication, 2006-11-22).

4.2.3 Managing costs in Elmia AB

Every square metre that Elmia does not manage to sell to the exhibitors is a loss (General Manager Administrations, personal communication 2006-11-22). Due to this uncertainty, costs for a particular show cannot be figured out in advance. Also, since every stand has to be made according to the wishes of the different customers, it is difficult to determine costs of the firm’s own products. This is the reason why Elmia does not use ABC. The firm puts a lot of resources into a particular project, without really knowing how the project will turn out (General Manager Administrations, personal communication 2006-11-22). On one end of the spectrum, there are luxury stands, and hopefully this is where the money is, but it is hard to measure, while on the other hand there are simple, cheaper stands (Business Controller, personal communication, 2006-11-22). Around 80% of the total number of stands sold are somewhat standardised packages, while 20% are designed, custom-made. The net profit can approximately be somewhere around 5%. The cheaper stands give high margins, but when it comes to the tailor-made ones, it is difficult to know how profitable they are.

Elmia works a lot with approximations, taking the safe road when it comes to costs. The main goal is always to maximise the contribution margin (Business Controller, personal communication, 2006-11-22). There is constantly a trade-off between accuracy and uncertainty. If Elmia tries to get to the 100% accuracy, there will be no added value in the long run (see figure 4-2), since meanwhile, their competitors that are maybe 70-80% accurate might take all the profits. Due to the fact that there is a lot of uncertainty on the market, as well as a need to respond quickly, the company has to base its decisions on rough estimates and experience. Also, sometimes things happen that are out of company control and that affect operations, such as temperature and weather changes.
A problem for the company is that all of the money must be made in just a few days while the trade show lasts (Business Controller, personal communication, 2006-11-22). There is a lot of ‘in-between trade shows’ time when the products are stored and there is very little time left for improvements. Among the objects used in the stands, there are some custom made ones, such as a semi-circled counter/desk that was used in one Subcontractor trade fair, and is later thrown away, while other objects can be reused several more times in other shows (Business Controller, personal communication, 2006-11-22). However, they do not bring additional value while being stored.

It is alright if the costs increase, but revenues must increase as well (Business Controller, personal communication, 2006-11-22). For long-term planning, the company wants to obtain a good margin, so that the profits can be used for unexpected occasions, because unexpected products affect planning, as well as the usage of the resources and the budget.

Some years ago, Elmia did not have a costing system, and the company looked at other trade shows and competitors when trying to decide on how to charge the price (General Manager Operations, personal communication, 2006-11-22). The cost price/unit is not perfect, but it is a better system than before. Nowadays, the price structure of the stands depends on the percentages, the market and on how much money competitors are charging. The cost price is the most important one, and actually the only one used at the moment (General Manager Administrations, personal communication, 2006-11-22).

The competition in the industry is intense, especially in terms of price, which can be an advantage due to the cost pricing, but a disadvantage regarding the fact that one does not know anything about the competitors’ way of working (General Manager Operations, personal communication, 2006-11-22). The competitors could have low prices. One reason could be that they offer big stand packages. Also, customers sometimes bring their own things to the stands, and do not need all of Elmia’s offerings. Because of this, the company strives to be different than others in order to appeal to the customers.

A problem that Elmia is facing is that the extraordinary stand solutions are not being fully measured in terms of costs (General Manager Operations, personal communication, 2006-11-22). Simply to obtain information on how much it costs to produce anything takes days, and it stops production. On certain occasions, Elmia gets feedback from production workers on these things, but it is on a very small scale. In fact, there is only one deadline for
Elmia, and that is the trade show, so the customer must have everything ready on time. This is the main priority.

Elmia would like ABC to help it see whether it is selling the right products and what particular products it should focus more on (Business Controller, personal communication, 2006-11-22). The company wants ABC to help them do a better job (General Manager Operations, personal communication, 2006-11-22).
5 Analysis

5.1 Traditional costing system

Before we begin, we need to briefly discuss the costing system that already exists in Elmia. It does have some resemblance to a traditional system. Considering the time it takes to set up a chair for instance, it is calculated in labour hours, which is a typical ‘cost driver’ for the traditional system, as claimed by Drury (2000). However, as we can see, the system proves inadequate, since if one chair needs 10 min set-up time, four chairs do not need 40 min as is assumed. Furthermore, as most costs are treated as direct, the indirect costs are at this stage not investigated enough; they go through labour. By trying to apply the ABC system instead, indirect costs will also be taken into consideration.

5.2 ABC step by step

We will now try to apply ABC to Elmia by using a general example of an exhibition stand offering. We are going to focus on activities that are connected to the actual exhibition stand offerings, and not on all the activities in a trade show. There will be an example of a designed stand and a standard ready made solution for comparison sake.

5.2.1 Step one – identify activities

Elmia does not use Total Quality Management, but they have their own internal version called Mässprocessen (The Fair Process), which is a documented process for trade/theme shows that helps evaluate the overall project, such as the exhibition stand package offering (Business Controller, personal communication, 2006-11-22). This process should be seen as an ongoing circle, and can be a helpful ‘map’ when it comes to constructing ABC in Elmia. In fact, one could argue that they already are using ABC in the sense that the Mässprocessen serves as an identifier of activities.

The following activities can be considered major activities if we take into consideration the designed/personal exhibition stand offering:

1. Contact the customer
2. Market the stand solution to the customer
3. Analyse the aim and the focus of the customer together with the customer (also where price is discussed)
4. Make drawings on the computer
5. Send a quotation with specifications and a price estimate
6. Receive requests for change
7. Make adjustments
8. Send new sketches
9. Order is confirmed and processed
10. The stand is built
- purchase materials
- set-up machines (to cut wood, to paint walls….)

11. Furniture and equipment are in place
- purchase furniture, flowers, shelves, lamps….
- transport to the stand (both purchased and own equipment)
- test everything

12. IT products
- transport
- test everything

13. Text and Graphics
- consulting with the customer

14. Guidance services

15. Cleaning service

16. Stand is dismantled

17. Everything to be reused is put back in stock

18. Other material is disposed of

19. An invoice is sent to the customer

20. Customer is contacted again/New customers are contacted

We think that these activities are the most important ones because they can help identify the differences between the standard and the designed stands. Also, we want to show that some of these activities, such as guidance or cleaning services are optional, depending on the customer.

Catering and evening after-show services are not included, since they involve a whole set of activities and it would be tedious to include them here.

We wanted to keep inside the 10-30 activities per project range, as Kaplan and Cooper (1998) suggest. One could go more in detail and further divide some steps, such as processing orders in connection to buying the furniture, etc., but we want to keep it as simple as possible.

Sometimes it is difficult to identify indirect and direct activities. A couple of these activities might seem as being directly involved in the making of the exhibition stand, but we like to think of the project as follows: Firstly, the exhibition stand is per se a product that the exhibitor rents. Therefore the activities regarding the actual construction are direct. Everything else is indirect. Secondly, the core service that Elmia offers is exhibition space. Customers can come, rent the space and bring their own things without using any of the additional services that Elmia offers. In other words, they do not need to purchase an exhibition stand, but if they do, it will be a supporting service around the core offering.
If we consider a standard solution instead, then there are fewer activities, and this is due to the fact that the first couple of activities can be minimised, as the customer simply decides upon an exhibition stand package that already has a standard look that almost cannot be altered:

1. Contact the customer
2. Market the stand solution to the customer
3. Order is received
4. Order is confirmed
5. The stand is built…….

The rest of the activities are following the same pattern, but if we think of the process of purchasing, transporting and testing equipment and furniture for a standard offering, then there are fewer sub-activities in this case, since the standard solutions are less complicated. In other words, they are given as a ready package where it is easy to conduct all the procedures. Also, the Text & Graphics team does not have to consult the customer that wants a standard solution, as the company logo and name can only be offered in one style here. Moreover, the dismantling is easier to do and the disposal activity is perhaps unnecessary, because there is no extravagant, demanding equipment to get rid of.

As was already said, the activities will differ depending on the complexity of the stand offering, but it will also depend on what the customer wants. Simply by looking at the initial customer contacts, the nature of the activity is controlled by exhibitors, whether they are new to the firm, or even international, and thus cannot take part in a personal meeting, but must talk on the phone or over e-mail instead.

When mapping out activities for each customer, the company will know, also from previous experience which activities that the exhibitors appreciate, and which they do not. However, this can be done if the known customer does not change preferences all the time. In addition, sometimes customers do not know which activities they want (Grönroos, 2000), and this is why Elmia during the initial stage provides guidance on colours and design, depending on the goal that the exhibitor might want to achieve, so that future activities can be better planned for. Overall, it is obviously easier to plan activities when a customer requires standard solutions.

The activities and resources that were mapped out in the first ABC step need to be independent of each other (Kaplan & Cooper, 1998; Bromwich & Hong, 1999). However, that is difficult, since the exhibitors must work closely with the designers, who need to work closely with the constructors and the supporting staff, and so on. Because of this, activity based costing might be hard to apply to this setting.

### 5.2.1.1 Activity hierarchies

If we consider the hierarchy of these activities, then we can divide them as follows: Considering the manufacturing section hierarchies presented by Kaplan and Cooper (1998), setting up a carpet would be a unit level activity, since all the carpet tiles are cut in the same sizes and they are just placed on the floor in the same way.

Batch level activities are about setting up machines to help in the wall construction, as well as purchasing materials that the company does not already have.

Product sustaining activities are maintaining and updating specifications for the stand solu-
tions, testing the tools, furniture and other equipment and giving technical support to the exhibitors that want to use IT products in their stands. Customer sustaining activities would then be support from hosts and hostesses and other advice and assistance from Elmia’s employees. We will not get into any further hierarchy levels, since we are not investigating the entire company, but only the exhibition stand project.

If we instead take a look at the service hierarchy perspective by Ax et al. (2003), we can say that on the unit level, the processing of orders or controlling the quality level in the construction of stands are some examples.

When it comes to the assignment level, contacting the customer, marketing communication aimed at the customer, or the process of designing stand solutions on the computer, as well as planning the stand solution belong to this category.

Training of staff is the main activity for the support level, and others are similar to the ones already mentioned in the customer sustaining activities from the manufacturing section.

Also, business level activities will not be explored here, as they concern the entire company.

### 5.2.2 Step two – find the cost of each activity

As the main activities have been investigated, the next step concerns finding the cost of each activity. Since we are not able to present the actual costs of each resource used per activity, we will instead provide suggestions on the types of resources that Elmia might want to focus on in order to determine the costs for their activities. We present the activities again and add resources to each one. Firstly, the complex solution:

1. **Contact the customer** (employee, computer, phone)
2. **Market the stand solution to the customer** (employee, marketing communications either through dialogue, or ready text online, or through catalogues)
3. **Analyse the aim and the focus of the customer together with the customer** (employee, customer, phone, computer, catalogues)
4. **Make drawings on the computer** (employee, computer)
5. **Send a quotation with specifications and a price estimate** (employee, fax, e-mail)
6. **Receive requests for change** (employee, fax, e-mail)
7. **Make adjustments** (employee, computer)
8. **Send new sketches** (e-mail, fax, employee)
9. **Order is confirmed and processed** (employee, fax, e-mail, paper)
10. **The stand is built**
    - **purchase materials** (employee, fax, phone)
    - **set-up machines (to cut wood, to paint walls….)** (maintenance)
11. **Furniture and equipment are in place**
    - **purchase furniture, plants, shelves, lamps….(employee, fax, phone)**
    - **transport to the stand (both purchased and own equipment)** (employees, wagon)
- test everything (quality insurance)

12. IT products
- transport (employee, wagon)
- test everything (quality insurance)

13. Text and Graphics
- consulting with the customer (employee, customer, computer)

14. Guidance services (employee, computer)

15. Cleaning service (employee, cleaning equipment)

16. Stand is dismantled (employees)

17. Everything to be reused is put back in stock (employees, storage costs)

18. Other material is disposed of (example: fee for disposal of sand (from extreme case))

19. An invoice is sent to the customer (fax, e-mail, employee, computer)

20. Customer is contacted again/New customers are contacted (employee, computer, phone)

What we can see in the list is that employees are a standard resource that is present almost all activities. There is a lot of labour being used, as was indicated in the budget in table 4-1, but perhaps they should not be considered direct here, but rather indirect as they are indirectly involved in the project. This way, not everything is traced through direct labour, as in traditional systems, thus enabling ABC to be applied after all. There is also a lot of IT and telecommunication time spent in these activities.

When it comes to the standard solution, since there are fewer activities, there are also less resources being used in the initial stages of customer – employee contact:

1. Contact the customer (employee, computer, phone)

2. Market the stand solution to the customer (employee, marketing communications either through dialogue, or ready text online, or by catalogue)

3. Order is received (employee, fax, e-mail)

4. Order is confirmed (employee, fax, e-mail, paper)

For the standard solution, there could be fewer resources required when purchasing, transporting and testing furniture since the process is less complicated, as mentioned with respect to activities required. Also, if fewer machines are used, then there are also fewer maintenance costs. When it comes to dismantling the stand, there is less work to be done, and the disposal costs less, since there are no extreme cases there and hence, there is less waste.

By comparing the usage of the resources for the two types of stand offerings, we can see that there are certain areas where costs are larger or could grow. One main area is the customer contacts and the consulting activities when putting together a package. We could just take a look at the time and the steps that it takes to make a deal with the customer on the design of the complex stand solution. Here, one spends much more resources and time on
the phone with customers, than one does when somebody orders the standard solution. It is this part that needs to be looked upon in more detail by the company. This is one of the areas that make the designed solutions so expensive. Also, there is the area concerning the construction of the stands. The simpler the construction, the less resources will be used, thus less machine maintenance time, less transports and transactions. Finally, the dismantling activity is also worth studying and how resource usage is demanded more for the complex offerings.

5.2.2.1 Fixed and variable costs

Elmia claims that they have no problem with joint costs, and that separating them will not give out any additional information. They say that the personnel is divided according to tasks, but one can argue what to do about people that have several assignments to perform. This can be the case when the same person both transports a chair and sets it up. Then he/she is both directly and indirectly involved in the process. This type of joint costs might be worth to study. As Elmia is a small firm, then there must be several cases where sharing of resources is inevitable. This is in line with Homburg (2001) who says that costs cannot be divided.

What is also interesting is that Elmia has managed to keep electricity separate based on how much is going to be used in each stand (example of lamps). However, the joint electricity for the plant and the facilities cannot really be separated, that would be too complicated and would not give any additional information.

Most costs of Elmia are direct and fixed. Usually, according to theory (Kaplan & Cooper, 1998), most costs of service firms should be indirect. In this case, it could be so that there are much more indirect costs than the company is aware of, or perhaps the focus is mainly on the direct ones. A lot of these costs are connected to labour and labour is easier to hire on contract basis, regardless of the demand, thus they are fixed. Also, the exhibition stand construction is a project that takes place on a short-term basis, which is another reason why it is difficult to vary these resources.

Elmia’s variable costs are material costs, as each customer will demand a different amount of material for their stands. Also, energy costs, such as electricity vary from customer to customer; some want many lamps, or computers, others do not. And, as table 4-1 indicates, there are temporary workers and they are the ones that are indirectly involved in the project.

In order to supply enough variable resources, it is important to know from the start what the customer wishes for. One needs to make sure that what is supplied is also used.

There needs to be more recognition of what is variable, because this can be controlled for if the organisation is aware on time exactly what the customer expects.

5.2.2.2 Unused capacity

What is important to note from the list of resources is that the customer is an important resource in the consulting stages, especially for the designed solutions. This indicates that they are crucial to the applicability of ABC, because they control activities, as well as costs. Elmia has realised that constantly demanding customers are creating problems of unused capacity, because they cause delays in production and therefore the company charges any additional changes that come too late when the production is already under way, which is in line with what Kaplan and Cooper (1998) suggest.

It is really hard for Elmia to know what customers want because each one is different. They cannot figure out costs in advance. Due to this, activity based costing is very hard to
apply. But it could be possible if the company learns more about their customers and creates relationships. This way, resources will not be wasted.

Employees from the Guidance services, IT services, and Cleaning services will end up not using their capacity fully if it happens that the exhibitors decline their offerings. As they are hired on a short term basis, there is not much to be done here, since there are other customers and the trade show lasts for a while, so one never knows what kind of emergencies that might come up that would require these resources to be used after all. Elmia could increase the demand by for instance convincing customers that these resources are valuable and should be used.

We would also like to mention the direct resources from the actual exhibition stand. Between shows, the furniture, the carpets and the walls are standing in the inventory, useless. On the other hand, this is the way it is, and many materials are reused over and over again. To see whether certain furniture is unprofitable, one could study the need for a specific type of chair and monitor how popular it is based on number of orders, so that there are no unnecessary chairs being made, ordered, or bought if no one will want them again. Still, this is very difficult because it all depends on the customer, but it might help ease the planning activities in the future, in terms of purchasing orders and such. So, even the capacity of the direct resources impacts on the usage of the indirect.

When it comes to furniture that is not as popular, Elmia could make it more desirable, by offering it at a lower price under a certain period, or on a special occasion, or maybe outsource it to some firms between the shows, or competitors that might have the need for it, and trade to get other furniture that can become trendy in a new setting.

More unused capacity in terms of human resources is the time spent on coffee breaks, gossip and such. However, as stated by Schlesinger and Heskett (1991), this can in fact be crucial in the service setting since it enables the creation of relationships. This is what event and trade show businesses are all about. During these relaxed types of encounters, value can be created between the company and the exhibitors, all for the benefit of future business.

5.2.3 Step three – find cost drivers

Here we present Kaplan and Cooper’s (1998) types of cost drivers that we feel might be relevant and suitable for each activity in question. Starting with the designed solution:

1. Contact the customer: a transaction driver might be appropriate here, because the same quantity of resources is needed every time in the sense that it takes only one employee to make the call, on the other hand there can be variations in resources if one chooses an e-mail instead of a phone call. One needs to standardise this and divide it according to new customer contact in contrast to an already known customer, as well as the international one. So the drivers could be: number of customers contacted/number of contacts issued, or number of phone calls/e-mail messages made.

2. Market the stand solution to the customer: here, one can speak of both transaction drivers and process drivers. Firstly, there are different ways to market the stand solutions. One can assess costs according to the number of phone calls/e-mails. However, the skills of employees are also relevant, because the process of marketing is crucial in attracting the customer in the first place. It is all about finding a suitable approach. Maybe the process driver is more useful since the way to market over the
phone and e-mail is different and requires a different way of resource usage.
One can also market over the Internet. In that case, what drives the cost of making
the marketing material available in the first place should be the marketing skills of
employees as well as the number of hours spent on making the marketing material.
Then, we need to consider duration drivers as well. Marketing behaviour also dif-
fers depending on the customer and the fact whether the customer is new or al-
ready familiar with the company. But the marketing team of the company will be
responsible for all the marketing together. In this sense, human resources are
shared for the different projects. Perhaps this might cause another joint cost prob-
lem, as previously discussed.

3. **Analyse the aim and the focus of the customer together with the customer:** depending on how
you do it, again skills of employees are crucial here, because they need to know how
to give customised advice on what kind of solution that would fit with the goal of a
certain business that wishes to exhibit. If this part works out well, then it is easier to
plan the rest of the activities. For instance, the analysis affects the number of phone
calls/meetings required to close a deal and the amount of hours it takes to close a
deal.

4. **Make drawings on the computer:** this is definitely connected to a process driver and a
duration driver. Not only is the skill of the designer required to really understand
what the exhibitor has in mind, but it is also important to look at how much time it
takes to create a stand solution.

5. **Send a quotation with specifications and a price estimate:** this is simple; it is the number of
quotations made/sent, hence a transaction driver.

6. **Receive requests for change:** the same situation here - number of requests received

7. **Make adjustments:** again it is a combination of the skills of employees, the number of
adjustments and the hours taken to make adjustments.

8. **Send new sketches:** number of new sketches sent, a transaction driver

9. **Order is confirmed and processed:** number of orders confirmed/processed

10. The stand is built

- **purchase materials:** what drives costs here is the quality of materials (process), and also
the number of orders or purchases. Moreover, one could consider intensity drivers
as well, because they could cover extreme cases that happen on rare occasion and
require special resources, such as the sand example.

- **set-up machines:** set-up hours (duration driver)

11. Furniture and equipment are in place

- **purchase furniture, plants, shelves, lamps:** here as well the quality of the objects drives
costs and perhaps also intensity drivers like previously mentioned.

- **transport to the stand:** a duration driver is appropriate, such as the time taken to trans-
port, perhaps also the number of transports needed.

- **test everything:** here one can choose either the number of tests required, or hours
taken to test the equipment.
12. IT products

- transport: same as above, the number of transports, and the time taken
- test everything: number of tests required, or hours taken

13. Text and Graphics

- consulting with the customer: skills of employees are important here (process), as well as the hours required

14. Guidance services: skills of employees here as well, and also the hosts/hostesses are hired by the hour.

15. Cleaning service: paid by the hour.

16. Stand is dismantled: hours it takes to dismantle, and also intensity, for extreme cases, such as disposal of the sand.

17. Everything to be reused is put back in stock: hours taken, also number of transports

18. Other material is disposed of: hours, otherwise intensity drivers for the extreme cases, such as sand disposal.

19. An invoice is sent to the customer: transaction driver - number of invoices sent

20. Customer is contacted again/New customers are contacted: number of customers contacted

For the simple stand construction, what is of interest is the activity Market the stand solution. If the exhibitor has decided upon a simple stand package seen from a catalogue or online, then they simply order it, thus number of orders is relevant. They might phone the company for further questions, but the marketing skills of employees could not be as important as in the case with the designed solutions, where there is much more uncertainty on what it might look like in the end. What is relevant on the other hand is the time spent developing the marketing material, just like for the complex solution.

Considering the rest of the activities, the drivers should not differ much between the two stand offerings, but for the simple solutions there should not be any intensity drivers, because they concern particular equipment for special cases.

When it comes to evaluating drivers such as skills of employees or quality, regardless of the complexity of the exhibition stand, it would be rather hard to measure these things.

Once again, one will know better what drives costs when one looks at what kind of contacts customers require. Then one will also answer Drury’s (2000) questions to what activities are necessary and which are not.

As Drury (2000) claims, it is important to set clear drivers, and in Elmia’s case, there are single drivers for several activities, but some of the activities have a combination of drivers, because it is not very clear as to what exactly does drive costs the most. According to Homburg (2001), it is good to have a combination, and the drivers presented here are simple suggestions. When deciding on how many or which ones to have, it will be a trade off between accuracy and complexity.
5.2.4 Step four – assign costs to products/services

The last step will not be performed in a mathematical way, but rather we will discuss how to present expenses in the company.

It is apparent from the identification of activities and resource usage that working tasks somewhat differ between the complex and the standard solutions. If we focus on the standard group, it might be easier to depict common activities throughout several standard stand offerings, especially by using the activity hierarchies, and thus sum up all the costs for each particular activity in order to obtain the cost driver rate. However, for the complex solution there could be a problem of having common activities since these exhibition stands are tailor made. Also, one could consider (both in the departments for standard and the complex solutions) making a group of activities that can be common among exhibition stand offerings for new customers, for existing ones, for unpredictable ones, and for international ones. However, cleaning services and guidance services are perhaps difficult to estimate even among the known customers, because they might suddenly need or turn down those at some point in time.

If you try to apply ABC through one single example of one stand, then it would be enough to stop after step two, because you would have indirect costs for that particular project already depicted. However, studying cost drivers would still be of importance, as they give a clearer picture of which procedures that are important and which are not. Also, having separate cost calculations for each individual exhibition stand that is hired could be too complex, too time consuming and too costly.

As previously mentioned, it is difficult for Elmia to figure out costs in advance because of the uncertainty of not knowing how many customers they will have and the fact that each has their own preferences. These unexpected happenings affect the budget. On the other hand, budgets are approximated in advance at Elmia, and therefore the firm could set a future budget that is more accurate, as argued by Kaplan and Cooper (1998), in order to get a better cost-driver rate than if they wait and set costs after everything has been done already. This, of course is possible given that they learn more about customers.

5.2.5 Summary of the steps
If we summarise the four steps of ABC, figure 5-1 shows a simplified model concerning both standard and complex solutions, with respect to those activities where the procedures actually differ among the two types of stand offerings. Also, direct costs are mentioned here, such as cost of materials, construction of walls, furniture, fittings, handling/set-up time for all the equipment and electricity in terms of lamps, as they are used according to demand. What should be mentioned is that direct costs are probably more complicated when it comes to aluminium construction as compared to wood, as we have seen in for instance the setting up of walls.

What is added to the ABC model is knowing and educating customers, in other words trying to anticipate demand, which drives the choice of activities and the usage of resources, as well as the drift of costs. The company needs to understand what the exhibitors expect, and also give advice so that they can better decide what kind of stands that they might want. The latter is done to a certain extent already through consultations regarding design and colours. The modification is particularly useful when it comes to new customers, because the preferences of the existing ones can be depicted after the activities from previous projects have been identified.

### 5.3 Pricing decisions

Elmia sets its pricing decision according to percentages, markets and competitors. This is in line with Drury (2000). They also use cost-plus pricing as mentioned earlier, adding a mark-up. If we consider the example of the price for one wall (see section 4.2.2.3), in connection to the cost of it, the mark-up is rather high, and this indicates that it is there to cover all those indirect and extra costs that are not taken into consideration.

The system is convenient for short term, but if too many indirect costs are missed, then there are arbitrary results. Customers did complain that the company was expensive before, so one might consider using cost-plus pricing in connection to ABC, at least where it is
possible to estimate demand and costs. On the other hand, Elmia needs to have reasonable mark-ups if it is to earn a profit at all, in such a short time.

Another important issue is suppliers. As customer relationships are important for the applicability of ABC, so are the suppliers. If the company collaborates closely with the suppliers, then they could come to agreements on better purchasing prices, which will affect the cost management of Elmia.

Depreciation and property taxes are considered as general overheads and are not included in the decisions regarding the selling price. Perhaps they should remain as overheads, it depends if they become important in the future. Considering the depreciation in terms of fashionability of furniture, that needs further investigation, but is very hard to conduct.

### 5.4 Activity based management

Activity based management deals with using the information from ABC in order to make better decisions (Frost, 2005). This cannot be investigated by us here, since Elmia would first have to take on ABC for real, obtain information from it and then use it for decisions. But what we can depict from the theoretical activity based costing so far, is that there is a distinct difference in the simple and complex exhibition stands, in the areas of initial customer-employee contacts, the construction and its side activities and the dismantling activities. The complex stand requires much more resources there, which proves what the company has been anticipating, namely that the design solutions could bring more money, but they also cost more.

If we combine Kaplan and Cooper’s (1998) operational and strategic ABM, then we could say that operationally, the efficiency will be improved by introducing technology, such as 3D-modelling, where the customers can design their own solutions. This will minimise the costs associated with the initial activities for the complex stands, because exhibitors will have a better opportunity of explaining what they want, and it will be easier for the firm to create the offerings. Perhaps relationship building would be minimised through loss of human contact. On the other hand, this technology is useful for foreign customers, since they cannot personally meet with the company.

Through technology, employee time will be reduced or even reallocated and this could even change the nature of cost drivers, as the customer becomes more involved in the process and can carry certain costs.

Where demand is not given, one needs to be strategic and educate the customers, try to get them to adopt a certain style so that it is easier to plan activities in advance, and there will be less adjustments and fluctuations in the schedule, and etcetera. It is vital to educate especially those who do not know what they want.

ABM should be able to fit Mässprocessen since this system already is a good starting point for developing ABC and thus ABM. Furthermore, as Kaplan and Cooper (1998) claim, the company must have clear objectives with the ABC, and we have seen that Elmia wants it to help them do a better job in terms of selling the right products.

### 5.5 When does ABC work?

Even though our theoretical activity based costing plan is not detailed and does not include calculations, we believe that it does sort things out a bit, it brings more certainty and it will definitely help when it comes to understanding the customers. It gives a somewhat clearer picture, as was concluded in other research as well (Malmi 1997; Björnenåk, 1997; Soin et al., 2002; Innes et al., 2000).
From our ABC model, we can see that employees are a large part of it, and if the costing method is applied for real, problems could occur if the staff starts feeling that they are being monitored, and this could lead to resistance, as many scholars have pointed out. However, the fear of losing their job may not be a problem in this case, since workers are very important for most activities, and this is suitable in a service setting. Activity based costing could be too complex to apply, since we have seen that mapping of costs usually stops production in the company, and also one might end up losing business if the focus stays too much on cost management. The environment is dynamic, and theory might not be.

According to different scholars, there need to be clear objectives on what to do with activity based costing, and the interviewees have agreed upon what they would like to get from this method, so that might not constitute any problems given that, if really applied and used, it provides answers to the right questions. A good communication and integration into company structure and culture (as claimed important by Malmi 1997; et al.) should not be an obstacle either, since it is such a small company and everyone seems to be collaborating in a good way, having information on what all units are doing. However, as Elmia is a small company, there might not be enough resources to take care of such a complex project as ABC. With a small number of employees, there would be pressure on everyone to perform and conduct all the necessary work in addition to their regular work. On the other hand, as it is a small setting, perhaps an ABC method can be simple to apply here, especially on the standard stand offerings, as they are easier to map out, and also, they constitute a larger percentage of sales than do the complex exhibition stands. In contrast, the complex solutions could need ABC more, as they are causing lots of indirect cost to be lost in the calculations.

5.6 Discussion

We wanted to see if activity based costing could be applied in an event organising company, and we chose Elmia AB as an example. The results that we have come up with in the analysis are company specific, and because of this, it affects our results. On one hand, Elmia as a typical event organiser could be a general representation of this type of firms and then we can argue that activity based costing is both applicable and not applicable in this setting. Firstly, we have seen a tendency of this method already through Mässproces- sen, and identification of major activities should be reasonable to conduct for event organ- isers, if one focuses on small business units, or projects, such as we have done, because this facilitates the mapping of work tasks. We have not considered all the activities that take place for a whole trade show, especially the ones that include pure services that are not tied to any tangible products. One can imagine a large trade show organiser and how many assignments and processes that occur there, and while we claim that step one works well here, it might not do so as easily for another, more complex event organising firm. Studying resources in order to calculate costs for each activity is rather difficult to conduct in an event organising firm, since it is tedious even in a small organisation such as Elmia. This has to do with the fact that one needs to supply resources in advance, but cannot do that if demand is hard to estimate, as is the case in this type of setting. Exhibitors change preferences, and this is sometimes out of the control for the firm, because it could depend on outside forces, trends and environments. This is also why it is difficult to divide and define variable and fixed costs, and fix the problems of unused capacity, especially for de- signed exhibition stands. What gives possibilities here despite everything is finding a way to learn more about exhibitors, their expectations and categorising them accordingly so that
one can try to apply activity based costing after all. Identifying cost drivers proves to be very important for an event organiser, at least in the example that we investigated. This is because they will definitely help in the identification of what brings value to the customers. On the other hand, measuring attributes such as skills and quality as a determinant of costs is quite troublesome.

The final step of ABC is rather difficult to apply, since exhibitors, at least those that rent designed offerings have varying activities and these cannot be summed or standardised across different exhibition stands.

There is also a side to the research that makes generalisation difficult. We have taken into consideration Elmia’s particular situation with regards to ABC, so the general application would actually depend on specific attributes of each event organiser, when it comes to culture, financial state and etcetera. Another trade show organiser might be exposed to a different situation which will cause it to look upon ABC in another light. The method requires individual objectives and meaning. This is why we propose that further investigations are made on other event organisers, perhaps also for exhibition stands, and later on other parts of a trade show, as well as further events. Then, one could research and compare different organisers with respect to size, or types of customers and see how ABC is affected by these things in the same environment, or branch of the service industry.

Event organising companies are definitely a platform for activity based costing techniques, because as the case of Elmia indicates, there are many indirect activities that need more attention, and that need to be calculated, otherwise the costing and the pricing will be arbitrary. What we have also seen is that customers are crucial because they decide upon what activities that will be performed and what resources that will be used, and therefore it is vital that the company knows their customers very well if it wants to proceed with an accurate costing for themselves. It is an ongoing chain, because the exhibitors rely on event organisers to supply all those necessary activities that will help them in turn make business with their customers, and it becomes apparent that in the end it comes down to more than simply cost management.
6 Conclusions

When we started to acquaint ourselves with activity based costing, it did not seem like a rather difficult method, but as we worked more and more on it, we realised that it is complicated and that there really is no clear definition of ABC as it means different things to different people. It is simply one way of mapping and determining indirect costs and it shows that one needs to bring together all aspects of an organisation if it is going to be useful at all. Furthermore, the method needs to fit the real world. This is what makes it hard to have a clear answer with respect to our purpose.

We have seen that the identification of activities is easy to apply, at least on this example. We have also been able to depict resources, however there is difficulty in knowing how many will be required, which ones are fixed or variable, and how many that will be used, especially if the exhibition stand solution is tailor-made. Cost drivers were interesting to study, and they might be applicable, at least theoretically, thus giving an overview of the different customers. The final part of ABC is applicable in the cases of simple, standard, predictable cases, but is troublesome if the activities and their costs cannot be common across different designed solutions.

The research shows that the ABC method is rather flexible in nature because of the fact that its theoretical standpoints cannot always correspond to the dynamic environment. Therefore the method needs to be revised, especially when it comes to event organisers and service firms in general, because the procedure has to start with the customer. Nonetheless, activity based costing can provide a better, clearer picture of the state of the company and its costing issues.

Overall, we can say that ABC is applicable in an event organising company, based on the example of Elmia, but it is applicable only to a certain extent, and at least it works on paper. However, on a bigger scale, there needs to be a lot more research with respect to event organisers if one is to come to a clear conclusion.

It is however definitely necessary to consider ABC for event organisers, because indirect costs can in fact be many, and once again, this method will help in understanding the customers and hence, one will be able to serve them better.
References


Appendices

Appendix 1: Interview questions

General:

1. How would You describe Elmia in a few words…
2. How would You compare Your events and services to other firms in the industry? Why?
3. Could You please give examples of innovative actions taken at Elmia.
4. Is competition intense in Your industry? Especially in terms of price?
5. Do you use systems such as Just In Time or Total Quality Management (or any other)?
6. How large are your intra-company transactions?
7. How would You define costs and how important are they, or in other words, what role do they play in Elmia?
8. How important is accurate costing in Your business? Why?
9. How do You use cost information? For what kind of decisions do you use costs? Why?

The project:

1. Please tell us about this project and the construction of display cases. What does the process look like?
2. How do customers differ? Do You have customers that constantly change their demand? Is that a problem? If yes, in what ways do You cope with it?
3. Do You supply resources based on what customers want, or based on historical spending patterns? Why so?
4. How do You go about allocating costs in this project? Direct? Indirect?
5. Which are Your fixed costs and which are variable?
6. How large is the percentage of indirect costs/overheads based on total costs?
7. Is there a need for cost reduction? Where? Why? How do You keep the costs down?
8. What about labour, lighting and heating costs, can You estimate them, can You divide them? Any other joint cost problems?
9. Do property taxes, depreciation of machinery and insurance of buildings affect decision-making, such as determining the selling price? If yes, how is this calculated into the system?
10. What do You base Your pricing decisions on?
12. Why do You wish us to test ABC on this project in particular?

ABC:

1. When looking at the display case project, how would You describe Your major activities/working assignments? What about the activities being performed by indirect and support resources?
2. Approximately how many activities does the product need?
3. Which activities are crucial when it comes to the relationship with customers (in terms of service)?

4. How much would You say that each activity costs? That is, what are the major resources (human and non-human) spent on each activity and how much might they cost? Are the costs decided upon historical expenses? (who interacts with the customer, when and how often?)

5. How do processes differ between the different projects/products (display cases)? What about the resources, do the different products use similar ones? How do costs differ between the different display cases?

6. What would You say is the capacity of Your resources? Is there a lot of unused capacity? How is it dealt with?

7. What is causing Your activities to consume resources and gain costs? What is driving the costs for each activity? (number of hours, number of documents, number of inspections performed, set-up hours, work orders, any charge for resources directly, what is triggering the activity, quality of materials, training skills of employees?....what needs to be done, Is the process worth doing?

8. How are the cost drivers connected to the activities?

Final:

1. What would You like ABC to do for You?

2. Is there anything with regards to the overall project that we forgot to ask?
Appendix 2: The stand solutions

