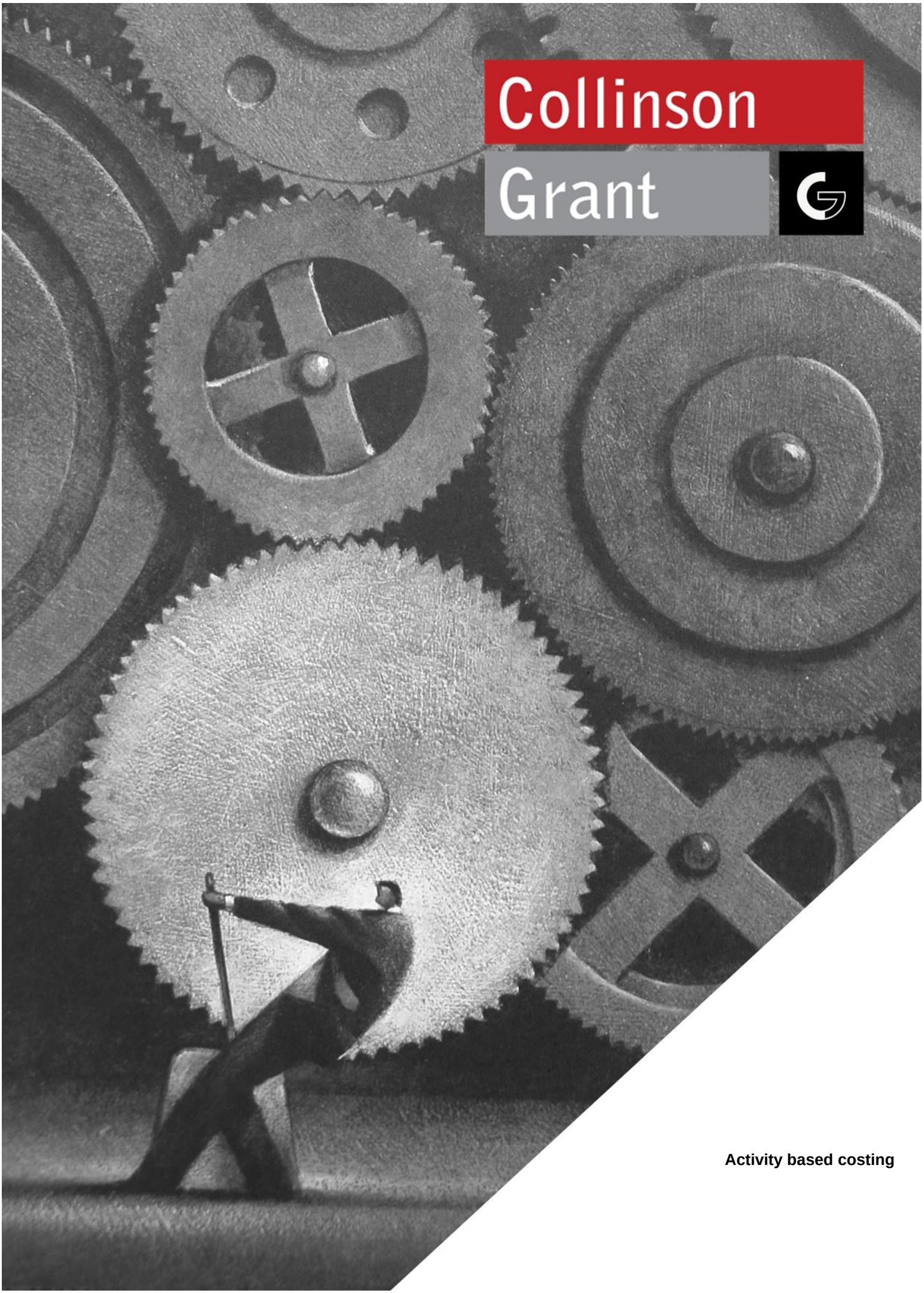

Activity based costing

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1 Introduction

Few people would start a journey with a map that shows neither where they are nor where they are going. Yet many companies seek to compete without knowing the true cost, and profit, of their:

- products or services, and
- customers.

Directors often base corporate strategy on misleading information that supports bad decisions. This only helps competitors. Traditional financial information systems measure a company's performance only in the aggregate. They may not help to find opportunities to increase competitiveness in the market place.

To create more value and enhance their profitability, organisations in manufacturing and service require accurate information on costs. Activity based costing (ABC) can provide it. But organising an effective ABC initiative is not as simple as opening a book and beginning at Chapter One.

This document:

- examines the reasons for using ABC
- provides an overview of the approach to ABC
- uses an example to show the power of accurate information on costs
- provides an outline of a plan for implementation, and
- discusses some of the pitfalls of an ABC initiative.

2 Why ABC?

2.1 Marzipan gum

We all have experience of a situation where three friends go to a restaurant. Two eat filet mignon, and the third has a burger. They share the bill equally because each has one meal. Of course, the person who ate the burger subsidises the other two, even though their activity is the same.

The raw material, preparation and cooking of the fillet steaks - the inputs - cost more than the raw material, preparation and cooking of the burger. The restaurant owner recognises this, and charges accordingly. But the friends choose to ignore the different inputs of their meals.

Similarly, many businesses choose to ignore the different inputs, especially overhead costs, required to take their products to market or provide their services.

Imagine a factory producing 2,050,000 sticks of chewing gum every day. The vast majority, 2,000,000 sticks, are spearmint-flavoured. The remaining 50,000 are a new salt and vinegar-flavoured gum. Managers know that the ingredients of the new gum cost a penny more per stick than those of the spearmint gum. So the Marketing Department adds a penny to the price of salt and vinegar gum.

All the other costs of the factory - labour, building and machinery costs - are allocated equally to each stick of gum produced, just as our friends allocated the cost of their meals. This simple

approach fails to recognise that the additional costs of producing (and subsequently selling) the low-volume salt and vinegar gum include:

- research and development
- stopping production of spearmint to change the flavouring
- cleaning machinery to avoid mixing spearmint with salt and vinegar before and after making the 50,000 sticks
- distributing salt and vinegar gum separately from spearmint because not all retailers want to sell it
- taking orders and processing invoices for much smaller quantities of salt and vinegar gum than of the spearmint variety.

Of course, the additional costs of one new flavoured gum may not be so great. But what happens when the Marketing department contemplates adding a marzipan flavour to the Christmas range of chewing gums?

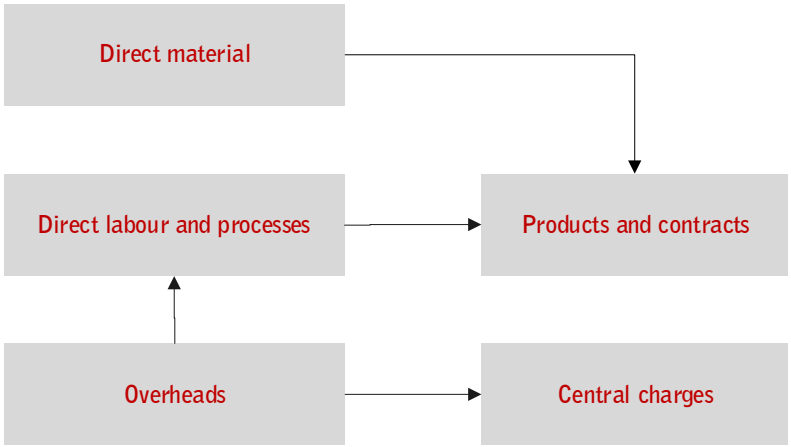
2.2 Traditional accounting systems

ABC is a product of the technological era. Conventional managerial information systems can trace their roots to the industrial age, when labour was the dominant factor of production. Within these systems, overhead cost is

first allocated from service departments to production departments and then distributed, via an 'overhead charging rate', to specific products.

This method was developed to measure manufacturing processes in which overhead was either immaterial or was mainly a function of direct labour, which, in turn, was dependent upon the volume of production.

This diagram illustrates the conventional approach to costing:



Using this approach, managers make decisions based on inaccurate data, especially where there are multiple products or types of customer. Using the cost of direct labour as the basis for allocating costs between products was more accurate when direct labour formed the major part of a product's costs, but is usually inadequate today.

Managers relying on ineffective data on costs may find that:

- customers accept price increases without complaint

- competitors' prices seem to be equal to the managers' costs
- external suppliers' bids are lower than expected
- there are no competitors in a market niche.

Two trends, which continue, have undermined the value of traditional systems:

- increasing automation has reduced direct labour to significantly less than fifty per cent of the costs of most products
- companies now offer a greater variety of products and services, and use more types of distribution and sales channels to serve more types of customer. Greater variety results in increased complexity, which often raises indirect overhead costs.

2.3 Summary

The purpose of ABC is to improve a company's profitability by:

- calculating the real cost of the products and services offered to customers
- using the information gained to reduce or eliminate the costs of specific resources, activities, products, contracts or customers
- changing the mix of products, contracts or customers
- restructuring the range of offerings
- raising prices selectively if returns are inadequate.

3 What is activity based costing?

ABC is a method of allocating total costs to products or customers. Whereas the General Ledger of traditional accounting systems describes 'what was spent', ABC describes 'what it was spent for'. Whereas the General Ledger uses a chart of accounts, ABC has a chart of activities.

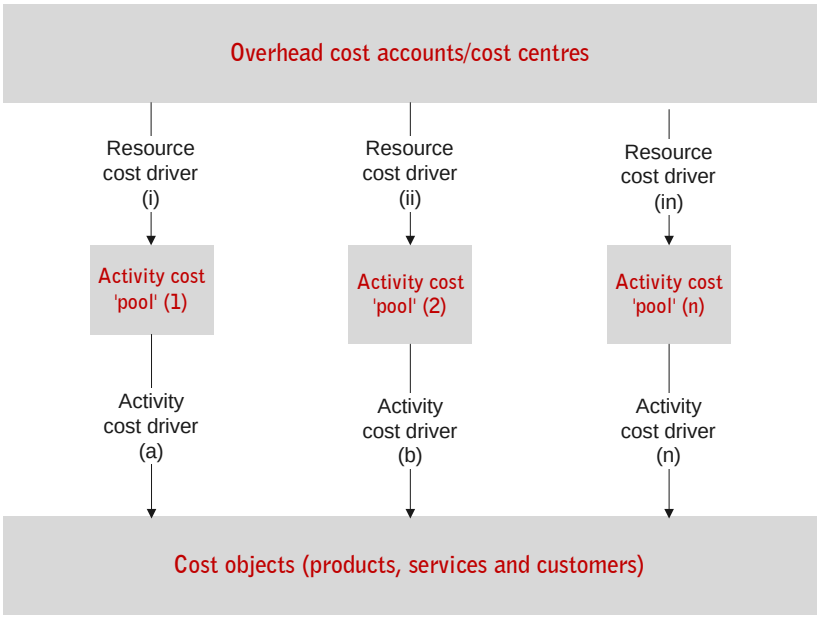
ABC can be defined as:

- A means of applying the total cost and performance of resources (such as salaries, transport costs and facilities) as used in activities (such as order administration, contract planning, stock control and debt management) to cost objects (such as products, contracts or customers).

ABC splits costs into two groups: one driven by the product; the other by the customer.

ABC is a two-stage process - see figure 2. Overhead costs within a business are assigned to a number of different activities (rather than to cost centres or departments) to create cost 'pools'. Activities are a grouping of many different tasks and are described by verbs associated with an object (such as: *schedule* production, *purchase* raw materials et cetera). Overhead costs from the General Ledger are assigned to cost 'pools' after consideration of 'resource cost drivers'. An example of a resource cost driver is the space taken in a manufacturing plant by specialised equipment used to make several of the plant's products. Total plant overheads may be allocated on the basis of the space taken by the specialised equipment as a percentage of the area of the total plant. This Resource Cost Driver is independent of the frequency with which that equipment is used.

These cost 'pools' are then allocated to cost objects by means of 'activity cost drivers', which vary with the type and volume of activities. Typically each cost 'pool' will use a different cost driver.



An effective ABC initiative will provide:

- the true costs of activities and business processes
- the cost of activities that do not add value
- activity-based measures of performance
- accurate cost for products and services (cost objects)
- information on the drivers of cost.

4 Implementation

An ABC initiative has all the attributes and requirements of any major project in an organisation. There are several stages in a project:

- initiation
- planning or design
- execution or production
- monitoring and controlling systems
- completion and lessons learned.

Especially critical are the recognition of stakeholders (those who are affected by, or can affect, the outcome of the initiative), a Steering Group and a project Sponsor.

Within the project framework an outline plan for ABC will usually include:

- define and code resources, activities and cost objects
- establish the links and drivers between resources and activity cost pools, and between activity cost pools and cost objects
- evaluate the use of people's time through interviews with managers, team leaders and employees
- reconstruct the general ledger and budgets to reflect the defined activities
- investigate and validate the drivers that link resources to activities
- investigate and validate the drivers that link cost objects (products, contracts and customers) to activities
- design the activity-based cost model
- establish processes for collecting data for the selected drivers
- calculate the new 'overhead' share for the cost objects and validate the result
- find the profitable products or services, and profitable customers, and consider why they are profitable
- determine how the unprofitable products or services and customers should be dealt with, and which should be terminated.
- put ABC to work.

5 Banana skins

Failure to manage organisational behaviour is a major cause of failure in ABC initiatives. The data produced will usually challenge the status quo, and will generate resistance. Other common problems include:

- Expectations of managers and employees are ineffectively managed
- Too much reliance is placed upon senior managers' commitment; junior managers and other employees are important too
- Senior managers may not be sufficiently committed. Effective ABC projects need support from the entire organisation. It will soon be apparent to the project team if there is no sponsorship from the senior managers.
- The initiative becomes the victim of a 'shoot the messenger' reaction
- ABC is seen as 'fad of the month', or a meaningless project initiated by the 'bean counters'
- Expected timeframes are not supported by adequate numbers of people with appropriate skills and knowledge of the business to complete what is often a complex project
- The complexity of data to be collected is often not understood at the outset. Consequently the database is poorly structured. This does not become apparent until the data is applied in calculating what are intended to be 'true costs'. The necessary compromises can invalidate the ABC initiative, or lead to the taking of significant decisions based on invalid data.

6 Summary

Traditional cost systems fail to show the true cost of products and services. This failure is compounded by the increasing complexity of products, services and customers. Companies that neglect their true costs will fail to capitalise on opportunities and cede competitive advantage to their rivals.

ABC is a complex exercise for the uninitiated. Poor execution can create internal disharmony and produce misleading data on costs. A successful implementation will enable managers to encourage the desired behaviour, strengthen relationships with customers and achieve the company's goals.

7 Collinson Grant

Collinson Grant is a management consultancy with a history of profitable growth. We help large organisations all over Europe and in the United States to restructure, merge acquisitions, cut costs, increase performance and profit, and manage people. We build long-term relationships, and have worked for some clients for over thirty years.

Our emphasis is on implementation, results and value-for money. We expect to give a substantial return on the investment in us. So we do not recommend action unless we are sure that the outcome will be worth it. We are not afraid to give bad news, or to champion ideas that may not be welcome.

Most of our work is on three themes – organisation, costs and people. We use this simple framework to manage complex assignments – often with an international dimension – and to support managers on smaller, more focused projects. We help them:

- to restructure and integrate – following acquisitions or to improve profits
- to improve the supply chain. We examine every process and interface to improve efficiency and service
- to set up financial and managerial controls. We create robust systems to improve decision-making and reduce risks
- to refine business processes and introduce lean manufacturing. We analyse and improve how work is done, and use new ways to create change and make it stick
- to cut costs. We make systematic analyses of overheads, direct costs, and the profitability of customers and products. This helps managers to understand complexity, and to take firm steps to reduce it
- to manage people. We draw up pay schemes and put them into effect, guide managers on employee relations and employment law, get better performance from people, and manage redundancy.

Forecasts and recommendations in a proposal, report or letter are made in good faith and on the basis of the information before us at the time. Results depend on the effective co-operation of the client and the client's staff. Therefore, no statement in a proposal, report or letter is a representation, undertaking, warranty or contractual condition. This Company shall not be liable for any losses which were not reasonably foreseeable on acceptance of a proposal or for indirect or consequential losses including loss of revenue, expected profits and claims by third parties.

Case study

Thorn Lighting

In 2002, Thorn decided to arrest a decline in operating income and, ultimately, to create the basis for increasing it by several million Euros per annum. The project linked the UK commercial and manufacturing businesses, provided data for objective decision-making, generated hypotheses for change and established robust plans for improvement. Attractive market niches were noted and plans for success agreed on and communicated.

Costs were allocated to individual products according to activity. Appropriate drivers were selected, after consultation with profit centre managers, to allow the costs of marketing, selling, administration, manufacturing, service, development and distribution to be accurately apportioned. Rebates were allocated to products via the sales channels of individual orders.

A number of data 'cubes' were constructed from gathered data. These allowed the 'true' profitability of each channel, order, product family and product to be understood.

Focus groups were held to investigate market requirements and gain competitive intelligence. Desk research was undertaken to establish the size of the market. Quotations and orders were analysed to reveal clusters of success. The financial performance of competitors was studied to detect trends.

Hypotheses were generated; savings pinpointed and outline proposals discussed with senior managers. Seven project teams were formed to corroborate the findings of the study and assign responsibilities for action.

The work done by the employees in UK Commercial was analysed. The effort and associated cost of the time spent by the staff on particular activities and tasks were analysed and the findings disseminated to functional managers. More than 150 employees were asked to contribute ideas, opinions and information to the project. A considerable amount of electronic data was collected. Analysis generated significantly more.

In Financial Year 2002:

- 1,019 products (14%) accounted for 80% of net sales by value
- 229 products (3%) accounted for 80% of net contribution

The highest selling 1,158 products by sales revenue (16% of the individual products sold) accounted for 120% of net contribution. The 3,566 products sold that had positive contributions accounted for 166% of net contribution. The data suggested that Thorn's product range was too wide and deep. Relatively few products sold in significant volume.

Large variation in sales volumes in product ranges was found. Investigation established that many products had substitutes in the product portfolio. Knowledge about the technical capabilities of products and their suitability for specific applications appeared inconsistent.

Forty-five improvements were recommended. Twenty were studied in some detail. The potential of individual initiatives took no account of the effect of the interrelationships between activities or of the time taken for people to adjust to change. We therefore expressed the size of opportunity as a range. The quantified improvements offered a range of opportunities, from four million to sixteen million Euros.

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