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**The Chartered Institute
of Management Accountants**

26 Chapter Street
London SW1P 4NP
United Kingdom

T. +44 (0)20 7663 5441

F. +44 (0)20 8849 2262

E. technical.services@cimaglobal.com

www.cimaglobal.com

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Research Report

**Divisional Performance Measurement:
An Examination of the Potential Explanatory Factors**

Professor C Drury
Huddersfield University

H EL-Shishini
Huddersfield University

Contents

Executive Summary	3
1. Introduction	5
1.1 Research problem	5
1.2 Research objectives	6
1.3 Research boundaries	6
1.4 Definition of terms used throughout the thesis	6
1.5 Outline of the report	7
2. Historical Background of Divisionalised Companies	8
2.1 Introduction	8
2.2 Alternative forms of organisational structures	8
2.3 Factors influencing the emergence of divisionalised companies	10
2.4 The advantages and disadvantages of divisionalisation	13
2.5 The pre-requisites for successful divisionalisation	13
2.6 Summary	14
3. Divisional Performance Measures	15
3.1 Introduction	15
3.2 Distinguishing between divisional and managerial performance	15
3.3 Limitations of financial performance measures	16
3.4 Improving financial performance measures: Economic value added (EVA) ..	17
3.5 Integrating financial and non-financial measures	18
3.6 Summary	19
4. Controllability and Cost Allocations	20
4.1 Introduction	20
4.2 Categories of uncontrollable costs	20
4.3 Distinguishing between controllable and uncontrollable costs	20
4.4 Reasons for the allocation of uncontrollable costs	21
4.5 Reasons for non-allocation of some of the costs of common resources ..	23
4.6 Empirical evidence relating to cost allocation	23
4.7 Summary	25
5. The Research Methodology	26
5.1 Introduction	26
5.2 The need for further studies	26
5.3 Data collection method	26
5.4 Sample selection	26
5.5 The respondents	27
5.6 The response rate	27
5.7 Questionnaire content	28
5.8 Tests for non-response bias	28
5.9 Summary	28

6. Survey Findings	29
6.1 Introduction	29
6.2 The use of different performance measures to evaluate divisional managerial performance and the economic performance of the divisions.....	29
6.3 The relative importance of different financial measures.....	30
6.4 Economic value added usage	31
6.5 The influence of divisional management and group headquarters management in setting financial targets	31
6.6 Non-financial measures	31
6.7 The costs of common resources	32
6.8 The application of the controllability principle common resource costs ..	32
6.9 The application of the controllability principle to group business sustaining general and administration costs	34
6.10 The application of the controllability principle to uncontrollable environmental factors and divisional interdependencies ..	34
6.11 The extent to which uncontrollables are informally taken into account ..	35
6.12 Importance of factors influencing organisations to allocate the cost of common resources.....	35
6.13 Importance of factors influencing organisations not to allocate common resource costs	38
6.14 Treatment of the variance between budgeted and actual costs of common resources	38
6.15 Degree of satisfaction with the performance measurement system	40
6.16 Summary.....	41
7. Conclusions	42
7.1 Introduction	42
7.2 Motivation for the research	42
7.3 A summary of the research objectives.....	42
7.4 A discussion of the major findings	42
7.5 Limitations of the research and areas for further study	45
References	47
Appendix 1: Survey Questionnaire	51

Executive Summary

Most large organisations adopt divisionalised structures. The manner in which divisional performance is controlled and measured is, therefore, of particular importance. This report presents the research findings of a postal questionnaire relating to the application of the controllability principle and divisional performance measurement in UK companies.

A central issue of performance reporting is whether divisional managers should be held accountable for items that they cannot influence by their actions. The conventional wisdom of management accounting, as reflected in textbooks, advocates that the evaluation of a manager's performance should consist of only those factors under a manager's control. Therefore, divisional managerial performance measures should include only the items controllable by divisional managers. Or, performance measurement should be based on the application of the controllability principle.

The limited empirical evidence, however, suggests that the allocation of uncontrollable costs for responsibility accounting purposes is widespread and that the controllability principle often does not appear to be applied in practice. It is apparent that the traditional two-fold classification of costs being controllable or non-controllable is too simplistic and that the application of the controllability principle lies along a continuum. At one extreme, there is no application of the controllability principle, with companies holding managers responsible for all uncontrollable factors. At the other extreme, there is the full application of the controllability principle, where companies tend to hold divisional managers responsible only for controllable factors. In between these extremes, managers may be held accountable for some uncontrollable factors.

Besides the application of the controllability principle, the choice of appropriate measures of divisional managerial performance has been widely debated in management accounting literature.

One area of debate is whether – based on the application of the controllability principle – different performance measures should be used to evaluate the performance of divisional managers and the economic performance of the divisions, or whether a single measure should be used for both purposes.

Another area of debate relates to the choice of appropriate performance measures. Traditionally, the debate was concerned with which traditional financial measures (for example, net profit before or after taxes, controllable profit, residual income, return on investment) should be used. Over the past decade, new measures have emerged, such as economic value added® (EVA®) and the balanced scorecard. Non-financial measures have also been given more prominence and the relative emphasis that should be given to financial and non-financial measures, and how they should be integrated, has also been subject to debate.

In view of these developments – and the fact that most of the previous empirical research was undertaken more than 20 years ago when the business environment and management practices were very different from those existing today – it is appropriate to undertake empirical research relating to the application of the controllability principle and divisional performance measurement in UK companies.

The research objectives are to:

- investigate the use of financial and non-financial performance measures in evaluating divisional managers' performance;
- identify the level of the application of the controllability principle, in terms of the identified uncontrollable factors;
- identify the influence of the level of the application of controllability principle on the degree of satisfaction with the divisional performance measurement system; and
- investigate the relationship between the use of non-financial performance measures and the degree of satisfaction with the performance measurement system.

The following is a summary of the major research findings:

- the majority of companies did not use identical measures for evaluating the performance of divisional managers and the economic performance of the divisions;
- target profit before charging interest on capital was considered to be the most important measure used to evaluate the performance of divisional managers by 55 per cent of the organisations, target profit after charging interest on capital (residual income) was considered the most important measure by 14 per cent of the organisations. The widely-cited target return on capital employed measure was ranked as the most important measure by only 7 per cent of the respondents;
- EVA was used by 23 per cent of the respondents as a method of evaluating the performance of divisional managers. A further 11 per cent of the respondents planned to introduce EVA within the next two years. The findings also suggested that 43 per cent of those using EVA did not make any adjustments to accounting numbers to compensate for the distortions introduced by generally accepted accounting principles (GAAP). This suggests that these companies are computing a residual income measure rather than a true EVA measure;
- non-financial measures were used to evaluate divisional performance by 78 per cent of the respondents;
- the balanced scorecard was used to evaluate divisional performance by 42 per cent of the respondents and 18 per cent used the European Foundation for Quality Management's (EFQM) Excellence Model;
- overall, the amount of the costs of common resources as a percentage of divisional turnover is relatively low, being 10 per cent of divisional turnover or less for approximately 73% of the responding organisations;
- different categories of non-controllable costs were identified and the findings indicated that a significant majority of organisations allocate all, or most, of each category of non-controllable costs for measuring divisional managerial performance;
- the most important reasons for allocating common resource costs were related to an attempt to use allocations as surrogates for the costs that would be incurred if the divisions operated as independent companies. Encouraging divisional managers to take a greater interest in the costs of shared resources and putting pressure on resource centre managers to control their costs were also considered to be important reasons for cost allocations. Measurement problems relating to separating controllable and non-controllable costs and cost allocations being undertaken because of company traditions were relatively unimportant reasons;
- despite the fact that the majority of companies do not fully apply the controllability principle in terms of cost allocations, the responses to why some of the costs of common resources were not allocated indicated that the application of controllability was the dominant reason;
- a further aspect of the application of the controllability principle was investigated by examining how the variance between budgeted and actual allocated uncontrollable common costs was dealt with. Within the uncontrollable cost category, approximately 70 per cent of divisional managers were not held accountable for the variance. This indicates the application of the controllability principle, as protecting managers from differences arising from inefficiencies occurring outside of their divisions;
- most companies do apply the controllability principle in some situations but not in others. There is a much greater tendency not to fully apply the controllability principle in terms of allocating uncontrollable costs to divisional managers as a means of increasing their target performance measure. In contrast, it tends to be applied at the variance analysis stage. The findings suggest that the controllability principle is considered to be important and is widely used in practice. However, it is applied in a more flexible manner than depicted by conventional wisdom. It would appear that the need to use allocations as a mechanism to increase target divisional profit to cover a fair share of central costs outweighs the apparent infringement of the controllability principle that occurs with the allocations;
- several factors were examined that may explain the level of application of the controllability principle. They included the location of the head office (UK or overseas), the listing status (listed or unlisted) and the extent to which uncontrollable factors were informally taken into account. None of the factors were significant. In particular, no evidence was found to suggest that those companies that did not formally apply the controllability principle were more likely to take into account uncontrollable factors informally when compared with those companies that applied the controllability principle more extensively;
- there was no significant relationship between the level of autonomy or the application of the controllability principle and the degree of satisfaction with the performance measurement system.
- there was a significant negative association between the extent of the use of non-financial measures and the degree of satisfaction with the performance measurement system. This indicates that the greater the use of non-financial measures, the lower the satisfaction with the performance measurement system; and
- there was no evidence to support the hypothesis that, the lower the level of application of the controllability principle, the greater the use of non-financial measures.

1. Introduction

1.1 Research problem

Surveys in the UK (Scapens et al, 1982; Drury et al, 1993), USA (Reece and Cool, 1978) and Australia and New Zealand (Skinner, 1990) indicate that the majority of companies in these countries have adopted divisionalised organisational structures. The manner in which divisional performance is controlled and measured is, therefore, of particular importance.

A central issue of responsibility accounting is whether a divisional manager should be held accountable for items that he or she cannot influence by his or her actions (for example, Horngren et al. 1997, p. 192; Atkinson et al, 1997, p. 564; Choudhury, 1986, p. 189; Merchant, 1987, p. 316). The management accounting literature (for example, Merchant, 1998) distinguishes between the economic performance of a division and the performance of its manager, advocating that the evaluation of a manager's performance should consist of only those factors under a manager's control. Therefore, divisional performance measures (whatever the measure in use) should include only the items controllable by divisional managers. In other words, performance measurement should be based on the application of the controllability principle. The empirical evidence, however, suggests that the allocation of uncontrollable costs for responsibility accounting purposes is widespread and that the controllability principle often does not appear to be applied in practice, in respect of uncontrollable costs.

Previous research (such as, Ramadan, 1985; Merchant, 1985) has focused on whether costs are allocated to divisions and – based on this observation – conclude whether the controllability principle is being applied. Merchant (1987), McNally (1980) and Skinner (1990), however, suggest that such a two-fold classification is too simplistic and that the application of the controllability principle has different levels lying along a continuum. At one extreme, there is no application of the controllability principle. Companies hold divisional managers responsible for all uncontrollable factors, including uncontrollable costs, all of the uncontrollable effects of environmental uncertainty and divisional interdependencies. At the other extreme, there is the full application of the controllability principle, where companies tend to hold divisional managers responsible only for controllable factors. In between these extremes, managers may be held accountable for some uncontrollable factors.

Previous research has not given much attention to identifying where companies applying the controllability principle fall within this continuum, or the factors influencing the different applications of the controllability principle. This has resulted in several prominent researchers advocating the need for further research relating to the application of the controllability principle and the potential explanatory factors that might explain the different levels of application (for example, Atkinson et al, 1997, p. 84; Merchant et al, 1995, p. 635). In particular, after conducting case study research relating to the application of the controllability principle within a small number of divisionalised companies, Merchant et al (1995, p. 635) considered the small sample size a limitation of his study and called for future research using a larger sample.

Apart from the application of the controllability principle, the choice of appropriate measures of divisional managerial performance has been widely debated in management accounting literature. The conventional wisdom (including Amey, 1969; Amey and Egginton, 1973; Emmanuel and Otley, 1976) that emerged from this debate suggests that, for investment centres where divisional managers have significant authority for making capital investment decisions, or those profit centres where divisional managers can influence significantly the investment in working capital, residual income is the most appropriate measure of divisional performance. For those profit centres where divisional managers cannot influence the investment in working capital, conventional wisdom advocates that return on investment (ROI) or target absolute profit (normally derived from assets employed in the division multiplied by a target return on investment) should be used. Until recently, accounting textbooks (such as Drury, 1996; Kaplan and Atkinson, 1989; Horngren et al, 1999) advocated residual income as the major financial measure.

Despite this recommendation, residual income does not appear to be widely used in practice (Mauriel and Anthony, 1966; Reece and Cool, 1978; Scapens and Sale, 1981; Skinner, 1990). Furthermore, residual income has recently been refined and renamed as EVA.

Economic value added (EVA) is now being marketed by consultants to measure the financial performance of divisionalised companies. Therefore, it is important to investigate the financial performance measures that are currently being used to measure divisional performance. Management accounting literature (Emmanuel et al, 1995, p. 242; Keating, 1997, p. 267) suggests that different measures could be used in order to evaluate the economic performance of divisions and the managerial performance of divisional managers. Despite this suggestion, the literature review was unable to trace any studies that have examined whether divisionalised companies use different performance measures for measuring the performance of their divisions and the performance of divisional managers.

Recently, much publicity has been given in management accounting literature to two areas that are related to the measurement of divisional performance. The first is to improve the financial performance measures (for example, EVA). The second is to integrate financial and non-financial performance measures (Kaplan and Norton, 1996).

There is little empirical research relating to the use of improved financial performance measures and the use of non-financial performance measures in measuring divisional managerial performance. In addition, controllability principle literature has emphasised the application of the principle, in the context of financial performance measures, without considering the relationship between the use of non-financial performance measures and the controllability principle.

1.2 Research objectives

The objectives of the research are to:

- investigate the use of financial and non-financial performance measures in evaluating divisional managers' performance;
- identify the level of the application of the controllability principle in terms of the identified uncontrollable factors;
- identify the influence of the level of the application of the controllability principle on the degree of satisfaction with the divisional performance measurement system; and
- investigate the relationship between the use of non-financial performance measures and the degree of satisfaction with the performance measurement system.

1.3 Research boundaries

It is apparent from sections 1.1 and 1.2 that this research focuses on the formal performance measurement system and the issue of performance evaluation in terms of comparing the targeted and actual performance. It does not examine how the outputs from the performance measurement system (in terms of the rewards or punishments) are used to motivate managers to achieve organisational goals. How the performance system is used to evaluate and reward divisional performance is considered to be beyond the scope of this research. An examination of the influence of the reward structure warrants a separate research project focusing, possibly, on a single organisation instead of the cross-sectional postal survey method that was used for this study.

1.4 Definition of terms used throughout the thesis

Throughout this report, various terms are used widely that may be subject to different interpretations by readers. In order to avoid any ambiguity, the terms are defined in this section. It should also be noted that definitions of the first three items were provided within the survey to ensure that all respondents applied uniform definitions in their answers.

Division

For the purpose of this research, a division is defined as a segment within the organisation where the divisional chief executive has responsibility for most of the production and marketing activities of the segment and is accountable for a profitability measure. Sometimes, the divisional chief executive has responsibility for the investment activities. The division may be known within the organisation as a profit or investment centre, subsidiary, branch, sector or business unit.

Common resources costs

The term common resources applies to resources or services provided by the head office for the benefit of two or more divisions within the organisation. Common resources costs include central costs relating to activities such as:

- data processing;
- research and development;
- marketing services;
- training programmes;
- personnel;
- accounting;
- internal auditing;
- legal services; and
- group planning.

Distinguishing between the economic performance of the divisions and the managerial performance of their managers

Some companies distinguish between the economic performance of the divisions and the managerial performance of their managers or chief executives. As a result, some companies use different performance measures to evaluate the economic performance of the divisions and the performance of divisional managers. A separate divisional managerial performance measure is one that excludes those costs that cannot be controlled or influenced by a divisional manager, whereas divisional economic measures generally include the allocation of uncontrollable costs based on the principle that if, the divisions were independent companies, they would have to bear such costs.

Uncontrollable factors

For the purpose of this research, uncontrollable factors include:

- uncontrollable costs of common resources;
- the group general and administrative costs;
- uncontrollable environmental factors such as changing economic conditions, competitors' actions and business climates; and
- the effects of divisional interdependencies.

Level of application of the controllability principle

Two extreme levels of the application of the controllability principle have been identified. The first is the low level of application and has the following characteristics:

- all, or most, of the uncontrollable common resources costs and the group general and administrative costs are allocated to divisions; and
- the effects of uncontrollable environmental factors and divisional interdependencies are not taken into account when measuring divisional managerial performance.

The high level of application of the controllability principle has the following characteristics:

- the uncontrollable common resources costs and the group general and administrative costs are generally not allocated to divisional managers; and
- the effects of uncontrollable environmental factors and divisional interdependencies are taken into account, to a considerable extent, when measuring divisional managerial performance.

In between the high and low level of application of the controllability principle, there are many levels of application of the controllability principle.

1.5 Outline of the report

The report consists of seven chapters.

Chapter 1 provides an identification of the research problem, research objectives, research boundaries and a brief summary of the definition of the terms used throughout the report.

In Chapter 2, the historical background relating to the emergence of divisionalised companies is described. This chapter also discusses the different interpretations of the factors influencing the emergence of the divisionalised structure. In addition, the advantages and disadvantages of divisionalisation and the pre-requisites for successful divisionalisation are discussed.

Chapter 3 describes the different financial performance measures that are presented in literature to evaluate divisional performance and provides a summary of the empirical studies relating to the usage of these measures.

Chapter 4 provides a description of the controllability principle and identifies the different categories of uncontrollable costs. In addition, the findings and limitations derived from previous empirical studies are summarised.

Chapters 5-7 focus on describing the research. In Chapter 5, the research methods are described. Chapter 6 presents the research findings. Finally, Chapter 7 discusses the research findings, limitations of the research and suggestions for future research.

2. Historical Background of Divisionalised Companies

2.1 Introduction

This chapter focuses on the historical background and factors influencing the emergence of divisionalised companies. It is organised as follows:

- section 2.2 describes the alternative forms of organisational structures and responsibility centres;
- section 2.3 describes the factors that have influenced the emergence of divisionalised companies;
- the advantages and disadvantages of divisionalisation are presented in section 2.4;
- section 2.5 describes the pre-requisites for successful divisionalisation; and
- the final section, Section 2.6, provides a summary of the chapter's content.

2.2 Alternative forms of organisational structures

According to Child (1972, p. 2), the term 'structure' is defined as: 'the formal allocation of work roles and the administrative mechanisms to control and integrate work activities, including those which cross formal organisation boundaries'.

Given that structure may differ between organisations, it is appropriate to identify the main types so that a divisionalised structure can be contrasted with alternative forms of organisational structure.

According to management accounting literature, organisational structure can be classified into two main groups: decentralised and centralised. Simon (1954) presents the following definition to distinguish between a centralised and decentralised organisation.

'An administrative organization is centralized to the extent that decisions are made at relatively high levels in the organization; decentralized to the extent that discretion and authority to make important decisions are delegated by top management to lower levels of executive authority.' (Simon, 1954, p. 1)

This definition indicates that the distinction between centralisation and decentralisation relates to the delegation of authority to make important decisions. If such authority is concentrated at the higher organisational level, decision-making is centralised, whereas if the authority is delegated to the lower organisation levels, it is decentralised.

Similarly, Mintzberg and Quinn (1996, p. 338) define decentralisation as a diffusion of decision-making power. If decision-making rests at one given point within an organisation, it is considered to be a centralised organisation. If the decision-making responsibility is dispersed among many individuals, the organisation is considered to be relatively decentralised. This definition implies that decentralisation and centralisation are a matter of degree and that full decentralisation, or centralisation, is not feasible in practical terms. Horngren (1982, p. 630) claims that full centralisation is not economical, in most instances, as it can be impossible to handle all information – and make all decisions – at the top organisational levels.

According to Galbraith and Nathanson (1978, p. 5) a structure is defined as the:

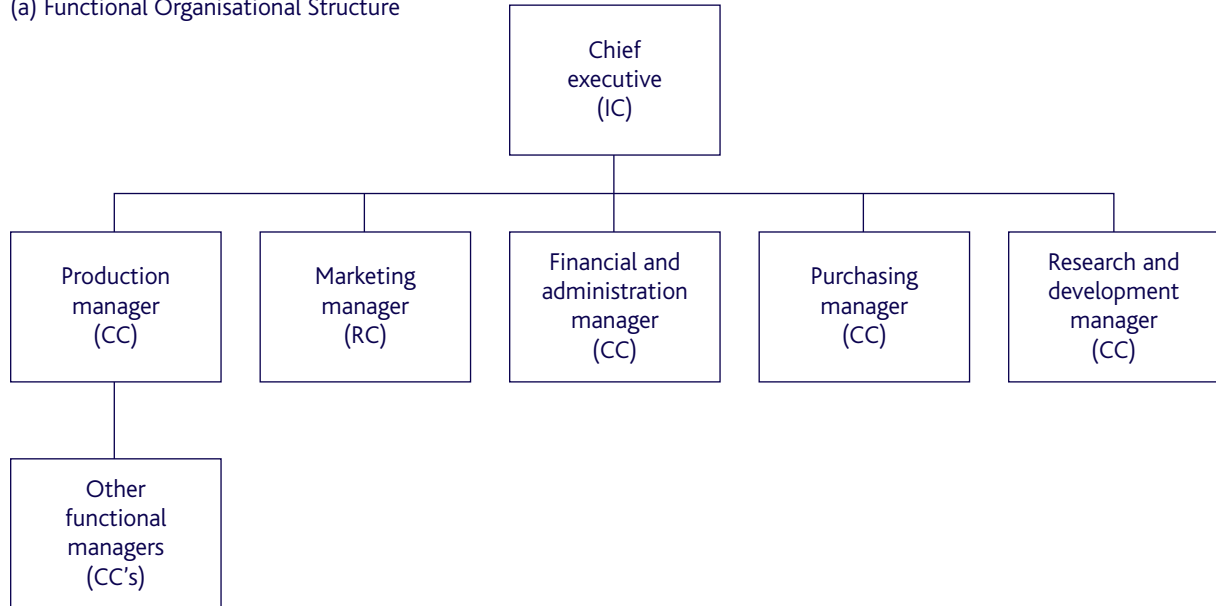
'segmentation of work into roles such as production, finance, marketing, and so on; the recombining of roles into departments or divisions around functions, products, regions, or markets; and the distribution of power across this structure'.

Galbraith and Nathanson (1978, p. 5)

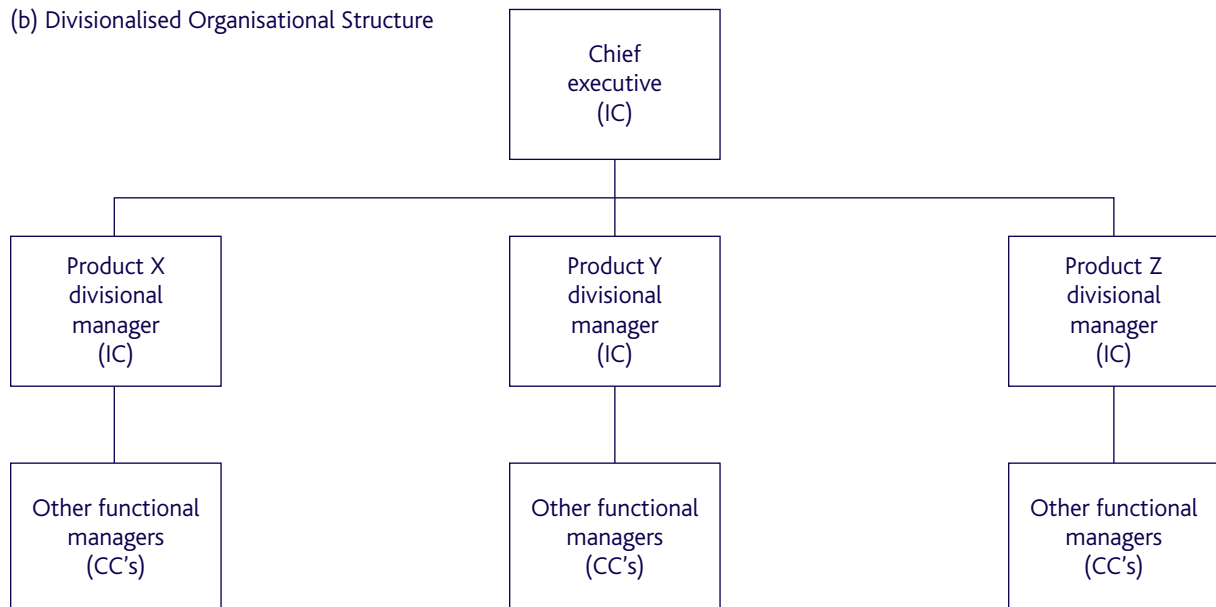
It is apparent from this definition that a structure can either be functional or divisionalised. A functional structure can be achieved by dividing all of a firm's activities of a similar type into a number of separate functional areas, such as production, finance and marketing. The managers of these areas report directly to the chief executive. Figure 2.1(a) depicts a functional structure. In the figure, none of the managers of the five departments is responsible for more than one part of the process of acquiring the raw materials, converting them into finished products, selling to customers, and administering the financial aspects of this process. The production department, for example, is responsible for the manufacture of all products, at a minimum cost and of satisfactory quality, and to meet the delivery dates requested by the marketing department. The marketing department is responsible for the total sales revenue and any costs associated with selling and distributing the products but not for the total profit. The purchasing department is responsible for purchasing supplies, at a minimum cost and of satisfactory quality, so that the production requirements can be met. Revenues and costs (including the cost of investments) are combined together only at the chief executive – or corporate – level. This level is classified as an investment centre.

Figure 2.1 A Functional and Divisionalised Organisational Structure

(a) Functional Organisational Structure



(b) Divisionalised Organisational Structure



IC = Investment centres
 CC = Cost centres
 RC = Revenue centre

A divisionalised structure involves the establishment of separate, semi-autonomous units (normally established on the basis of either individual products/product groupings or geographical regions) that are coupled together by a central administrative structure. The semi-autonomous units are called divisions – or business units – and the central administration relates to the central headquarters/head office. A divisionalised structure, which is divided into divisions in accordance with the products that are made, is shown in Figure 2.1(b).

Generally, a divisionalised organisational structure results in the decentralisation of the decision-making process. Divisional managers are normally free to set selling prices, choose what market to sell in, make product mix and output decisions, and select suppliers (this may include buying from other divisions within the company or from other companies). In a functional organisational structure pricing, product mix and output decisions are normally made by central management. Consequently, the functional managers in a centralised organisation will have far less independence than divisional managers. Divisional managers have profit responsibility. They are responsible for generating revenues, controlling costs and earning a satisfactory return on the capital invested in their operations. Managers within a functional organisational structure do not have profit responsibility. For example, in Figure 2.1(a), the production manager has no control over sources of supply, selling prices, or product mix and output decisions.

The creation of separate divisions may lead to the delegation of different degrees of authority; for example, in some organisations a divisional manager may, in addition to having authority to make decisions on sources of supply and choice of markets, also have responsibility for making capital investment decisions. Where this situation occurs, the division is known as an investment centre. Alternatively, where a manager cannot control the investment – or has responsibility for making only minor capital investment decisions – and is responsible only for the profits obtained from operating the fixed assets assigned to him or her by corporate headquarters, the segment is referred to as a profit centre.

In contrast, the term 'cost centre' is used to describe a responsibility centre in a functional organisational structure where a manager is responsible for costs but not profits. The final category of responsibility centre is a revenue centre. These are responsibility centres where managers, such as regional sales managers, are only accountable for financial outputs in the form of generating sales revenues.

It can be seen from Figure 2.1 that a further distinguishing feature between a functional structure and divisionalised structure is that, in the functional structure, only the organisation as a whole is an investment centre. Below this level, a functional structure applies throughout. Within a divisionalised structure, the organisation is divided into separate investment, or profit, centres and a functional structure applies below this level.

Many firms attempt to simulate a divisionalised profit centre structure by creating separate manufacturing and marketing divisions in which the supplying division produces a product and transfers it to the marketing division, which then sells the product in the external market. Transfer prices are assigned to the products transferred between the divisions. This practice creates pseudo-divisionalised profit centres. Separate profits can be reported for each division, but the divisional managers have limited authority for sourcing and pricing decisions. To meet the true requirements of a divisionalised profit centre, a division should be able to sell the majority of its output to outside customers and should also be free to choose the sources of supply.

In 1980, Ezzamel and Hilton investigated the degree of autonomy allowed divisional managers in 129 large UK companies. They found that divisional managers enjoyed substantial discretion in taking operating decisions relating to output, selling prices, setting credit terms, advertising and purchasing policies. However, there was close supervision by top management in choosing capital projects and specifying capital expenditures in the annual budget.

2.3 Factors Influencing the Emergence of Divisionalised Companies

As this research is devoted to divisionalised companies, it is relevant to discuss the factors influencing their emergence. The following sub-sections present the different arguments relating to the emergence of divisionalised companies. The first section, Section 2.3.1, introduces Alfred D. Chandler's *Strategy and Structure* (1962). Chandler's argument is based on the historical background of American corporations. The second section introduces the work of Oliver E. Williamson, *Markets and Hierarchies: Analysis of Antitrust Implications* (1975). The third section, Section 2.3.3, discusses the contingency theory literature.

2.3.1 Strategy and structure

Chandler (1962) adopts a historical approach in examining the relationship between strategy and structure. His study is based on a basic notion that structure follows strategy. Chandler defines strategy as:

'the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out those goals'
(Chandler, 1962, p. 13).

He identifies three main strategies: horizontal, vertical and diversification. A horizontal strategy implies growth in markets that may be local, national or multinational. It produces a unitary structure¹. A vertical strategy includes absorbing functions that are either 'backwards-looking' (towards suppliers) or 'forward-looking' (towards customers) and produces a functional structure. The final strategy can be achieved by diversification into products that are either related, or unrelated, to the current products, leading to the adoption of a multidivisional structure. Once a diversification strategy is adopted, a company becomes a co-ordinator of multiple product lines.

Chandler argues that the unitary structure was not a good mechanism to control multiple products as it became difficult for top management to keep track of the diversified product lines. Firms attempted to deal with these strategy shifts within their administrative structures. When this failed, some changed, inventing the multidivisional structure. A divisionalised structure was adopted by many American corporations, such as Du Pont Nemours & Co ('Du Pont'), General Motors Corporation ('General Motors'), Standard Oil Company ('Standard') and Sears and Roebuck Company ('Sears'). Du Pont and General Motors began to fashion their new structure shortly after World War 1. Standard started its reorganisation in 1925 and Sears in 1929. The companies developed their new structure independently of each other. Each company thought its problems were unique and required a tailor-made solution. The divisionalised structure provided this and gradually became a model for similar changes in many American companies.

Given that a diversification strategy leads to the adoption of a divisionalised structure, Chandler examined the reasons that encouraged companies to diversify into related and unrelated products. He found that diversification in the United States was driven by accelerated urbanisation and technological change occurring shortly after the beginning of the 20th century that provided firms with an incentive to diversify and to adopt a multidivisional structure.

¹ A unitary structure is defined as a group of functional divisions: sales, finance and manufacturing. Specialisation by function permits both economies of scale and an efficient division of labour to be realised. (Chandler, 1962, ch.1).

Furthermore, the nature of the industry and industrial technology determine, to some extent, the possibility of adopting a divisionalised structure. Chandler argues that firms in certain industries are more likely to choose diversification strategies because those industries involve technologies that lead naturally to related or unrelated products. Du Pont, for example, was a diversified manufacturing company. It had begun to diversify into products that utilised similar chemical technology. From Chandler's point of view, firms in electrical equipment, machinery, automobile and food industries are more likely to adopt diversification strategies, while firms in metal mining, steel making and petroleum are more likely to integrate vertically. Many reasons for the rejection of the divisionalised structure in these companies are given:

- the nature of these industries required a tight administrative control that could be achieved by centralised functional structure;
- these industries made standardised products in large volume for a well-defined market, so it was easy to plan and control their activities using unitary or departmental structure; and
- such industries used simple operations and there were no major technological and market changes.

The companies working in these industries found it easy to deal with operating decisions without adopting a divisionalised structure.

2.3.2 Markets and hierarchies

Williamson (1981) developed a theory of the organisations and markets that rests upon three general propositions:

- 'bounded rationality' (Simon, 1957);
- 'information impactedness'; and
- 'opportunism'.

Bounded rationality refers to human behaviour that is 'intentionally rational', but only limitedly so (Simon, 1961, p. xxiv). It suggests that human beings are quite limited in the amount of information they can receive, store, retrieve and process without error. Bounded rationality appears when managers are suffering from information overload.

Information impactedness means that information is not universally distributed in an organisation, nor is it free.

Opportunism means that individuals may take actions based on their own information and that these actions may be at the expense of the organisation. Organisational members may, therefore, pursue goals which differ from those stated by top management, as well as manipulate and distort information.

Williamson argues that the continuous expansion of the unitary/functional structure creates a cumulative loss of control, which has internal efficiency consequences (Williamson, 1975, p. 133). As size increases, actors (or organisers) reach their limits of control due to bounded rationality. Opportunism is, therefore, more likely to occur within the organisation and, consequently, organisational efficiency and profitability are threatened. By adopting the multidivisional structure, the problems of control are resolved and the continued growth of the organisation is possible.

In addition, Williamson (1975, Ch.8) argues that the multidivisional form (the 'M-form') exists to deal with both bounded rationality and opportunism.

'Operating decisions were no longer forced to the top management but were resolved at the divisional level, which relieved the communication load-strategic decisions were reserved for general office, which reduced partisan political input into the resource allocation process. The internal auditing and control techniques, which the general office had access to, served to overcome information impactedness conditions and permit fine tuning controls to be exercised over the operating parts.'
(Williamson, 1975, pp. 137-138).

From this definition, it is apparent that top management make strategic decisions. Divisions, however, are delegated the authority to make operating decisions. This implies that detailed information will be available at divisional level and top management will receive summarised financial reports.

Since operating decisions are made at divisional level, there is a possibility that divisional managers may pursue sub-goals that differ from those intended by top management. Thus, Williamson (1975) stresses the importance of internal control at multidivisional companies. Such internal control involves three basic control tools:

- manipulation, by the centre, of the incentives in terms of salary, bonuses, and promotion;
- internal audits; and
- the centralisation of the cash flow allocation process.

Williamson argues that the most important control tool is the cash flow process. He claims that cash earned by divisions is pooled at the centre and reassigned to divisions based on the expected future yield as assessed by the centre.

The M-form structure, according to Williams, is likely to achieve a higher performance than the unitary structure. He argues that some companies do not fully delegate to divisions the authority over operating decisions and the head office is extensively involved in operating issues. Therefore, the M-form hypothesis is only fully applied to those companies that separate strategic and operating decisions and that use internal control.

2.3.3 Contingent factors

According to contingency theory literature, the following contingent factors influence the adoption of a divisionalised structure:

- diversification strategy. It was suggested, in Section 2.3.1 that structure follows strategy and, in particular, that diversification leads to the adoption of an M-form structure;
- the size of the company. According to Mintzberg and Quinn (1996, p. 709), as companies become large, they tend to diversify and then divisionalise. There are three reasons for this. Firstly, large companies tend to be risk averse and diversification spreads such risk. Secondly, large companies can dominate their market and, therefore, are likely to discover growth opportunities elsewhere, through diversification and then divisionalisation. Finally, most of the giant companies reach their superior financial performance by diversification, thus producing greater pressure for further diversification;
- the age of the firm. The effect of the age of the firm is similar to that created by company size. According to Mintzberg and Quinn (1996, p. 709), older firms tend to diversify and then divisionalise. This is because managers in older companies sometimes look for new challenges beyond the traditional markets, seeking diversion or change through diversification. In addition, as time passes, new competitors enter old markets, forcing the management to look elsewhere for growth opportunities;
- imitation. Many researchers (including DiMaggio and Powell, 1983 and Fligstein, 1985) argue that large organisations are likely to come to resemble one another and, therefore, the spread of multidivisional form is the result of firms' desire to emulate other successful firms; and
- other factors. There are many researchers (Khandwalla, 1974; Hill and Pickering, 1986; Mohoney, 1992) who argue that there are other factors that influence the adoption of an M-form structure: new acquisitions, decline in company performance, advice of management consultants, inter-organisational communication problems and the nature of the industry.

2.4 The advantages and disadvantages of divisionalisation

Drawing on organisational theory and empirical research, management accounting literature attributes many advantages and disadvantages to a divisionalised structure. Solomons (1965, Ch. 1) and Drury (2000, pp. 794-795) claim that divisionalisation has the following advantages:

- divisionalisation may improve decision-making by improving the quality and speed of the decisions. Divisional managers can make quicker decisions as they are more closely associated with the problem at hand and the required information does not usually have to pass along the chain of command to, and from, top management;
- the delegation of responsibility to divisional managers provides them with greater freedom, thus making their activities more challenging and providing the opportunity to achieve self-fulfillment. This process should mean that motivation and efficiency will be increased, not just at the divisional manager level, but throughout the whole organisation. According to Dittman and Ferris (1978), the managers of profit centres should have greater job satisfaction than the managers of cost centres and quasi-cost centres. Studying 480 US companies, they found that the reported level of job satisfaction for profit centre managers was significantly more than the level of satisfaction reported for cost and quasi-cost centre managers. They recommend that, wherever possible, system designers should try to construct profit centres for organisational units;
- by delegating the responsibility of decision-making to divisions, top management will have more time to devote to more important tasks (for example, strategic planning) since it will free them from detailed involvement in operating decisions; and
- a division can be used for training the future members of top management by enabling trainee managers to acquire the basic managerial skills and experience in an environment that is less complex than managing the whole company.

On the other hand, divisionalised companies may suffer from the following disadvantages:

- there is a danger that, in divisionalised companies, divisions may compete with each other excessively and divisional managers may be encouraged to take actions that will increase their profits at the expense of the profits of other divisions. For example, situations can arise where the divisional managers may sell their products outside of the organisation rather than transferring them to other divisions. It may be cheaper for the company, as a whole, to transfer internally rather than the receiving divisions buying from the external market and the supplying divisions selling in the external market;
- divisionalisation can cause many managerial problems. There is the possibility of loss of control by delegating decision-making to divisional managers. This problem can be overcome by using a good performance evaluation system, together with appropriate control information; and
- the cost of providing central activities may be lower than the cost of similar activities in non-divisionalised companies. For instance, a large central accounting department in a centralised company may be less costly to operate than separate accounting departments for each division within a divisionalised company.

2.5 The pre-requisites for successful divisionalisation

Companies adopting a divisionalised structure should have some attributes to attain successful divisionalisation. Such attributes have been discussed by Solomons (1965, p. 10). Solomons argues that the first attribute is that the activities of a division should be as independent as possible of other divisions' activities. On the other hand, the independence of divisions from each other is a necessary condition for divisionalisation. However, it should not be carried out up to the limit, thereby destroying the idea that divisions are an integral part of a single organisation. Instead, divisions should contribute, not only to the success of the company, but also to the success of each other.

The second attribute is that there should be a co-ordination mechanism to solve possible conflicts between divisions, including conflicts in determining transfer prices and the requirements of shared resources. Solomons claims that an accounting system can play an essential role in solving any possible conflict that may arise between divisions.

2.6 Summary

This chapter has discussed the alternative forms of organisational structure and described the different types of responsibility centres. In addition, factors influencing the adoption of a divisionalised structure were discussed.

The first factor was the relationship between strategy and structure (Chandler, 1962). It was suggested that diversification strategy leads to the adoption of a divisionalised structure.

The second factor was that high transaction costs, bounded rationality and opportunistic behaviour lead to the adoption of an M-form structure (Williamson, 1975). It was emphasised that the M-form structure requires the:

- allocation of operating decisions to divisional levels and strategic decisions to top management level;
- manipulation of the incentives by the centre;
- maintenance of an efficient internal audit; and
- concentration of cash flow allocation processes.

The remaining factors influencing the adoption of a divisionalised structure were derived from the contingency theory literature.

It is widely recognised that, in pursuing a diversification strategy, the size and age of an organisation, and imitation of successful organisations, are important factors in the adoption/non-adoption of the M-form structure.

Empirical studies that have been undertaken provide mixed support of the contention that the M-form structure outperforms the unitary structure. They suggest that the successful adoption of the M-form structure is dependent upon maintaining appropriate control mechanisms and performance measurement systems. The next chapter, therefore, focuses on the methods that are described in literature for controlling and measuring divisional performance.

3. Divisional Performance Measures

3.1 Introduction

This chapter describes the different financial performance measures that are presented in management accounting literature to evaluate divisional performance and provides a summary of the empirical studies relating to the usage of these measures. It begins with a discussion of the theoretical distinction between the economic and managerial divisional performance measures. This is followed by a brief summary of the limitations of traditional divisional financial measures and a description of two major innovations in the 1990s that sought to overcome these limitations.

3.2 Distinguishing between divisional managerial and economic performance

Traditionally, literature has advocated that divisional financial performance measurement should distinguish between the performance of divisional managers and the economic performance of the divisional unit (Dearden, 1987; Drury, 2000, p. 796). To evaluate the economic performance of divisions, corporate management requires a periodic reporting system providing attention-directing information. Such attention-directing information highlights those divisions that require more detailed studies to examine their economic viability and ways of improving their future performance. If the purpose is to evaluate the performance of divisional managers, only those items that are controllable, or influenced by the divisional manager, should be included in the performance measure.

The need to distinguish between divisional managerial and economic performance leads to three different profit measures – divisional controllable profit, divisional contribution to corporate sustaining costs and profits and divisional net income.

Divisional controllable profit is advocated for evaluating divisional managerial performance because it includes only those revenues and expenses that are controllable or influenced by divisional managers. Thus, the impact of items such as foreign exchange rate fluctuations and the allocation of central administrative expenses may be excluded on the grounds that managers cannot influence them. However, such expenses may be relevant for evaluating a division's economic performance.

Those non-controllable expenses that are estimated to be avoidable in the event of divisional divestment are deducted from controllable profit to derive the divisional contribution to corporate sustaining costs. Examples of such expenses include the allocation of those corporate joint resources shared by divisions that fluctuate according to the demand for them. Assuming that cause-and-effect allocations can be established that provide a reasonable approximation of the cost of joint resources consumed by a division, then the allocated cost can provide an approximation of avoidable costs. Thus, the divisional contribution to corporate sustaining costs and profits is appropriate for measuring divisional economic performance since – as its name implies – it aims to provide an approximation of a division's contribution to corporate profits and unallocated corporate sustaining overheads.

Divisional net income is an alternative measure for evaluating divisional economic performance. It includes the allocation of all costs. From a theoretical point of view, this measure is difficult to justify, since it includes arbitrary apportionments of those corporate sustaining costs that are likely to be unavoidable unless there is a dramatic change in the scale and scope of the activities of the whole group. The main justification for using this measure is that corporate management may wish to compare a division's economic performance with that of comparable firms operating in the same industry. The divisional contribution to corporate sustaining costs and profits is likely to be unsuitable for this purpose. This is because divisional profits are likely to be overstated due to the fact that, if they were independent, they would have to incur some of the corporate sustaining costs. The apportioned corporate sustaining costs therefore represent an approximation of the costs that the division would have to incur if it traded as a separate company. Consequently, companies may prefer to use divisional net profit when comparing the performance of a division with similar companies.

To compare the financial performance of different companies or divisions, a profitability measure is required that takes into account the differing levels of investment in assets. Return on investment (ROI) meets this need by acting as a common ratio denominator for comparing the percentage returns on investments of different sizes in dissimilar businesses, such as other divisions within the group and outside competitors. It has become established as the most widely used single summary measure of financial performance. According to Johnson and Kaplan (1987), it was developed by Du Point in the early 1900s and since then it has become widely used by 'outsiders' to evaluate company performance. Its major benefit is that it provides a useful overall approximation of the success of a firm's past investment policy by providing a summary measure of the ex post return on capital invested. A further attraction of ROI is that it is a flexible measure. The numerator and denominator can include all – or just a subset – of the line items that appear on corporate financial statements. It can be adapted to measure managerial performance by expressing controllable profit as a percentage of controllable investment.

It is more appropriate, however, to use ROI for evaluating the economic performance of a division than managerial performance, since controllable profit and assets are not reported in external published financial statements. Therefore, it is impossible to compare divisional controllable profit as a percentage of controllable assets with similar companies outside of the group. For comparing the economic performance of a division, net income is likely to be the preferred profit measure to be used as the numerator to compute ROI, to ensure consistency with the measures that are derived from the financial reports of similar companies outside of the group.

Return on investment (ROI) has a major weakness if used to evaluate divisional managerial performance: the measure may encourage divisional managers to maximize the ratio, which can lead to suboptimal decisions. For example, a manager heading a division that is currently earning a 30 per cent ROI might be reluctant to accept an investment project yielding a 25 per cent return, as this would dilute the division's ROI. However, if the company's (and the division's) cost of capital is 15 per cent, the project is likely to yield a positive net present value and ought to be accepted. Alternatively if the divisional existing ROI was 10 per cent, acceptance of a project expected to yield a return of 13 per cent would increase the existing ROI, even though its return is less than the cost of capital.

In order to overcome the problems attributed to the use of ROI, textbooks recommend that residual income should be used to evaluate divisional managerial performance. Controllable residual income involves deducting from controllable profit a cost of capital charge on the investment controllable by the divisional manager. The main argument for advocating the use of residual income is that it increases the likelihood of divisional managers investing in projects if they have positive net present values (NPV). Returning to the first example, and assuming an investment of £10 million, estimated residual income will increase by £1 million (£2.5 million profit, less £1.5 million cost of capital charge) if the project is accepted. In the second example, acceptance of the project will result in an estimated decline in residual income of £0.2 million (£1.3 million to £1.5 million). A further advantage of residual income over ROI is that it is more flexible, since different costs of capital can be applied to investments that have different levels of risk. In other words, the residual income measure enables different risk-adjusted capital costs to be incorporated into the computation. By contrast, ROI cannot easily incorporate these differences.

Residual income does not appear to be widely used in practice. In the USA, Mauriel and Anthony (1966) reported that only 7 per cent of companies participating in their research relied solely on residual income. Similarly, Reece and Cool (1978) reported that 2 per cent of the companies in their research pool used only residual income. In the UK, Scapens et al (1982) reported that 37 per cent of respondent companies used residual income, whereas the Australian/New Zealand study by Skinner (1990) reported only 7 per cent usage. By contrast, ROI was widely used. In the USA, Mauriel and Anthony (1966) and Reece and Cool (1978) reported that 60 per cent, and 65 per cent, of respondent companies used ROI, respectively.

Previous studies indicate that companies tend to use ROI in order to make inter-division and inter-firm comparisons (Reece and Cool, 1978; Skinner, 1990). Since ROI is a ratio, it can be used to compare the attained ROI between divisions within a given company or with other divisions, whereas an absolute monetary measure is not appropriate for making such comparisons. In addition, outsiders tend to use ROI as a measure of a company's overall performance. Corporate managers may therefore want their divisional managers to focus on ROI in order to make their performance measure congruent with outsiders' measure of the company's overall performance.

A major weakness of the above studies is that they make no attempt to distinguish between whether the performance measures were used to evaluate either divisional economic or managerial performance, or whether the same reported measure was used for both purposes.

3.3 Limitations of financial performance measures

Financial performance measures are generally based on short-term measurement periods and this can encourage managers to become short-term oriented. For example, relying on short-term measurement periods may encourage managers to reject positive NPV investments that have an initial adverse impact on the divisional performance measure but have high payoffs in later periods. Financial performance measures are also 'lagging indicators' (Eccles and Pyburn; 1992, p. 41). They determine the outcomes of management's actions after a period of time. Therefore, it is difficult to establish a relationship between managers' actions and the reported financial results. Financial performance measures are also subject to the limitation that they deal with only the current reporting period, whereas managerial performance measures should focus on future results that can be expected because of present actions. Ideally, divisional performance should be evaluated on the basis of economic income by estimating future cash flows and discounting them to their present value. This calculation could be made for a division at the beginning and the end of a measurement period. The difference between the beginning and end values represents the estimate of economic income. The main problem with using estimates of economic income to evaluate performance is that it lacks precision and objectivity and that the best estimates of future outcomes are likely to be derived from divisional managers.

According to Johnson and Kaplan (1987), companies tend to rely on financial accounting-based information for internal performance measurement. This information may be appropriate for external reporting but it is questionable for internal performance measurement and evaluation. The major problem is that profit measures derived from using GAAP are based on the historical cost concept and thus tend to be poor estimates of economic performance. In particular, using GAAP requires that discretionary expenses are treated as period costs, resulting in managers having to bear the full cost in the period in which they are incurred.

A possible reason for the use of GAAP for divisional performance evaluation is to ensure that performance measures are consistent with external financial accounting information that is used by financial markets to evaluate the performance of the company as a whole. This may arise because of the preference of corporate management for divisional managers to focus on the same financial reporting measures.

Given the problems associated with the use of financial performance measures, two possible methods of dealing with them emerged in the early 1990s. The first seeks to improve financial performance measures and the second incorporates non-financial performance measures with financial performance measures. These methods are discussed in the following sections.

3.4 Improving financial performance measures: economic value added (EVA)

During the early 1990s, Stern Stewart and Co ('Stern Stewart'), a New York-based consulting firm, repackaged and refined residual income in the form of economic value added® (EVA®). The objective of EVA is to develop a performance measure that accounts for the ways in which corporate value can be added or lost. Thus, by linking divisional performance to EVA, managers are motivated to focus on increasing shareholder value.

The EVA concept extends the traditional residual income measure by incorporating adjustments to the divisional financial performance measure for distortions introduced by GAAP. Economic value added (EVA) can be defined as the following.

EVA = conventional divisional profit ± accounting adjustments – cost of capital charge on divisional assets

Adjustments are made to the chosen conventional divisional profit measure (for example, controllable profit, net income) in order to replace historic accounting data with a measure that approximates economic profit and asset values. Stern Stewart has stated that it has developed approximately 160 accounting adjustments that may need to be made to convert the conventional accounting profit into a sound measure of EVA, but it has indicated that most organisations will only need to use about ten of the adjustments. These adjustments result in the capitalisation of many discretionary expenditures – such as research and development, marketing and advertising – by spreading these costs over the periods in which the benefits are received. Also, by taking into account all the capital costs, EVA attempts to show the amount of wealth a business created or destroyed in each period.

According to Young (1999), adjustments aim to:

- produce EVA figures that are closest to cash flow and, therefore, less subject to the distortions and bias arising from accrual accounting;
- avoid the arbitrary distinction between investments in tangible assets (which tend to be capitalised) and intangible assets (which tend to be written off as incurred) arising from the application of the conservatism principle;
- prevent the amortisation, or write-off, of goodwill;
- bring off balance sheet debt (finance) into the balance sheet as is the case when assets are subject to leasing; and
- correct for the bias associated with accounting depreciation.

Biddle et al (1998) investigated the extent of EVA usage in the USA.

'Economic value added, or EVA®, has become a new buzzword in the corporate movement towards emphasizing shareholder value. Displaying a pattern familiar for corporate fads, EVA citations have grown exponentially from a handful in 1993 to more than 300 in 1997. Fortune magazine has touted EVA as 'the real key to creating wealth', 'a new way to find bargains', and since 1993 has published an annual 'Performance 1000' issue featuring EVA.'

(Biddle et al, 1998, p. 60).

McConville (1994) reported that AT&T and Coca-Cola are using EVA. Similarly, McTaggart et al (1994), Chen and Dodd (1997) and Copeland et al (1996) found that many American and British companies used EVA, or similar measures suggested by their consulting firms. Otley (1999) claims that there is a relationship between the extent to which the stock market is strong and the adoption of EVA. He demonstrates that EVA is accepted in countries that have strong stock markets, such as USA and the UK. In countries with weak stock markets, it is less likely that EVA will be adopted.

Research has also been undertaken to discover whether companies that adopt EVA achieve a higher performance than companies that do not. For example, Tully (1999) reports the results of the study undertaken by Stern Stewart. The study measured the stock performance of 67 clients (adopters of EVA) over the first five years of their use of EVA. The results indicated that adopters of EVA achieved a higher performance than their ten closest competitor companies. Although much research has been undertaken relating to EVA, little evidence is available relating to the extent that it is used to measure and evaluate divisional performance.

3.5 Integrating financial and non-financial measures

To mitigate against the dysfunctional consequences that can arise from relying excessively on financial measures, management accounting literature advocated many years ago (for example, Solomons, 1965) that these should be supplemented with non-financial ones that measure those factors critical to the long-term success and profits of the organisation. These measures focus on areas such as competitiveness, product leadership, productivity, quality, delivery performance, innovation and flexibility in responding to changes in demand. If managers focus excessively on the short-term, the benefits from improved short-term financial performance may be counter-balanced by a deterioration in non-financial measures. Such non-financial measures should provide a broad indication of the contribution of a divisional manager's current actions to the long-term success of the organisation.

Two major problems arise with the use of non-financial measures, however. Firstly, which of a vast number of measures should be selected as key measures to be included in the performance reports to evaluate divisional performance? Secondly, confusion arises when measures conflict with each other, resulting in it being possible to enhance one measure at the expense of another. According to Kaplan and Norton (2001), previous systems that incorporated non-financial measurements used ad hoc collections of such measures – more like checklists of measures – for managers to keep track of and improve, than a comprehensive system of linked measurements.

The need to integrate financial and non-financial measures of performance and identify key performance measures that link measurements to strategy led to the emergence of the 'balanced scorecard'. The balanced scorecard aims to provide an integrated set of performance measures derived from the company's strategy that gives top management a fast but comprehensive view of the organisational unit. The balanced scorecard was devised by Kaplan and Norton (1992) and refined in later publications (Kaplan and Norton, 1993, 1996, 2001).

The balanced scorecard philosophy assumes that an organisation's vision and strategy is best achieved when the organisation is viewed from the following four perspectives:

- customer perspective ('How do customers see us?');
- internal business perspective ('What must we excel at?');
- learning and growth perspective ('Can we continue to improve and create value?'); and
- financial perspective ('How do we look to shareholders?').

The balanced scorecard involves establishing major objectives for each of the four perspectives and translating each objective into specific performance measures. Kaplan and Norton recommend targets be established for each performance measure. For feedback reporting, actual performance measures can also be added. In order to minimise information overload and avoid a proliferation of performance measures, the number of measures used for each of the four perspectives should be limited to critical measures.

A crucial assumption of the balanced scorecard is that each performance measure is part of a cause-and-effect relationship involving a link from strategy formulation to financial outcomes. Measures of organisational learning and growth are assumed to be the drivers of the internal business processes. The measures of these processes are, in turn, assumed to be the drivers of measures of customer perspective, while these measures are the driver of the financial perspective. The assumption that there is a cause-and-effect relationship is necessary because it allows the measurements relating to non-financial perspectives to be used to predict future financial performance.

The balanced scorecard thus consists of two types of performance measures. The first consists of lagging measures. These are the financial (outcome) measures within the financial perspective that are the results of past actions. Mostly, these measures do not incorporate the effect of decisions when they are made. Instead, they show the financial impact of the decisions as their impact materialises. This can be long after the decisions were made. The second type of performance measure is leading measures that are the drivers of future financial performance. These are the non-financial measures relating to the customer, internal business process and learning and growth perspectives.

The balanced scorecard has also been subject to frequent criticism. Most criticism questions the assumption of the cause-and-effect relationship on the grounds that it is too ambiguous and lacks a theoretical underpinning or empirical support. The empirical studies that have been undertaken have failed to provide evidence on the underlying linkages between non-financial data and future financial performance (American Accounting Association Financial Accounting Standards Committee, 2002). Other criticism relates to the omission of important perspectives, the most notable being the environmental/impact on society perspective and an employee perspective, although there is nothing to prevent companies adding additional perspectives to meet their own requirements.

Surveys indicate that, even though the balanced scorecard did not emerge until the early 1990s, it is now widely used in many countries throughout the world. A survey by Silk (1998), in the US, estimates that 60 per cent of Fortune 1000 firms have experimented with the balanced scorecard. Other studies in Europe indicate significant usage. Pere (1999) reported a 31 per cent usage rate of it by companies in Finland, with a further 30 per cent in the process of implementing it. In Sweden, Kald and Nilsson (2000) reported that 27 per cent of major companies have implemented the approach. Other studies by Oliveras and Amat (2002) and Speckbacher et al (2003) report widespread usage in Spain and German-speaking countries (Germany, Austria and Switzerland), respectively.

In terms of the perspectives used, Malmi (2001) conducted a study involving semi-structured interviews of executives from 17 companies in Finland. He found that 15 companies used the four perspectives identified by Kaplan and Norton and two companies added a fifth – an employee's perspective. A study by Olve and Wetter (1999) found that 15-20 performance measures are customarily used. There is also evidence to indicate that the balanced scorecard approach is linked to incentive compensation schemes. Epstein and Manzoni (1998) reported that 60 per cent of the 100 larger organisations surveyed in the US linked the balanced scorecard approach to incentive pay for their senior executives.

3.6 Summary

The conventional wisdom of management accounting, as reflected in textbooks, advocates that it is preferable to distinguish between divisional managerial and economic performance. To evaluate divisional managerial performance, a divisional controllable profit measure should be used. Prior to the emergence of EVA, controllable residual income had been advocated for many years. Recent developments suggest that controllable EVA has replaced controllable residual income as the preferred measure. Non-ratio measures, such as those recommended for measuring managerial performance, are not suitable for internal comparisons (that is, with other divisions) due to the differing sizes of investments in assets. Therefore, performance evaluation should be based on a comparison of actual controllable EVA with budgeted EVA that takes into account the potential of the resources being managed.

From a theoretical point of view, there are strong grounds for also using EVA (incorporating the appropriate uncontrollable items that are excluded from controllable EVA). This measure highlights those divisions that are creating and destroying shareholder value. The empirical studies, however, indicate a strong preference to evaluate divisional performance based on relative comparisons with other divisions and similar external companies. Thus, ratio comparisons using ROI may continue to be valued. It appears that, rather than distinguishing between controllable and uncontrollable items, companies use ROI for evaluating divisional managerial performance. The justification for this is that relative divisional comparisons with units facing similar environmental factors may neutralise the uncontrollable factors because they may, in effect, be held constant when making relative comparisons. The major difficulty relating to such relative evaluations is finding benchmark units that face similar conditions and uncertainties.

Finally, literature implies that divisional performance should be evaluated within a balanced scorecard context, taking into account both financial and non-financial measures. The literature does not provide any guidance as to how the financial and non-financial measures reported in the balanced scorecard should be integrated to evaluate divisional performance. Presumably, this requires a subjective assessment by senior corporate management. Further research is required to ascertain the extent to which the balanced scorecard is used purely as a mechanism for implementing strategy and monitoring its implementation and the extent to which it is also used for performance evaluation. Where it is also used for the latter purpose, research is required to ascertain how the financial and non-financial performance measures are integrated to evaluate divisional performance.

4. Controllability and Cost Allocations

4.1 Introduction

The previous chapter discussed the conventional wisdom that advocates that, for managerial performance evaluation, managers should be accountable only for the results that they can control. This wisdom creates the need to distinguish between controllable and uncontrollable items.

This chapter begins with a description of the controllability principle and identifies the different categories of uncontrollable costs. This is followed by a brief outline of the methods suggested in literature for distinguishing between controllable and uncontrollable costs. Given that there is considerable evidence indicating that, in practice, the controllability principle is frequently ignored, the suggested methods for allocating uncontrollable costs are described. The chapter concludes with a summary of empirical studies relating to the allocation of uncontrollable costs.

4.2 Categories of uncontrollable costs

Distinguishing between divisional managerial and economic performance requires the application of the controllability principle. This specifies that managers should be held accountable only for the results that they can control. The application of the controllability principle to divisionalised companies dates back to Solomons (1965).

'It is almost a self-evident proposition that, in appraising the performance of division management, no account should be taken of matters outside the division's control.' (Solomons, 1965, p. 83)

Merchant (1989) classified the sources of uncontrollable factors into the following groups:

- economic and competitive factors;
- acts of nature;
- uncontrollable costs; and
- interdependencies

Economic and competitive factors include the impact of:

- business cycles;
- competitors' actions;
- changes in customers' tastes;
- changes in law and regulations; and
- foreign exchange rates.

Although most of these factors appear to be uncontrollable, managers' responses to them can relieve their negative impacts. Responding to such changes is an important part of a manager's job. Therefore, most evaluations do not shield managers completely from the effect of changes in economic and competitive factors (Merchant, 1998).

Acts of nature, such as earthquakes, floods, riots and strikes, are beyond the ability of managers to predict. According to Merchant (1989), divisionalised companies tend not to hold divisional managers responsible for such factors, provided that they are considered to be clearly uncontrollable. Since they rarely occur, acts of nature tend not to be specified as uncontrollable factors. Where they do occur, however, Merchant (1989) observed that they tend to be treated as uncontrollable factors.

Uncontrollable costs include research and development, group head office, general and administrative costs, taxes, interest and most corporate or common costs allocated to divisions.

Interdependence is where a responsibility centre is not completely self-contained, so that other centres within the organisation affect the outcomes of a division. Solomons (1965) and Merchant (1989) claim that interdependencies between divisions can affect divisional performance.

4.3 Distinguishing between controllable and non-controllable costs

Applying the controllability principle to classify common resource costs as controllable or uncontrollable is not an easy task. McNally (1980) suggests that, typically, control lies along a continuum with two extremes: full control and no control. In between, there are different degrees of control.

Similarly, Skinner (1990) replaced the term 'control' with the term 'influence'. He claims that the user of the services (divisions) can influence the cost of providing services (or the variable cost, at least) since the divisions control the efficiency of its usage; the supplier of the services (head office) influences the cost through controlling the efficiency of its supply. Classifying costs as controllable and uncontrollable depends on whether divisional managers can influence either the quantity of the requesting services and their prices, or both of them.

The following guidelines, published by the Report of the Committee of Cost Concepts and Standards in the US in 1956, still continues to provide useful guidance in distinguishing between controllable and uncontrollable items. The report contends that:

- if a manager can control the quantity and price paid for a service, then the manager is responsible for all of the expenditure incurred for the services and the expenditure is fully controllable;
- if the manager can control the quantity of the service but not the price paid for the services, then the costs are partially controllable. Only that amount of difference between actual and budgeted expenditure that is due to usage should be identified with the manager; and
- if the manager cannot control either the quantity or the price paid for the services, then the expenditure is uncontrollable and should not be identified with the manager.

A more straightforward general guide is provided by Merchant (1998). 'Hold managers accountable for the performance areas you want them to pay attention to', he argues.

Divisional managerial performance should be evaluated by comparing actual performance against budget in important categories of revenue and expenses, culminating in a bottom line that represents the chosen divisional profit measure (for example, controllable profit, net income, EVA).

Controllability is imposed by assigning costs to managers and making them accountable for the variance between the actual and budgeted outcomes. Uncontrollability can be fully recognised by excluding non-controllable items from the performance report. Or it can be partially recognised by ensuring that the manager is not made accountable for the variance by assigning budgeted costs instead of actual costs. For example, if at the end of the reporting period managers are allocated with budgeted central headquarter costs instead of actual costs they are protected from any increases in central costs. However, there is a significant difference between the former and latter situation. In the former situation (excluding the allocated costs from the performance report) the divisional target and actual profit measure is not reduced whereas the latter results in divisional profit being reduced by the budgeted allocation.

If managers are allocated the actual costs for uncontrollable items, the controllability principle is not being applied. However, if managers are allocated budgeted costs, it could be argued that the controllability principle is being partially applied – as managers are not accountable for the variance. The allocation of uncontrollable costs in these circumstances represents a means of increasing the target profit measure to ensure that divisional profits are sufficient to cover budgeted allocated uncontrollable costs. Although this appears to be a rational approach, a counter-argument is that, if corporate management wishes to inform managers that divisions must be profitable enough to cover not only their own operations but allocated uncontrollable expenses as well, it is preferable to set a higher budgeted target for the chosen divisional performance measure that takes these factors into account. Problems that may arise from allocating uncontrollable costs are then avoided.

4.4 Reasons for the allocation of uncontrollable costs

Many reasons have been provided to explain why companies might choose not to adhere strictly to the controllability principle and allocate uncontrollable costs. The following subsections provide a classification of these reasons.

4.4.1 Theoretical reasons derived from agency theory

An agency relationship exists whenever one party (the principal) hires another party (the agent) to perform some service involving the delegation of decision-making authority to the agent. Such a relationship exists between shareholders and a chief executive, whereby the shareholders are principals and the chief executive is the agent. Within a divisionalised company, the principals are represented by corporate management and the agents by divisional managers. A key assumption of agency theory is that each party will act in its own self-interest – principals and agents have divergent objectives – but that incentive contracts can reduce these differences. Because principals have inadequate information about an agent's performance, they cannot be sure of the extent that an agent's efforts contributed to actual company performance. This situation is referred to as 'information asymmetry'.

Agency theory advocates that monitoring contracts and incentive contracts are required to deal with divergent objectives and information asymmetry. Monitoring involves designing control systems that monitor the agent's actions, and limiting actions that increase the agent's welfare at the expense of the principal's interest. Incentive contracts aim to reduce divergent objectives. The more an agent's reward depends on a performance measure, the greater the incentive for the agent to improve the measure. Therefore, principals should ensure that the performance measure has a significant impact on the achievement of their objectives and aligns the interests of the two parties.

The challenge is for principals to design a performance measurement system that is highly correlated with both agent effort and firm value. The agent's effort, together with outside factors (such as uncontrollable items) combines to determine performance. The closer a performance measure reflects the manager's effort and firm value, the more valuable the measure is as an incentive contract. If the performance measure is not closely related with the agent's effort, there is little incentive for agents to increase their efforts. Incentive arrangements cannot ensure complete goal congruence because of the differences in risk preferences between the two parties, the asymmetry of information and monitoring costs.

Justifications based on agency theory have been presented to explain why principals (top management) should hold agents (lower management) accountable for outcomes over which they do not have complete control. One argument is that holding agents accountable for the effect of random and uncontrollable events (such as changes in economic and competitive factors) and the effects of actions of other managers (for example, those arising from organisational interdependencies) will cause agents' decisions to reflect a proper degree of risk aversion (Demski, 1976). This justification is based on the desirability of having subordinates share risks with their managers. Making managers accountable for uncontrollable items may discourage them from risky actions and so reduce the risk and uncertainty borne by the principals alone.

Holding agents accountable for some items over which they have no control will also allow them to gauge how their decisions affect areas outside of their control. Baiman and Noel (1985) use a theoretical model to illustrate that it can be useful to charge agents for the cost of capacity. Zimmerman (1979) also provides similar justifications for assigning the costs of shared resources.

Another justification is to provide information about the agent's unobservable actions. Baiman and Demski (1980) and Holmstrom (1982), argue that cost allocations can serve as useful proxy variables for certain costs that are difficult to observe in a decentralised firm. They also argue that agents should be evaluated on their accomplishments as they compare with other agents who face a similar environment. Such a relative performance evaluation is considered desirable because the broader data provides information about the agent's unobservable actions.

Finally, Zimmerman uses agency theory to show that cost allocations can act as a lump-sum tax that reduces a manager's consumption of perquisites.

4.4.2 Behavioural reasons

The following behavioural dimensions have been identified as justification for allocating uncontrollable costs:

- this will make divisional managers aware that such costs exist and must be covered by divisional profits (Melrose-Woodman, 1974, p. 13; Fremgen and Liao, 1981, p. 94). This reason has been widely cited as being the most important reason for cost allocations.
- allocating uncontrollable costs will motivate divisional managers to put pressure on resource centre managers to control their costs (Fremgen and Liao, 1981, p. 94; Skinner, 1990, p. 136). This reason implies that divisional managers can play a key role in controlling the total costs of common resources. Divisional managers are sensitive to the charges for their share of the costs of common resources. Therefore, they will put pressure on central service departments by complaining if a particular service becomes too costly. This may have a desirable effect on the company as a whole, since central services managers will try to minimise the costs of their services to avoid divisional managers' complaints.
- divisional managers would bear full business risk, as if they were the managers of non-divisionalised companies. Bromwich and Walker (1998) advocate the view that divisional managers should act like owners and consequently they should bear the risk of uncontrollable factors. This is similar to the view expressed by Demski (1976), derived from the agency theory.
- it may induce divisional managers to take a greater interest in the costs of shared resources (Melrose-Woodman, 1974, p. 13; Fremgen and Liao, 1981, p. 94). Some companies use the allocated costs of common resources as a means of encouraging divisional managers to request central services, such as legal and research and development. The costs of common resources may be allocated to divisions that do not use them, in order to encourage this use.

4.4.3 Institutional purposes

Management accounting literature suggests that companies allocate central service costs to divisions in order to achieve institutional purposes. For example, Thomas (1971) stated that cost allocation might be useful for institutional purposes when a company is required by an external authority to allocate costs. The allocation is made to satisfy such requirements. One example of these requirements is when divisions have a legal identity. In this case, corporate management may choose to allocate central costs to achieve tax savings. Divisional managers, however, may have no, or little, authority over such costs. In addition, Baxendale (1987) found that companies allocate central costs (both controllable and uncontrollable) to their divisions when they engage in governmental contracts. The price of the contract is based on actual costs. Therefore, companies allocate full costs to divisions to be used in determining negotiated prices.

In addition, previous empirical studies have reported that accountants traditionally allocate central costs. In other words, allocations are the result of institutionalised routines (Ahmed and Scapens, 2000). Skinner (1990, p. 136) reports that:

'In one company (in New Zealand) the accountant could indicate no reason for the use of profit, other than that it was regarded as the accepted way of measuring divisional financial performance.'
(Skinner, 1990, p. 136).

Similarly, Horngren and Foster (1991) claim that the accountants' and managers' custom of dividing the whole into parts, that can be added again to equal the whole, as being a reason for allocating uncontrollable costs.

Empirical research (Reece and Cool, 1978; Skinner, 1990) has also reported that companies use net profit or ROI based on allocated uncontrollable costs in order to make inter-division, or inter-firm, comparisons. Antle and Smith (1986) found a positive association between top corporate executives' compensation and traditional financial measures. They suggest that the compensations, based on accounting profits, are determined relative to the current average profitability of firms operating in the same industry. Also, Maher (1987) argues that divisional managers are the most likely to be evaluated by industry peers. These studies indicate that the allocation of uncontrollable costs are required to facilitate comparisons between divisions' performances and that of their industry counterparts.

4.5 Reasons for non-allocation of common resource costs

Empirical studies (for example, Baumes, 1963; Fremgen and Liao, 1981; Ramadan, 1985) have cited the many reasons for non-allocation of some of the costs of common resources. They include:

- the amount of common corporate costs is too small to warrant allocation;
- common resource costs are not controllable by divisional managers;
- the costs of making the allocations would exceed their benefits;
- divisional managers object to charges they cannot influence and control;
- allocations are arbitrary and tend to distort divisional profits; and
- unnecessary internal tension can be avoided by no allocation.

4.6 Empirical evidence relating to cost allocation

This section describes the findings of the four previous major studies relating to the allocation of the costs of common resources to divisions. Two relate to studies in the US – a survey undertaken by Fremgen and Liao (1981) and a field study, comprising of 12 companies, conducted by Merchant (1989). The third study describes the most recent survey undertaken by Ramadan (1985) in the UK. The final study is a telephone survey conducted by Skinner (1990), comprising of Australian and New Zealand companies.

Fremgen and Liao (1981) surveyed 123 large companies in the US to determine the extent to which firms allocated indirect costs (central costs) to profit centres and also to determine why and how these allocations are made. The results indicated that over 80 per cent of the respondents allocated central services costs to divisions for several purposes (including tax planning and performance evaluation). Of this 80 per cent, 90 per cent reported that the main reason for allocation was to remind profit centre managers that central costs exist and divisions must make enough profit to cover them. In addition, they found that allocating full costs was considered to be the best available estimate of long-run incremental costs (Fremgen and Liao, 1981, p. 68). This reason seems to be related to the role of cost allocation in making decisions (for example, pricing decisions) rather than evaluating performance. However, companies adopting the policy of non-allocation stated that the main reasons for non-allocation was that profit centre managers have no control over such costs and that they object to charges they cannot influence and control.

Merchant (1989) conducted a field study of 12 corporations that were diverse in size, type of business, capital and labour intensity and the degree of diversification. He observed significant differences in the ways that companies treated uncontrollable costs. Corporate, general and administrative expenses were assigned to profit centre managers in seven of the 12 corporations. Regarding allocation bases, he found that some costs were assigned using direct charges for services. However, firms allocated general and administrative expenses using different bases, such as total assets, number of employees, or revenues. Merchant (1989, p. 100) identified two reasons for cost allocation. The first was that allocating general and administrative expenses can generate constructive conflict between divisional managers and corporate staff that will help keep corporate expenses under control. The second reason was that allocated costs would facilitate evaluating profit centre managers on the basis of a closer approximation of the full cost of their actions.

In the five corporations that did not allocate general and administrative expenses, corporate managers believed that the profit centre managers had an insignificant influence on these costs, or that the allocations were arbitrary. The managers of one corporation that did not allocate corporate costs to divisions thought that allocations were worthwhile but said they chose not to allocate for 'political reasons' (Merchant, 1989, p. 102). At this corporation, the top managers were afraid that profit centre managers would resist the allocation as signs of increasing corporate control over their entities.

Ramadan's 1985 study examined the perceptions of top management in 120 large UK divisionalised companies in relation to central cost allocation for the purpose of performance evaluation. He hypothesised that central cost allocations have desirable effects and influence divisional managers to act in the best interest of the whole company. The desirable effects that were identified included encouraging optimal utilisation of resources, reducing divisional managers' expenditure on perquisites and reducing budgetary slack. He also argued that the decision to allocate central service costs was related to organisational variables (that is, interdependence, degree of decentralisation, costs of monitoring divisional managers' performance and the number of divisions).

Central costs were allocated by 69 of the 120 respondents. The two most important reasons for cost allocation were, firstly, that divisions would incur such costs if they were independent units or if the services were not provided centrally; and, secondly, to make divisional managers aware that central costs exist. The 44 respondents that did not allocate central costs reported that the main reasons were that central costs were beyond divisional managers' control and that divisional managers object to charges that they cannot influence and control. Regarding the perceptions of top management that allocate costs, he found that most of the respondents (60 per cent) indicated that their companies should continue cost allocation and the rest (40 per cent) indicated that their companies should continue making cost allocation but with improved allocation bases. None of them suggested abandoning the practice.

Concerning the relationship between cost allocations and organisational factors, Ramadan found that cost allocations were more likely to exist in companies with high degrees of interdependence between divisions. However, there were no significant relationships between cost allocation and the other organisational variables (the degree of decentralisation, number of divisions and the cost of monitoring divisional managers' performances).

Skinner (1990) conducted a telephone survey of 99 respondents who were in charge of the management accounting systems of Australian and New Zealand organisations. He reported that 75 of the 99 companies were divisionalised and 54 out of the 75 companies (or, 72 per cent) allocated the costs of central services. The most common reason for allocation was to encourage profit centre managers to put pressure on service department managers to do a better job of controlling their costs. In addition, he found that companies that allocated central services used allocations to encourage the questioning of the internal provision of the service or the level at which it is supplied. He also found that companies used cost allocations for making inter-division and inter-firm comparisons. The rationale for this was that companies tended to have different types of services provided centrally, or locally, by divisions. Therefore, the omission of central services costs would destroy comparability.

Skinner also found that companies allocated central service costs for making strategic decisions, at both corporate and divisional levels, such as changing (increasing, decreasing or even closure) the size of the division. This suggests that full cost allocation is considered to be a good estimate of long-run incremental costs. The extent to which divisional managers were able to influence, in some way, the central costs allocated to them was also examined. He reported that respondents from 37 of the 54 companies that allocated central costs claimed that divisional managers were able to influence all central costs. However, four responding companies reported that divisional managers were able to influence only some costs (for example, services, but not administrative, costs). The remaining 13 companies reported that divisional managers could not influence central costs. Skinner also examined types of influence. He found two types of influence. The first was that divisional managers were able to put pressure on service departments to do a better job of controlling central costs. The second was that divisional managers could raise the question of whether it would be better if an existing service were to be supplied (wholly or partially) either from outside of the company or within each division.

4.7 Summary

An important characteristic of responsibility accounting is that managers should be evaluated only on the basis of those factors that they control. This notion creates the need to distinguish between controllable and non-controllable costs. Considerable attention is given in literature to distinguishing between these. However, the empirical studies described in this chapter indicate that the controllability principle appears to be violated often in practice.

Two aspects of controllability have been identified here. The distinction between them has received insufficient attention in management accounting literature. The first relates to whether managers are held accountable for variances between budgeted and actual uncontrollable costs. It was argued that managers can be held unaccountable for the variances if they are excluded from the performance measure, or if the budgeted and actual performance measures are derived from incorporating budgeted uncontrollable costs instead of actual costs. The second aspect relates to whether uncontrollable allocated costs are assigned to managers (budget or actual). When they are allocated, managers are made accountable for them even though they may not be held accountable for any variances between the budgeted and actual allocations. This practice has the effect of increasing the target profit measure to ensure that divisional profits will cover allocated uncontrollable costs. An alternative practice, which avoids the problems that may arise from cost allocations, is to set a higher budgeted target for the chosen divisional performance measure, taking into account the fact that the profit must be sufficient to cover the uncontrollable factors.

It is apparent from the summary of the previous surveys that the treatment of the variance between budgeted and actual uncontrollable costs has not been investigated. A further problem with the previous surveys is that they do not distinguish between whether the performance measures were used to evaluate divisional economic or managerial performance or whether the same reported measure was used for both purposes. This has an impact for the purposes of cost allocations since they can be used as an input for evaluating divisional economic performance (for example, estimating long-run full costs) or managerial performance (with cost allocations serving some of the purposes described in this chapter).

The empirical evidence does, however, appear to indicate that many companies use allocations for managerial performance evaluation. This implies that they have rejected the suggestion of setting a higher target profit that takes into account uncontrollable factors. The rationale for this practice would appear to be that cost allocations serve purposes other than being purely a mechanism for increasing target profit.

Finally, the previous chapter discussed the proposition that many companies appear to make relative divisional comparisons with units facing similar environmental factors. This practice may attempt to take into account uncontrollable factors by neutralising them so that they are, in effect, held constant when making the relative comparisons.

5. The Research Methodology

5.1 Introduction

This chapter begins with an explanation of the need for undertaking further research relating to divisional performance measurement. This is followed by a description of the data collection method, sample selection, respondents, survey content, response rate and tests for non-response bias.

5.2 The need for further studies

There are several reasons for undertaking further research relating to divisional performance measurement and control. Most of the empirical research was conducted over 20 years ago when the business environment and management practices were very different to those existing today. There is also a lack of research examining the possible different levels of application of the controllability principle. In addition, writers have called for further research targeting a large sample of companies to supplement the case study research that has focused on either individual, or a small number of, companies. A postal survey was therefore undertaken to provide a more suitable basis for generalising the research results. It was also recognised that previous studies have tended to ignore the relative importance attached to the different reasons for allocating common resource cost. In addition, previous research has tended to be biased towards the use of financial performance measures and there is a need to investigate the relationship between the use of financial and non-financial performance measures. The relationship between the level of application of the controllability principle and the degree of satisfaction with the performance measurement system, and the extent to which different performance measures are used to evaluate divisional managerial and economic performance, have been examined in this study. These relationships have not been investigated in previous studies.

5.3 Data collection method

Empirical data was collected by means of a postal survey. Prior to undertaking the survey, it was subject to extensive pre-testing, involving interviews with both practitioners and academics. A pilot survey was also undertaken.

5.4 Sample selection

In order to provide a basis for generalising the results of this research to the whole population, a random sample was selected. The aim was to select a population consisting only of UK divisionalised companies. Unfortunately, there is no database that contains only divisionalised companies. In addition, there were no reliable methods that could be used to distinguish between divisionalised and non-divisionalised companies prior to mailing the survey. Thus, the sample selection included both divisionalised and non-divisionalised companies. To identify divisionalised companies, the first question in the survey asked the respondents to specify whether their company was divisionalised. Respondents employed in non-divisionalised companies were asked to complete only the first four questions of Section A and return the survey. The aim was to include only divisionalised companies in the study.

It was decided that the selected sample should include subsidiaries (or divisions) of overseas companies, listed and unlisted companies. Since it was considered possible that performance measurement practices could be influenced by the practices of a head office located in an overseas country, subsidiaries of overseas corporations were included in the sample. This provided the opportunity to ascertain if there were any differences between the practices of organisational units whose head office was located in the UK compared with those units with head offices located outside of the UK. Both listed and unlisted companies were included in the sample because they may use different performance measures, or attach different levels of importance to the measures used. Including both types of organisations provided the opportunity to examine whether the observed practices differed.

Only manufacturing organisations were included in the sample because of the difficulty of designing a single survey that was applicable to both manufacturing and service organisations. Consideration was given to producing two surveys, one for manufacturing and the other for service organisations. However, it is extremely difficult to make generalisations about service organisations because of their distinctive features. Hospitals are very different from banks, and banks are quite different from universities. Therefore, it was considered that it would not be possible to design a single survey that would be applicable to all types of service organisations.

Having determined the criteria to be used to select the sample, it was necessary to identify an appropriate database. It was decided that the One Source database, which includes detailed information relating to over 360,000 public and private companies, would be used. The information is contained on two disks. The first includes companies with a turnover of £500,000 or more, while the second includes companies with a turnover of less than £500,000. Since it was felt that size was a good indicator for divisionalised companies, it was decided to use the first volume. The database was also used because it provided information relating to sales turnover and number of employees (at the company level but not at the business unit level), directors' names and accountants' names. This information was of vital importance for identifying potential respondents.

Random sampling was used to select the sampling units in this study, as there was no reason to believe that non-divisionalised companies were not distributed randomly across the population. A random sample of 750 companies with an annual sales turnover in excess of £100 million was selected from the population. These companies were selected because there is a higher probability that companies with a sales turnover of less than £100 million will be non-divisionalised. In addition, the research focused on organisations that have established formal performance reporting control systems. Smaller organisations might rely more on direct observations, action and social controls rather than formal performance measurement systems.

5.5 The respondents

It was important that the respondents to the survey should have a good knowledge of their organisation's performance measurement systems and the potential explanatory variables. It was decided to address the survey directly to the group finance director, or to the individual at the position of the highest level of financial responsibility in each group head office, and to the head of the accounting function if the company was a subsidiary. The name of the group finance director, or the head of the accounting function, was identified for nearly all of the identified respondents as it was considered that this was likely to increase the response rate. The letter accompanying the survey also included a request for the recipients to pass the documentation on to their appropriate colleague if they thought that they had been incorrectly identified and did not have sufficient knowledge relating to the performance measurement system of their organisation. The job titles of all of the persons completing the survey were examined carefully prior to including the responses in the analysis. The analysis of responses by job titles indicated that 55 per cent were completed by finance directors and the remainder by financial controllers or management accountants.

An analysis of the respondents by size (measured by the annual sales turnover of the business unit), listing status (listed or unlisted), location of head office (UK or overseas), and location of the respondents within the company (at the divisional level or central headquarters) is presented in Table 5.1.

Table 5.1 Information on the Respondents' Business Unit

Annual Sales Turnover of the Business Unit (£ million)	Number of Cases	%
100 – 150	37	29.8
150 – 200	24	19.4
201 – 500	35	28.2
501 – 1,000	7	5.6
Over 1,000	21	17.0
Total	124	100
Listing status		
Stock exchange listing	92	74.2
No stock exchange listing	32	25.8
Total	124	100
Location of head office		
UK	78	62.9
Overseas	46	37.1
Total	124	100
Location of respondents within the company		
At group head office	74	59.7
At a division within the group	50	40.3
Total	124	100

5.6 The response rate

A total of 251 surveys were returned from the sample of 750 companies. This included 18 that were returned incomplete with a letter stating that the company no longer employed the respondent. A further 94 were returned with a covering letter explaining why they had not completed the survey. Most of the responses indicated that it was not company policy to participate in surveys, or that there was a lack of time due to work pressures. The remaining 139 were completed. Of the 139 completed surveys, 11 companies were not organised into divisions according to the definition given in the survey's guidance notes. Therefore, the number of returned completed surveys from divisionalised companies was 128 (including four unusable questionnaires). There are various ways of measuring the response rate. According to de Vaus (1990, p. 99), a common way of computing the response rate is to use the following formula:

Response rate = Number of completed and returned ÷ number in sample – (ineligible + unreachable)

Therefore the response rate = $128 \div 750 - (18+11)$
= 18 per cent

For a field study involving a complex survey, such as this, a response rate of about 20–22 per cent is usually considered to be very good (Saunders et al, 2001) Kervin (1992, p. 444) also argues that response rates for a survey can be as low as 10 per cent. Given that it was not possible to distinguish, in the initial sample, between divisionalised and non-divisionalised companies, it is likely that some of the non-responding organisations were non-divisionalised and therefore ineligible for inclusion in the sample of potential respondents. Therefore, the above response rate is likely to be understated. The response rate is therefore considered to be acceptable.

5.7 Survey content

In the first page of the survey, guidance notes were provided to facilitate the answering of some of the questions and to state definitions of those terms that might differ among the organisations.

The questions sought to obtain the following information:

- the extent to which companies use different measures to evaluate the economic performance of the divisions and the performance of divisional managers;
- the level of application of the controllability principle;
- the explanatory factors of the different levels of application of the controllability principle; and
- the relative importance attached to non-financial performance measures.

Wherever possible, a seven-point scale was used to measure the variables. The survey was divided into seven sections. Section A contained questions relating to respondents' companies or organisational unit. Section B focused on the performance measures that are used to evaluate the economic performance of the divisions and the performance of divisional managers.

Questions relating to the treatment of common corporate costs were incorporated in Section C. This section aimed primarily to examine whether or not the companies allocated different categories of common resource costs and general administrative business-sustaining costs for the purpose of measuring divisional managerial performance. In addition, the extent of divisional autonomy for different categories of common resources provided by corporate headquarters and the role of cost allocations were examined.

Section D collected data on the potential explanatory factors for holding divisional managers responsible for uncontrollable factors. The fifth section, Section E, aimed to determine whether EVA was used to evaluate divisional managerial performance as the theory advocated. Economic value added (EVA) is a fairly recent innovation and it is of interest to ascertain the extent to which companies are adopting this innovation at the divisional level. Section F focused on the role of non-financial performance measures and the use of the balanced scorecard in evaluating divisional managerial performance. The final section, G, obtained demographic information relevant to the respondents' background in order to test for non-response bias.

5.8 Tests for non-response bias

In order to test for non-response bias, the responses for the following variables were examined:

- organisation size measured by the group turnover and the number of divisions;
- whether the company was listed or unlisted;
- the location of the respondents in the organisation (head office or divisional level);
- the location of the head office (UK or overseas); and
- the length of time working at the company and years of experience of the respondents.

Two methods were used in order to test for non-response bias. The first compared the responses from the initial mailing with the combined responses obtained from the first and the second reminders, using either the Mann-Whitney test or the Chi-Square test. The second used either the Kruskal-Wallis test or Chi-Square test to compare the responses by the initial mailing, the first reminder and the second reminder. The results indicated that there was no significant difference between early and late replies for both methods.

5.9 Summary

This chapter has described the methods that were used to collect the data and the tests for non-response bias. The research findings are presented in the following chapter.

6. Survey Findings

6.1 Introduction

The survey findings are reported within three broad categories.

Sections 6.2 – 6.6 report the findings relating to the usage of financial and non-financial measures. Within this section, the extent to which different performance measures are used for evaluating the economic and managerial performance of the divisions, the relative importance of alternative financial measures and the usage of EVA and non-financial measures for divisional performance measurement are examined.

The second category relates to examining the application of the controllability principle. Issues within this category are examined in sections 6.7 to 6.14. Within these sections, the application of the controllability principle to common resource costs, business-sustaining group general and administration costs, uncontrollable environmental factors and divisional interdependencies are examined. The extent to which uncontrollables are informally taken into account, the importance of factors influencing the allocation of common resource costs and the treatment of the variance between the budgeted and actual cost of common resources are also examined.

The survey findings relating to the degree of satisfaction with performance measurement systems are reported in Section 6.15.

6.2 The use of different performance measures to evaluate divisional managerial performance and the economic performance of the divisions

Pursuing the line of argument that companies may use different performance measures to evaluate divisional managerial performance and the economic performance of the divisions (see Section 3.2 in Chapter 3), the respondents were asked to indicate in Question (B1) which of the following methods describe the use of performance measures in their companies:

1. The same performance measures are used for evaluating the performance of divisional managers and the economic performance of divisions but different items are included within the performance measure (44%);
2. Different performance measures are used for evaluating the performance of divisional managers and the economic performance of the divisions (18%); and
3. Identical performance measures are used for evaluating the performance of divisional managers and the economic performance of the divisions (38%).

The figures in the parentheses signify the percentage responses to the question (N=124). Thus, 62 % of the companies would appear to distinguish between the economic performance of the divisions and the performance of the divisional managers. The above findings suggest that variations do exist in the application of the controllability principle. For the first performance measurement category described above uncontrollable costs were specified within Question B1 as an example of an item that might be excluded from the managerial performance measure, but included within the economic performance measure. This would suggest that 44% of the respondents ticking this box are indicating that some uncontrollable items are excluded from the performance measure when evaluating divisional managerial performance. In contrast, the responses to the second category described above do not necessarily imply that the controllability principle is being applied. The responses may indicate that a non-ratio performance measure (e.g. net income, controllable profit etc.) is used to measure managerial performance and a ratio measure (e.g. ROI) for economic performance, or vice-versa. Both types of measures may, or may not, include uncontrollables. Thus, some doubt exists as to whether the responses to the second category indicate that the controllability principle is being applied. The responses within the third category suggest non-application of the controllability principle since no attempt is made to distinguish between managerial and economic performance.

The conclusion from the above analysis is that the responses provide evidence of 44% of the respondents applying the controllability principle and 38% not applying the controllability principle. However, the former does not provide any evidence to suggest whether the controllability principle is extensively applied or is being merely applied to a small extent.

Some of the respondents also added notes to explain the use of performance measures at their companies. Examples include:

- performance measures for managers also include personal objectives, progress with strategic agenda and other non-financial measures;
- we have two measurements: (1) divisional profit before interest and tax and before corporate allocations, (2) divisional profit after interest, tax and corporate allocations. The first one is for performance measurement and the second is for attention-directing information; and
- many divisional managers will also be partly measured on the overall group performance in addition to divisional measurement.

6.3 The relative importance of different financial measures

Given that more than one financial measure (see section 6.2) may be used to evaluate the performance of divisional managers, the respondents were given a list of measures that have been identified in literature as measuring overall divisional performance. They were asked to rank, in order of importance, the three most important measures. The responses are summarised in Table 6.1.

Table 6.1 Ranking of three most important financial measures

No.	Financial measure	Most important ranking		Second most important ranking		Third most important ranking	
		No.	%	No.	%	No.	%
(a)	'Achievement of a target rate of return on capital employed'	9	7.3	21	18.1	41	41
(b)	'A target profit after charging interest on capital employed (residual income)'	18	14.5	11	9.5	5	5
(c)	'A target profit before charging interest on capital employed'	68	54.7	23	19.8	5	5
(d)	'A target economic value added (EVA) figure'	11	8.9	8	6.9	10	10
(e)	'A target cash flow figure'	10	8.1	45	38.8	27	27
(f)	'Other'	8	6.5	8	6.9	12	12
Total		124	100	116	100	100	100

The target profit before charging interest on capital was considered to be the most important measure by 55 per cent of the organisations. The second most important measure, highlighted by 14 per cent was to target profit after charging interest on capital (residual income). The widely cited measure of targeting return on capital employed was ranked as the most important measure by only 7 per cent of the respondents.

The question also provided the opportunity for respondents to insert measures other than those listed. Of the 124 respondents to this question, eight inserted an unlisted measure as the most important financial measure. Measures specified included gross contribution margin, return on sales, sales volume and internal growth, revenue growth and target sales.

It should be noted that previous studies (Reece and Cool, 1978; Scapens and Sale, 1985; Francis and Minchington, 2000) have reported that a target ROI is extensively used. However, these studies did not require the respondents to rank the relative importance of the different measures. Comparing the results of this study, based on rankings, with the previous studies that did not incorporate rankings, a different picture emerges. It would appear that an absolute measure of performance is preferred to a ratio measure. A possible explanation of this observation is that central head offices require divisional managers to focus on maximising an absolute value rather than a percentage return. Also, the survey required that responses should be related to managerial performance evaluation, whereas other studies have not distinguished between managerial and economic performance. For managerial performance evaluation, there appears to be a strong preference for comparisons to be made with profit budgets that take into account the projected potential of the resources being managed. Targets set in absolute terms at the planning stage for the forthcoming period that take into account the potential returns on the assets – and which can easily be disaggregated by revenue and expense categories – may provide a more appropriate basis for managerial performance evaluation. Return on investment (ROI) may be used more extensively for evaluating divisional economic performance over a longer-term period, involving comparisons with similar units outside of the organisation.

6.4 EVA usage

Economic value added (EVA) is a fairly recent innovation. The survey sought to ascertain the extent of its use and relative importance. It was ranked as the most important financial measure by 11 (or 9 per cent) of the respondents. With regard to EVA usage, 28 respondents (23 per cent) indicated that it was used as a method of evaluating the performance of divisional managers and one respondent indicated that it was used at a higher level to evaluate senior managers. Of the 28 respondents using EVA, half considered it to be the most important financial measure. The responses also indicated that a further 11 per cent of respondents planned to introduce EVA within the next two years and 66 per cent indicated that there were no plans to use EVA. Of the 28 respondents currently using EVA, the survey indicated that 16 made adjustments to accounting numbers for distortions introduced by GAAP and 12 did not make any adjustments. This finding suggests that the latter group compute a residual income measure rather than a true EVA measure that requires adjustments to overcome the limitation of GAAP.

6.5 The influence of divisional management and group head office management in setting financial targets

An interesting issue raised in previous studies is that financial targets, in terms of targeted performance measures, are imposed by the head office (Scapens et al, 1982; Tomkins, 1973). Therefore, the survey sought to ascertain the extent to which head office management and divisional management participate in setting the financial targets specified in Table 6.1. A seven-point scale was used to measure the level of influence ranging from one ('to a considerable extent') to seven ('not at all'). The mean scores were 2.22 (with a standard deviation, or 'SD', of 1.45) for group head office influence and 2.31 (SD = 1.63) for divisional management influence. Given that there was no significant statistical difference between the responses, they suggest that both head office management and divisional management are involved – to a considerable extent – in setting financial targets.

6.6 Non-financial measures

In recent years, increasing attention has been paid to incorporating within the performance measurement system those non-financial performance measures that provided feedback on the key variables required to compete successfully in a global economic environment (Kaplan and Norton, 1996). In particular, a balanced scorecard approach has been advocated (see Section 3.5 in Chapter 3). The responses indicated that most organisations do not rely only on financial measures to evaluate divisional performance. Non-financial measures were used to evaluate divisional performance by 97 (78 per cent) of respondents. These respondents were asked to specify the approaches they adopted to incorporate non-financial measures. Of the 97 respondents¹:

- 55 per cent adopted the balanced-scorecard approach;
- 7 per cent used the Tableau de Bord;
- 18 per cent used EFQM²;
- 14 per cent used other approaches; and
- 25 per cent stated that they used none of the listed items and did not specify the approach they adopted.

Fifty-three of the 124 respondents (or 43 per cent) used a balanced scorecard approach to evaluate divisional performance. Eight respondents specified other approaches. These included customer performance and satisfaction measures (three respondents), key performance indicators (three), market share (one), safety targets (one), quality and productivity (one), and employee satisfaction (one).

Finally, the respondents were asked to indicate, on a seven-point scale, the importance attached to financial versus non-financial measures for evaluating divisional performance. A scale of one ('financial measures are considerably more important than non-financial measures') to seven ('non-financial measures are considerably more important than financial measures') was used. The mid-point was four ('they are about the same importance').

¹ The responses add up to more than 100% because some respondents specified that they used more than one approach.

² The term 'EFQM' refers to the European Foundation for Quality Management's Excellence Model. The model is a mechanism that has been promoted for assessing organisational quality performance and so is relevant at the divisional level. The model includes both financial and non-financial aspects, such as leadership, policy and strategy, people management, resources, processes, customer satisfaction, people satisfaction, impact on society and business results (Donnelly, 2000).

Of the 97 respondents using both financial and non-financial measures to evaluate divisional performance, 71 per cent entered a score of less than four, 18 per cent entered a score of four and 11 per cent a score of above four. Given that all of the respondents were located within the finance function, it could be argued that they have a biased view relating to the relative importance of the financial measures as compared with non-financial measures. Nevertheless, the findings tend to reject the views that Kaplan and Norton (1996) have observed and objected to: that financial measures should be de-emphasised on the grounds that, by making fundamental improvements to the key non-financial measures, the financial measures will take care of themselves. In other words, financial success should be the logical consequence of favourable key non-financial measures.

6.7 The costs of common resources

The respondents were asked to indicate if divisions used common resources³. Most organisations (95.2 per cent) indicated that divisions used common resources. Only six (4.8 per cent) out of 124 respondents did not use common resources. In order to obtain an indication of the relative cost of common resources, information was collected on the approximate amount of the costs of common resources as a percentage of annual divisional turnover. Table 6.2 summarises the responses to this question. It is apparent that the amount of the costs of common resources varies, but it is 10 per cent of divisional turnover or less for approximately 73 per cent of the respondents. Overall the cost of common resources, as a percentage of divisional turnover, is relatively low.

Table 6.2 The costs of common resources as a percentage of divisional turnover

Common resources (%)	Frequency	%	Cumulative (%)
0-5	52	44.4	44.4
6-10	34	29.1	73.5
11-15	22	18.8	92.3
16-20	5	4.3	96.6
21-25	1	0.9	97.4
26-30	2	1.7	99.1
30+	1	0.9	–
Total	117	100	100

Two factors that may explain the relatively low cost of common resources were examined. According to Fremgen and Liao (1981, p. 32), the first factor is the degree of decentralisation. In divisionalised companies with a low degree of decentralisation, it is likely that the majority of common resources are provided at the group head office. Therefore, it can be argued that the lower the degree of decentralisation within an organisation, the greater the cost of common resources that will be allocated. The responses provide only very limited support of this view. The Spearman rank-order coefficient correlation between the cost of common resources allocated and a measure of decentralisation derived from the survey data was -0.15. (It is deemed as significant at the 0.05 level.) The negative correlation implies that the greater the degree of decentralisation, the lower the amount of the costs of common resources allocated, and vice versa.

The second factor is the number of divisions. It can be argued that, where a company has a large number of divisions, the cost of common resources for an individual division is likely to be low because of economies of scale and because the cost of common resources is allocated over a large number of divisions. The survey found an insignificant correlation, ($p > .05$) thereby suggesting that there was no significant relationship between the cost of common resources and the number of divisions.

6.8 The application of the controllability principle common resource costs

The respondents were asked to indicate whether some of the costs of common resources were allocated to divisional managers prior to computing the performance measures. Of the 118 organisations responding to this question, 98 (83 per cent) stated that this was the case. Only 20 (17 per cent) stated that they did not allocate such costs to divisional managers for the purpose of performance evaluation.

In order to assess the extent of controllability of the cost of common resources allocated to divisions, the survey required the respondents to specify whether common corporate resources fell within the following categories. (The numbers within the parentheses indicate the percentage of respondents.):

- divisional managers determine the quantity acquired and the price paid because they have the authority to purchase the services – either inside of, or outside of – the organisation. In other words, they have full autonomy over determining from where to acquire the service and the price paid for the services (11 per cent); and
- divisional managers cannot determine the prices paid for the services because they do not have the authority to purchase the service from outside of the organisation. However, they can determine the quantity of common resources that are consumed and thus influence the amount of costs that are allocated to them (55 per cent).

³ The respondents were given a definition of common resources in the first page of the survey.

Divisional managers cannot determine either the price or quantity they are charged for the resources. They are allocated a fixed sum irrespective of usage (56 per cent)⁴. For analysis purposes, the three categories of common resource costs described above were classified as follows:

Category 1 – full autonomy and controllable;
 Category 2 – partial autonomy and partly controllable;
 Category 3 – no autonomy and non-controllable.

Applying the controllability principle, controllable costs should either be allocated using cause-and-effect allocations, or direct charges where the service consumed can be measured directly. The controllable element of the partly-controllable costs should be allocated and the non-controllable element not allocated. Non-controllable costs should not be allocated to divisions when measuring divisional managerial performance.

In order to determine the extent to which organisations allocate costs with different potential levels of controllability to divisions, the respondents were asked to indicate the

extent to which the cost of common resources for each of the three different autonomy/controllability categories were allocated to divisions for the purpose of measuring divisional managerial performance. Table 6.3 summarises the responses in columns 2-4.

It is apparent from the 'Full autonomy – category 1' column of Table 6.3 that organisations tend to allocate controllable costs to divisional managers when they are granted full autonomy over common resources. Surprisingly, 55 per cent of the respondents falling within this category allocated only a minor portion of the costs. Care, however, should be taken in interpreting the results, since the number of respondents within this category was only 11. It is possible that, since the divisions have the authority to acquire the service from outside of the organisation, they frequently use external services for some common resources costs and, on other occasions, use the internal services for other common resources. Thus, the purchase of internal services was infrequent and the responses may indicate that only a minor proportion of central or common resources costs are allocated.

Table 6.3 The extent to which costs of common resources and business-sustaining corporate general administrative costs are allocated to divisions

The extent of costs allocated to divisions	Controllable common resource costs (Full autonomy category 1)		Partially controllable common resource costs (Limited autonomy category 2)		Non-controllable common resource costs (No autonomy category 3)		Business-sustaining corporate general administrative costs	
	No.	%	No.	%	No.	%	No.	%
(a) 'None of the costs are allocated'	–	–	–	–	23 ^a	31.1	18	15.5
(b) 'Only a minor portion of the costs are allocated'	6	54.5	2	3.8	3	4.0	12	10.3
(c) 'A small but significant portion of the costs are allocated'	1	9.1	10	18.9	8	10.8	12	10.3
(d) 'Most, but not all of the costs, are allocated'	3	27.3	19	35.8	11	14.9	25	21.6
(e) 'All of the costs are allocated'	1	9.1	22	41.5	29	39.2	49	42.2
Total	11	100	53	100	74^a	100	116	100

Note:

a This includes the 20 respondents who indicated, in Question C3, that they did not allocate common resource costs to divisions. These respondents were not required to answer Question C5. It is assumed that the 20 responses relate to non-controllable costs.

It is also apparent from the penultimate column in Table 6.3 that, for the non-controllable category (that is, where divisional managers have no autonomy in determining the amount of common resources allocated), approximately 54 per cent allocate all, or most, of the common resource costs to divisions. Thirty-five per cent did not allocate, or only allocated a minor portion, of these costs to divisions. The corresponding figures were 77 per cent and 4 per cent for limited controllability (category 2).

⁴ It should be noted that multiple responses were permitted; therefore the responses do not add up to 100 per cent.

It is possible that the three-fold classification of corporate resources costs may not fully capture the extent of autonomy that divisional managers have in using corporate resources. Therefore, a further question was included in the survey to provide additional indications of the degree of control over the use of common resources. The respondents were asked to indicate the extent to which divisional managers were prohibited from using an outside service when such a service was provided internally. The responses are presented in Table 6.4. The table shows that 57 per cent of respondents had limited autonomy to use outside services, 30 per cent had no autonomy and 13 per cent had substantial autonomy.

were asked to indicate the extent to which corporate general and administrative costs were allocated to divisions. Various examples of these costs were provided within the survey question. They included depreciation on buildings and equipment at the head office. It is assumed that items within this category represent non-controllable costs and are viewed as such by the organisation. The responses to this question are presented in the final column of Table 6.3. Of the 116 responding organisations, 64 per cent allocated all, or most, of the business-sustaining costs to divisions for measuring divisional managerial performance. Twenty-six per cent either did not allocate, or only allocated a minor portion of, the business-sustaining corporate general administrative costs.

Table 6.4 Extent to which divisional managers are prevented from using an outside service when the service is provided internally

Extent	Frequency	%
(a) 'Divisional managers have substantial freedom to purchase the service externally, and in practice they exercise this option'	1	1.0
(b) 'Divisional managers have substantial freedom to purchase the service externally, but in practice they do not exercise this option'	1	1.0
(c) 'Divisional managers have substantial freedom to use an outside service, and they exercise this option on some occasions'	11	11.2
(d) 'Divisional managers have very limited freedom to use an outside service, and in most cases they must use the central services'	56	57.1
(e) 'Divisional managers must use the central services in all the cases'	29	29.6
Total	98	100

In addition, they were asked to indicate the extent to which divisional managers can negotiate the amount allocated (or the price paid) for the costs of common resources. On a scale of one ('not at all') to seven ('to a considerable extent'), 48 per cent of the responding organisations entered a score of one or two, and only 8 per cent entered a score of six or seven. This mean score was 3.15. The responses to this question provide further support to the argument that the majority of divisions had limited, or no, autonomy in determining the costs of common resources allocated to them.

6.9 The application of the controllability principle to group business-sustaining corporate general and administration costs

Business-sustaining corporate general and administrative costs can be distinguished from the costs of common resources. They are incurred for the group as a whole and normally cannot be influenced by divisional managers. Hence, they represent costs that are uncontrollable by divisional managers. By contrast, some common resource costs can be influenced by divisional managers. Such costs will fluctuate according to the demand for them: they are subject to different levels of controllability. The treatment of corporate general administration costs was therefore examined separately from common resource costs. The respondents

6.10 The application of the controllability principle to uncontrollable environmental factors and divisional interdependencies

The survey sought to ascertain the extent to which companies exclude the effects of different types of uncontrollable factors. Organisations were asked to indicate the extent to which environmental factors, such as changing economic conditions and competitors' actions, were taken into account when evaluating divisional managers' performances. A seven-point scale was used, ranging from one ('not at all') to seven ('to a considerable extent'), with a mid-point of four ('to a small extent'). A score of four or less was entered by 86 per cent, and two or less by 48 per cent, of the respondents. A similar question was asked in respect to the taking into account of divisional interdependencies. The corresponding scores were 87 per cent for four or less, and 48 per cent for two or less.

6.11 The extent to which uncontrollables are informally taken into account

The majority of organisations allocate costs that can be regarded as non-controllable. They do not take into account uncontrollable environmental factors or divisional interdependencies when evaluating divisional managerial performance. It is possible, however, that uncontrollable factors may informally be taken into account. To examine this possibility, the respondents were asked to indicate the extent to which factors that are uncontrollable by a divisional manager are taken into account informally for the evaluation of divisional managerial performance. Fifty-nine per cent of the respondents entered a score of four ('to a small extent') or less and 10 per cent entered a score of six or seven ('to a considerable extent'). The responses did not provide strong support for the argument that uncontrollable factors are taken into account informally in the evaluation process.

It is possible that companies that do not apply the controllability principle may be more likely to take into account the effects of uncontrollable factors informally, and vice-versa. Therefore, the relationship between this situation and the level of application of controllability was examined. The results were not significant (at the 5 per cent level, based on correlation coefficients and the Mann-Whitney non-parametric test)⁵.

6.12 Importance of factors influencing organisations to allocate the cost of common resources

The findings reported in the above sections indicate that the majority of organisations generally allocate all – or most – non-controllable costs to divisions when evaluating divisional managers. This section examines the importance of the potential reasons identified for this allocation. On a seven-point scale (one = 'not important at all', four = 'neither important nor unimportant' and seven = 'extremely important'), the respondents were asked to rate the importance attached to list of 13 factors relating to the allocation of the costs of common resources. The means, standard deviations and total scores were classified as presented in Table 6.5. The factors were classified as behavioural, institutional or measurement factors (the latter relating to the difficulty of separating controllable and uncontrollable elements). It can be seen from Table 6.5 that factors influenced by behavioural reasons occupied the highest five positions according to importance, followed by those influenced by institutional reasons. Measurement reasons were ranked eleventh and twelfth.

The top four factors, in order, were:

- to show divisional managers the total costs of operating their divisions';
- to make divisional managers aware that such costs exist and must be covered by divisional profits';
- divisional managers would incur such costs if they were independent units'; and
- divisional managers should bear the full business risk as they were managers of non-divisionalised companies'.

These rankings suggest that allocations are being used as surrogates for the costs that would be incurred if the divisions operated as independent companies.

Two of the reasons in Table 6.5 relate to measurement problems:

- distinguishing between controllable and uncontrollable requires subjective judgements which can create conflicts'; and
- it is extremely difficult to separate controllable and uncontrollable elements'.

These items were ranked eleventh and twelfth. The responses indicate a difficulty in isolating the non-controllable items as a relatively unimportant factor in the decision to allocate the cost of shared resources to divisions.

The other important observation from Table 6.5 is that the institutional factor – 'allocations being undertaken because they had become embedded as part of company tradition' – was ranked as the least important item.

⁵ A composite score for the application of the controllability principle was derived using the survey responses. To perform the Mann-Whitney test, the composite scores for the controllability principle were divided into two groups – the first group with scores of less than four (the mid-point of the seven-point scale) and the second group with composite scores of four or more.

Table 6.5 Importance of factors influencing organisations to allocate the costs of shared resources

Rank	Reasons	Nature of the reasons	% of responses rating 1 or 2	% of responses rating 6 or 7	Number	Sum (total score)	Mean	Standard deviation
1**	'To show divisional managers the total costs of operating their divisions' (a)*	B***	3.1	70.1	97	563	5.80	1.15
2	'To make divisional managers aware that such costs exist and must be covered by divisional profits' (g)	B	5.1	62.9	97	547	5.64	1.26
3	'Divisional managers would incur such costs if they were independent units' (m)	B	6.2	47.4	97	503	5.19	1.47
4	'Divisional managers should bear the full business risk as they were managers of non-divisionalised companies' (c)	B	6.2	43.3	97	495	5.10	1.29
5	'To stimulate divisional managers to put pressure on resources centre managers to control their costs' (j)	B	12.3	45.3	97	471	4.86	1.79
6	'To induce divisional managers to take greater interest in the costs of shared resources' (k)	B	14.4	43.3	97	468	4.82	1.71
7	'To enable inter-division or inter-firm comparisons to be made' (e)	I	22.6	29.9	97	422	4.35	1.85
8	'To provide signals on the efficiency of service department that provides shared resources' (f)	B	23.7	26.8	97	404	4.16	1.77
9	'To stimulate divisional managers to economise in their usage of shared resources' (h)	B	26.8	24.7	97	394	4.06	1.76
10	'Divisional managers control the usage of the resources' (l)	B	29.9	18.6	97	356	3.67	1.75
11	'Distinguishing between controllable and uncontrollable requires subjective judgements which can create conflicts' (b)	D	24.7	8.2	97	350	3.61	1.52
12	'It's extremely difficult to separate controllable and uncontrollable elements' (d)	D	33.0	13.4	97	346	3.57	1.73
13	'Because cost allocations are part of a company's tradition' (i)	I	50.5	11.3	97	284	2.93	1.87

* letters represent the ranking in the questionnaire.

** The rank was made in descending order.

*** B = behavioural dimensions,

I = institutional dimensions and

D = difficulty of separating controllable from non-controllable elements.

In order to provide a further check on the level of importance attached to each reason listed in Table 6, the respondents were asked to rank, in order of importance, the three most important influences on decisions to allocate uncontrollable costs to divisions. The responses were consistent with the first and second rankings in Table 6.5. However, the fifth ranked item in Table 6.5 ('to stimulate divisional managers to put pressure on resource centre managers to control their costs') was the third most important reason. Thus, similar rankings were reported for both questions.

It should be noted that other studies have reported similar findings. The Fremgen and Liao (1981, p. 1) study in the US reported that about 90 per cent of the responding companies allocated indirect corporate costs to remind profit centre managers that indirect costs exist – and that profit centre earnings must be adequate to cover some share of those costs. In the UK, Ramandan (1985, p. 173) found that the most important reason for this action (in 38 out of 69 companies) was to make divisional managers aware that central overhead costs exist and must be covered by divisional profits. The most important reasons in this study are, therefore, similar to the ones reported by the previous studies. This is even though this study incorporated many reasons that were not pursued by the previous studies.

The responses were analysed by the respondents' location (60 per cent were located at the group head office and 40 per cent at the divisional level). The Mann-Whitney test was used to determine whether there were any significant differences in the responses of the two groups to the items listed in Table 6.5.

Significant differences ($p < .05$) were observed for two of the items. These were 'distinguishing between controllable and uncontrollable elements requires subjective judgements which can create conflicts with divisional managers' and 'to induce divisional managers to take a greater interest in the costs of shared resources'. The former had a mean score of 3.93 for the head office respondents and 3.13 for divisional respondents. The mean scores for the latter were 5.12 for the head office respondents and 4.38 for the divisional respondents.

There is no overwhelming theory that explains the differences between the two groups. However, one reason might be that, since staff located at head office are more likely to be involved in designing and operating the performance measurement system, they may be more concerned with distinguishing between controllable and uncontrollable elements. Head office respondents may attribute more importance to inducing managers to take a greater interest in the cost of shared resources.

Table 6.6 Importance of factors influencing the decision not to allocate the cost of common resources

Rank	Reasons	% of responses rating 1 or 2	% of responses rating 6 or 7	Number	Sum	Mean	Standard deviation
1	'Common corporate costs are not controllable by divisional managers' (b)*	13.2	54.7	53	274	5.17	1.96
2	'Divisional managers object to charges they cannot influence and control' (d)	24.5	30.2	53	227	4.28	1.96
3	'The costs of making the allocations would exceed their benefits' (c)	34	26.4	53	208	3.92	2.16
4	'Allocations are arbitrary and tend to distort divisional profit' (e)	37.7	34	53	206	3.98	2.22
5	'The amount of common corporate costs is too small to warrant allocation' (a)	49.1	17	53	163	3.08	2.04
6	'Unnecessary internal tension can be avoided by no allocation' (f)	47.2	13.2	53	161	3.04	1.93

* letters represent the ranking in the survey

6.13 Importance of factors influencing organisations not to allocate common resource costs

The factors influencing organisations not to allocate the costs of common resources were also explored. The respondents were asked to indicate, where their organisation did not allocate some of the costs of common corporate resources, how important a list of factors were in arriving at a decision not to allocate the costs. Table 6.6 shows the ranking of the factors influencing non-allocation. The highest-ranked factor is that common corporate costs are not controllable by divisional managers. The second highest is that divisional managers object to charges they cannot influence and control. It is apparent from the responses that factors relating to the application of the controllability principle are the main reason for not allocating common resource costs. The responses were analysed by the location of respondents – those located at group headquarters and those at the divisional level. There were no significant differences in the responses ($p < .05$).

6.14 Treatment of the variance between budgeted and actual costs of common resources

Table 6.3 indicates that the majority of companies do not apply the controllability principle, with approximately 55 per cent allocating all, or most, of uncontrollable common resource costs to divisional managers when measuring divisional managerial performance. The research also sought to examine a further aspect of the application of the controllability principle by asking the respondents to indicate how the difference between actual and budgeted costs of common resources is dealt with for each of the three categories of controllability. Companies are, arguably, applying the controllability principle if divisional managers are evaluated on the basis of a comparison of divisional targeted/budgeted profitability measures – incorporating budgeted allocated costs – with actual profitability measures that also incorporate budgeted allocated costs. In other words, managers are not held accountable for the difference between budgeted and actual allocated costs. Alternatively, if divisions are charged with the actual quantity, at the budgeted cost, for the central services that have been obtained, managers can be held accountable only for the quantity variances. If the budgeted and actual common resources costs are allocated to divisions, managers will be accountable for the full variance, even though they cannot influence the actual cost that has been allocated to them.

It is apparent that the method of treating the variance differs among the three categories (see Table 6.7). Significant differences apply between the 'partially controllable' and 'non-controllable' categories with a significant majority (70 per cent) of the respondents within the 'non-controllable' category (category 3) not being accountable for the differences between budgeted and actual costs. By contrast, 70 per cent of respondents within the partially controllable category (category 2) indicated that divisions are accountable for the variance between budgeted and actual costs. The Chi-square test indicated that there was a significant difference at the 1 per cent level between the 'partially controllable' and 'non-controllable' categories relating to the alternative treatment of variances.

Tables 6.8 and 6.9 present cross-tabulation information indicating the relationship between the extent to which common costs are allocated (Table 6.3) and the treatment of variance between the budgeted and actual costs of common resources (Table 6.7) for both the limited autonomy (partly controllable) and no autonomy (uncontrollable) categories. Given that there were 11 respondents for the full autonomy (controllable) category, and that only nine of these respondents provided an answer relating to the treatment of the variance, this category is not examined further. Because of the small number of observations in the first three rows of Table 6.3, the responses for these rows have been merged in Tables 6.8 and 6.9.

A comparison of each of the rows in Tables 6.8 and 6.9 suggests that there is no relationship between the extent of allocation and the treatment of the variances when both tables are examined individually. It is also evident that there is a significant difference in each of the categories for the extent of allocation (the rows in each table) in respect of the treatment of the variances when the responses for both tables are compared. Divisions are less likely to be accountable for the variances for all levels of allocation of common costs when the costs are uncontrollable by divisions, at least compared to the partial controllability principle⁶. The findings suggest that the controllability principle is widely applied at the variance analysis reporting stage.

⁶ Unfortunately, it was not possible to undertake statistical tests for any of these comparisons because the data did not meet the minimum cell requirements of the chi-square. It was not possible to merge the cells in any meaningful way.

Table 6.7 Treatment of the variance between budgeted and actual costs of common resources

Treatment of the variance	Full autonomy and controllable		Partial controllability (category 2)		Non-controllable (category 3)	
	No.	%	No.	%	No.	%
(a) 'Adjustments are made to ensure that divisions are accountable for only part of the differences between actual and budgeted costs (eg, only usage variances)'	4	44.4	13	24.5	5	9.3
(b) 'The budgeted and the actual costs are allocated to divisions thus making divisions accountable for the full variance'	5	55.6	24	45.3	11	20.4
(c) 'Only budgeted costs are allocated to divisions thus ensuring that divisions are not accountable for any of the variance'	–	–	16	30.2	38	70.4
Total	9	100	53	100	54^a	100

Note

^a Table 6.7 represents an analysis of the responses to Question C6. The responses in Table 6.7 do not include the 20 respondents to Question C3 that were incorporated into Table 6.3. These respondents indicated that they did not allocate common resource costs to divisions and so were not required to answer Question C6.

Table 6.8 Cross tabulation table for the extent of allocation and the treatment of the variance for the limited autonomy (partially controllable) category

The extent of allocation	(1) Accountable for part of the variance	(2) Accountable for all of the variance	(3) Accountable for none of the variance	Total
(1) 'A small portion of costs are allocated' (rows a to c in Table 6.3)	3 (25%)	6 (50%)	3 (25%)	12
(2) 'Most but not all of the costs are allocated' (Row d in Table 6.3)	5 (26%)	8 (42%)	6 (32%)	19
(3) 'All of the costs are allocated' (Row e in Table 6.3)	5 (23%)	10 (45%)	7 (32%)	22
Total	13	24	16	53

*Number in parentheses equals percentages to total responses of a row.

Table 6.9 Cross tabulation table for the extent of allocation and the treatment of the variance for the no autonomy (uncontrollable) category

The extent of allocation	(1) Accountable for part of the variance	(2) Accountable for all of the variance	(3) Accountable for none of the variance	Total
(1) 'A small portion of costs are allocated' (rows a to c in Table 6.3)	3 (21%)	2 (14%)	9 (64%)	14
(2) 'Most but not all of the costs are allocated' (Row d in Table 6.3)	–	2 (18%)	9 (82%)	11
(3) 'All of the costs are allocated' (Row e in Table 6.3)	2 (7%)	7 (24%)	26 (69%)	29
Total	5	11	38	54

*Number in parentheses equals percentages to total responses of a row.

6.15 Degree of satisfaction with the performance measurement system

The degree of satisfaction with the performance measurement system was also measured. The survey gauged the respondents' satisfaction with the approach to allocating the costs of common resources and general and administrative expenses for performance evaluation. Another survey question was concerned with the system of performance evaluation that is used to judge performance evaluation. Both questions used a seven-point scale (one = 'not satisfied at all', four = 'neither satisfied nor dissatisfied' and seven = 'extremely satisfied'). The average score was 4.56, indicating dissatisfaction with the performance measurement system does not generally apply.

Previous research suggests that managers who have greater autonomy will tend to be more satisfied with the performance measurement/control system than managers with less autonomy (Dittman et al, 1978). Managers with greater autonomy also have the opportunity to use external resources and so avoid the allocation of common resource costs. Common resource costs are, therefore, more likely to be controllable in these circumstances. The relationship between the degree of divisional managers' autonomy and their degree of satisfaction with the performance measurement system was then examined⁷. The results were not significant at the 5 per cent level based on correlation coefficients and the Mann-Whitney non-parametric test.

A greater use of non-financial performance measures provides more dimensions to managers' performances and compensates for the uncontrollable items included in the financial performance measures. It is also likely that the level of application of the controllability principle has an impact on the degree of satisfaction with the performance measurement system. It has been shown in Chapter 4 that management accounting literature advocates that divisional managers should not be held responsible for non-controllable items. Therefore, it can be argued that both the extent of use of non-financial measures, and the level of application of the controllability principle, will be positively related to the degree of satisfaction with the performance measurement system.

The score relating to the extent of the use of non-financial measures was derived from the average scores, based on a seven-point scale (one = 'not at all', four = 'to a small extent' and seven = 'to a considerable extent'). The average score was 4.9 (standard deviation = 1.9, Alpha = 0.87). The score relating to the application of the controllability principle was derived from the average score from questions C5, C14, D5 and D6.

⁷ The average score was used to measure divisional autonomy (Alpha = 0.72). For the purpose of performing Mann-Whitney tests involving the degree of satisfaction, the seven-point measure was divided into two groups: the first with a score of less than the mid-point of four, and the second with a score of four or more.

The correlation coefficient and the Mann-Whitney test indicates that there was no significant relationship between the application of the controllability principle and the degree of satisfaction with the performance measurement system. However, it was also found that there was a significant relationship between the degree of satisfaction with the performance measurement and the use of non-financial performance measures ($p < 0.05$). The correlation coefficient (-0.183) was in the opposite direction to that expected. A negative correlation indicates that the greater the use of non-financial performance measures, the less satisfaction there is with the performance measurement system. One interpretation of this is that preparing the non-financial performance measures may involve some degree of judgement or conflict between divisional managers and the top management. In turn, this conflict may reduce the satisfaction with the performance measurement system. Furthermore, emphasising both financial and non-financial measures may end in confusion, particularly if they result in conflicting messages. This confusion may reduce a manager's satisfaction with the performance measurement system.

6.16 Summary

Adherence to the theoretical view of the controllability principle, as argued in management accounting textbooks, implies that companies should attempt to exclude the effects of uncontrollable environmental factors and divisional interdependencies, and not allocate most of the common resource costs, nor any of the general and administrative business-sustaining costs. The survey findings indicate that the majority of companies do not apply the controllability principle as specified here. Organisations adopt a broader interpretation of the controllability principle. The more appropriate interpretation by Merchant (1998) may apply: 'Hold employees accountable for performance areas you want them to pay attention to.'

According to this survey, the most important reasons for allocating uncontrollable costs are as an attempt to use allocations as surrogates for the costs that would be incurred if the divisions were independent companies.

In terms of comparing actual financial performance measures with target measures, the findings indicate that the controllability principle is generally applied. Divisional managers are – mostly – not held accountable for the variance between budgeted and actual non-controllable common resource costs. The findings therefore suggest that, generally, the controllability principle is not applied at the budget-setting stage but at the variance analysis stage. This could be because non-controllable costs are allocated as a mechanism for increasing divisional target profitability levels, to ensure that they are sufficient to cover a share of corporate costs. Adopting this interpretation, the allocation of corporate costs that are non-controllable by divisional managers can be viewed as a tax levy that aims to recover a share of corporate costs (Bromwich and Bhimani, 1994).

The counter-argument is that, if corporate management wishes to inform managers that divisions must be profitable enough to cover not only their own operations but corporate expenses as well, it is preferable to set a high budgeted controllable profit target that takes these factors into account. Divisional managers can then concentrate on increasing controllable profit by focusing on those costs and revenues that are under their control – and not be concerned with those allocated costs that they cannot control.

7. Conclusions

7.1 Introduction

This chapter provides an overview of the study. It discusses the study in relation to its research objectives. The limitations of the study are identified and directions for future research are discussed.

7.2 Motivation for the research

The research was motivated by several factors. There was a lack of recent empirical research relating to divisional performance measurement, as well as research examining the possible different levels of application of the controllability principle. Writers have called for further research that targets a large sample of companies, to supplement the case study research that has focused on either individual – or a small number of – companies. A postal survey was therefore undertaken to provide a more suitable basis for generalising the research results.

It was also recognised that previous research had tended to be biased towards the use of financial performance measures. There was also a need to investigate the relationship between the use of financial and non-financial performance measures.

The relationship between the level of application of the controllability principle and the degree of satisfaction with the performance measurement system, and the extent to which different performance measures are used to evaluate divisional managerial and economic performance, were also examined. These have not been investigated in previous studies.

7.3 A summary of the research objectives

The following is a summary of the major objectives of the study, presented in Chapter 1:

- to investigate the use of financial and non-financial performance measures in evaluating divisional managerial performance;
- to identify the level of the application of controllability principle in terms of the identified uncontrollable factors;
- to identify the influence of the level of application of the controllability principle on the degree of satisfaction with the divisional performance measurement system; and
- to investigate the relationship between the level of application of the controllability principle and the use of non-financial performance measures.

7.4 A Discussion of the major findings

To achieve the first objective, it was necessary to pursue the line of argument that companies may use different performance measures to evaluate divisional managerial performance and the economic performance of divisions. The responses indicated that 38 per cent of the responding companies did not distinguish between managerial and economic performance. In contrast, 44 per cent attempted to apply the controllability principle and distinguish between managerial and economic performance. The study by Hopper et al (1992) provided some evidence to suggest why companies do not attempt to distinguish between managerial and economic performance. Interviews with senior managers suggested that companies hold managers accountable for bottom-line profit because this is equivalent to the measure that financial markets focus on in evaluating the performance of the company. Top management therefore requires divisional managers to focus on the same measures as those used by financial markets. Given the observed differences in the performance measures used, however, a limitation of this research is that it does not explain exactly how, or why, practice differs. To overcome this limitation, there is a need for further interviews or case study-based research examining the different practices. It should also be noted that the impact of the listing status of the companies was not significant in explaining the differences in responses.

Given that more than one financial measure may be used to evaluate the performance of divisional managers, respondents were given a list of measures that have been identified in literature as measuring overall divisional performance. They were asked to rank, in order of importance, the three most important measures. The results indicated that target profit before charging interest on capital was considered to be the most important measure by 55 per cent of the organisations. The second highest percentage (14 per cent) was attributed to target profit after charging interest on capital (residual income). The widely cited target return on capital employed measure was ranked as the most important measure by only 7 per cent of the respondents and 9 per cent ranked EVA as the most important measure.

These findings provide additional insights into the relative importance of financial measures. Previous studies have not distinguished between managerial and economic performance. They have also focused on whether various financial measures are used for evaluating divisional performance rather than ascertaining their importance relative to each other. The findings from these studies indicate that a target rate of return (ROI) is extensively used.

However, this study focused specifically on divisional managerial performance. The findings indicated a strong preference for an absolute target performance measure rather than a ratio/percentage measure. Presumably, companies seek to encourage divisional managers to focus on maximising absolute profits rather than percentage returns and prefer to compare managerial performance against budget targets that take into account the potential of existing resources. This observation may explain why the emergence of EVA in the 1990s has attracted so much attention. Nevertheless, the findings indicate that the majority of the companies do not use EVA for divisional performance evaluation. Only 28 out of the 124 (or, 23 per cent) respondents used EVA as a method of evaluating the performance of divisional managers, although a further 11 per cent planned to use it within the next two years. The findings also suggested that 43 per cent of those using EVA (12 organisations out of 28) did not make any adjustments to accounting numbers to compensate for the distortions introduced by GAAP. This suggests that these companies are computing a residual income measure rather than a true EVA measure. The observed preference for using absolute target profit measure – and the fact that this measure ignores an imputed equity cost of capital and does not adjust conventional financial accounting measures to reduce some of the harmful dysfunctional effects – suggests that EVA has the potential for greater use in the future.

In recent years, increased attention has been paid to incorporating into the performance measurement system those non-financial performance measures that provide feedback on the key variables required to compete successfully in a global economic environment (Kaplan and Norton, 1996). In particular, a balanced scorecard approach has been advocated. The responses from the survey indicated that most organisations do not rely only on financial measures to evaluate divisional performance. Non-financial measures were used to evaluate divisional performance by 78 per cent of respondents. Approximately half of these respondents indicated that a balanced scorecard approach was used and a further 18 per cent used the EFQM Excellence Model. However, financial measures were considered to be more important than non-financial measures for measuring divisional performance by approximately 70 per cent of the respondents.

The findings do not provide an insight into how outputs from the performance measurement system that incorporates both financial and non-financial measures are used to evaluate and reward divisional managerial performance. There is a need for further research to examine how the outcomes from financial and non-financial measures are combined to arrive at an overall evaluation of divisional performance.

The next objective sought to identify the different levels of application of the controllability principle. Previous studies have examined whether firms allocate central costs to divisional managers – but such costs include both controllable and non-controllable costs. A distinguishing feature of this research is that it sought to categorise costs as controllable, partially controllable and non-controllable. The aim was to isolate non-controllable costs and ascertain how such costs were treated. Furthermore, previous studies have examined the controllability principle merely by identifying whether central costs are allocated or not allocated. This study has instead examined how different categories of uncontrollable costs are dealt with in order to ascertain whether firms do not apply the controllability principle, apply it fully or partially apply it.

Information was collected relating to four items of uncontrollable factors: uncontrollable common resources costs, group general and administrative costs, and uncontrollable factors relating to divisional interdependencies and the external environment. A major feature of the study was to isolate uncontrollable factors. Uncontrollable common resource costs therefore exclude partially controllable and fully controllable common resource costs.

The findings indicated that none of the uncontrollable common resource costs were allocated by 31 per cent of the companies (that is, full application of the controllability principle) whereas 39 per cent allocated all of the costs (indicating non-application of the controllability principle). The corresponding figures for general and administrative costs were 15.5 per cent and 42.2 per cent. Between 60 per cent and 70 per cent of respondents lie at the extreme ends of the continuum, ranging from full application of the controllability principle to none. The balance fall within the partial allocation range in respect of uncontrollable common resource and general administrative costs.

To measure the extent to which uncontrollable factors relating to (1) changing economic conditions, competitors actions and business climates, and (2) divisional interdependencies were taken into account when evaluating divisional managerial performance, a different scale was used. The scale ranged from one ('not at all', implying full non-application of the controllability principle) to seven ('to a considerable extent', implying extensive use of the controllability principle). The mid-point of four was anchored 'to a small extent'. The responses indicated that a score of four or less was entered by 82 per cent, and two or less by 48 per cent, of respondents in respect of item (1). For divisional interdependencies, the scores were 87 per cent for four or less and 48 per cent for two or less. For both categories, approximately 5 per cent of respondents indicated that uncontrollable factors were taken into account – to a considerable extent – by entering a score of six or seven.

The findings indicated that approximately 55 per cent of the companies allocated all, or most, of their common resource costs. The most important reasons for allocating common resource costs were related to an attempt to use allocations as surrogates for the costs that would be incurred if the divisions operated as independent companies. Encouraging divisional managers to take a greater interest in the costs of shared resources, and putting pressure on resource centre managers to control their costs, were also considered to be important reasons for cost allocations. Measurement problems relating to separating controllable and non-controllable costs, and cost allocations being undertaken because of company traditions, were relatively unimportant reasons. Despite the fact that the majority of companies do not fully apply the controllability principle, the responses to why some of the costs of common resources were not allocated indicated that the application of controllability was the dominant reason.

A further aspect of the application of the controllability principle was investigated by examining how the variance between budgeted and actual allocated uncontrollable common costs is dealt with. Within the uncontrollable cost category approximately 70 per cent of divisional managers were not held accountable for the variance. This indicated that the application of the controllability principle protected managers from differences arising from inefficiencies occurring outside of their division.

The findings suggest that most companies do apply the controllability principle in some situations but not in others. There is a much greater tendency not to fully apply the controllability principle in terms of allocating uncontrollable costs to divisional managers as a means of increasing their target performance measure. Instead, it tends to be applied at the variance analysis stage. The findings suggest that the controllability principle is considered to be important and is widely used in practice. However, it is applied in a more flexible manner than depicted by conventional wisdom. It would appear that the need to use allocations as a mechanism to increase target divisional profit (to cover a fair share of central costs) outweighs the apparent infringement of the controllability principle that occurs with the allocations.

Several factors were examined which may explain the level of application of the controllability principle. They included the location of the head office (UK or overseas), the listing status (listed or unlisted) and the extent to which uncontrollable factors were informally taken into account. None of the factors were significant at the 5% level. In particular, no evidence was found to suggest that those companies that either did not formally apply the controllability principle, or applied it to a small extent, were more likely to take into account uncontrollable factors informally when compared with those companies that more extensively applied the controllability principle.

Another objective was to investigate the relationship between the level of the application of controllability principle and the degree of satisfaction with the divisional performance measurement system. In addition, the relationships between the use of non-financial performance measures, the level of divisional autonomy and the degree of satisfaction with the performance measurement system, were also investigated. Each of these three variables were investigated individually, using parametric and non-parametric correlation tests, and the Mann-Whitney non-parametric test that explored the differences in satisfaction scores. There was no significant relationship between the level of autonomy, or the application of the controllability principle, and the degree of satisfaction with the performance measurement system.

Both the correlation and non-parametric statistical tests indicated that there was a significant difference between the extent of the use of non-financial measures and the degree of satisfaction with the performance measurement system. The correlation coefficients indicated a low negative relationship, thus indicating that, the greater the use of non-financial measures, the lower the satisfaction with the performance measurement system. This finding was the opposite to that predicted. It was suggested that emphasising both financial and non-financial measures may result in confusion, particularly if they result in conflicting messages. This confusion may reduce satisfaction with the performance measurement system. Alternatively, given that the respondents were mainly finance directors/managers, the responses may merely reflect a background and training that has emphasised the importance of financial measurements. The impact of incorporating a mix of financial and non-financial measures on the satisfaction with the performance measurement system warrants further research. There is a need for the research to target both divisional and financial managers rather than just concentrating on financial managers. These findings also support the contention, made earlier in this section, that further research should examine how the outcomes from financial and non-financial measures are combined to arrive at an overall evaluation of divisional performance.

The final objective was to investigate the relationship between the level of application of the controllability principle and the use of non-financial performance measures. The non-parametric correlation statistics and the Mann-Whitney test did not support the hypothesis that the lower the level of application of the controllability principle, the greater the use of non-financial measures.

7.5 Limitations of the Research and Areas for Further Study

Some of the limitations of the research and suggestions and areas for further study were identified within the previous section. This section includes a discussion of additional issues that did not emerge in the previous section.

In common with all research this research is subject to a number of limitations. The major limitations relate to those applying to all postal questionnaire surveys. In particular, the researcher is not able to get the respondents to explain their responses or, for a particular response, ask the question 'why?' For example, one of the responses to question B1 was that 'Different performance measures are used for evaluating the performance of divisional managers and the economic performance of the divisions'. It was pointed out in Section 6.2 that this response could indicate various approaches. For example, it could indicate that unavoidable allocated costs may be excluded from the divisional economic performance measure since they may be considered not to represent relevant costs when evaluating the economic performance of the division. For evaluating managerial performance unavoidable costs may be allocated. This implies that the controllability principle is not being applied. Alternatively, an absolute measure may be used for one purpose and a ratio measure for another purpose. Finally, the response may indicate the application of the controllability principle for managerial performance measure and the use of a measure that includes relevant uncontrollable costs for the economic measure. With a postal survey it is not possible to question the respondent to ascertain in more detail the exact nature of the responses. Extra care and caution is therefore necessary when interpreting questionnaire findings.

The problems identified above could be minimised by undertaking a number of post-survey interviews. This research would have presented a richer set of data if post-survey interviews had been undertaken. However, to provide meaningful information, it would have been necessary to undertake interviews with many respondents. Time constraints, interview accessibility, the availability of interviewees for a significant amount of time and transportation difficulties (the respondents are widely dispersed) would constrain researchers from undertaking more than a few interviews. Furthermore, undertaking only a few interviews could be viewed as providing only anecdotal evidence. It was considered that interview information would only be appropriate if sufficient numbers could be undertaken to provide a range of responses that would enable significant common themes to be observed. Nevertheless, conducting interviews to pursue issues raised by the survey results (see below for a further discussion of this point) is a fruitful area for future research.

Virtually all of the respondents to the survey were from a finance background (see Chapter 5, Section 5.5). For many of the questions, such as those relating to the satisfaction with the performance measurement system, responses from divisional managers may have been more appropriate. Future research relating to many of the issues covered in this survey should be also targeted at divisional managers. In particular, it would be of interest to compare the responses of divisional managers with the finance directors/managers to ascertain whether their responses differ. However, targeting divisional managers is extremely difficult, since there is no accessible database. The names, job titles and business addresses of financial directors can often be derived from professional accountancy bodies and other databases. Also, divisional managers hold the most senior position within a division and are less likely to allocate time to interviews or surveys. Furthermore, unlike finance directors, they cannot delegate completion of the survey to junior staff. Questions relating to the content of the measurement system can easily be delegated but questions relating to the responsible divisional manager's views on the performance measurement system by which they are judged, cannot be delegated.

It was also pointed out, in Chapter 1, that the research focuses primarily on the formal performance measurement system and the issue of performance evaluation in terms of comparing the targeted and actual performance. It does not examine how the outputs from the performance measurement system (the rewards or punishments) are used to motivate managers to achieve organisational goals. This is beyond the scope of this research. An examination of the influence of the reward structure warrants a separate research project, possibly focusing on a single organisation instead of the cross-sectional postal survey method that was used for this study.

Another feature of the research is that it focused on manufacturing companies only. The reasons for this were explained in Chapter 5 (Section 5.4), including the difficulties posed by designing a single survey for manufacturers and different types of service organisations. To some extent, this problem might be resolved by producing a less ambitious survey that pursues fewer issues and is designed in such a way that it is applicable to most types of commercial organisations. Research relating to management accounting within the service sector still lags behind the research that has been undertaken in the manufacturing sector. A comparison of responses by different sectors would be an interesting area for future research. There is some evidence to suggest that companies in the service sector operate more sophisticated product costing systems than manufacturing companies (Drury and Tayles, 2000) and it would be of interest to investigate if this also applies to profit/investment centres' performance measurement systems within the service sector.

In order to provide meaningful insights into performance evaluation practices in divisionalised companies, a lengthy survey was required. The disadvantage of lengthy surveys is that they reduce the response rate. Although it was pointed out that the reported usable response rate of 18 per cent is not uncommon and considered adequate, a higher response rate would have been preferred. Non-response bias tests were undertaken by comparing early and late respondents (based on the assumption that the latter have attributes of non-respondents). However, data required for conducting further non-response bias tests were not available at the business unit level (for example, size measured by sales turnover or number of employees) from the database that was used to select the sample. Therefore, full non-response bias tests could not be undertaken. Care must therefore be taken in generalising the findings from this survey to apply to the population (UK divisionalised companies). A more conservative approach might be to view the findings as reporting on the practices of 124 UK-based companies rather than being representative of all UK-based companies.

The findings suggest that the controllability principle is considered to be important and, in certain circumstances, is widely used in practice. Managers were generally not held accountable for the difference between budgeted and actual allocated costs. However, most companies allocated uncontrollable common resource and general administration costs. The survey evidence suggested that allocations were used as a mechanism for increasing target profit levels to ensure that divisional target profit levels were sufficient to cover a fair share of corporate costs. It was concluded that this requirement outweighed the apparent infringement of the controllability principle that occurs with these allocations.

This interpretation is supported by Bromwich and Bhimani (1994, p. 113), who suggest that the allocation of corporate costs that are uncontrollable by divisional managers can be viewed as a tax levy that aims to recover a share of corporate costs. The counter-argument to this point of view is that, if corporate management wishes to inform managers that divisions must be profitable enough to cover not only their own operations but corporate expenses as well, it is preferable to set a high budgeted controllable profit target that takes these factors into account. Divisional managers can then concentrate on increasing controllable profit by focusing on those costs and revenues that are under their control, and not be concerned with the costs that they cannot control. This approach would avoid the potential harmful effects of allocation.

Future research should investigate the extent to which those organisations that do not allocate uncontrollable costs adopt the approach described above and increase target controllable profit. It would also be interesting to gauge why organisations that allocate uncontrollable costs prefer this approach instead of increasing target controllable profit. What additional benefits do cost allocations have compared with setting a higher target profit? What are their perceived limitations?

There is a need for future research to examine how allocations of the costs of common resources are determined. In particular, the following issues need to be explored. Do allocations involve fixed charges or rely on allocation bases? What mechanisms are used? For example, is transfer pricing used to allocate some of the costs of common resources? Are the bases that are used to determine the amount of the allocations made explicit to divisional managers? Can managers indirectly influence the allocations by actions relating to the allocation bases attributable to the divisions? What are the behavioural implications of the allocation bases? How are the allocation bases determined? Do they involve the use of behavioural cost drivers or are the allocations merely arbitrary, with little thought given to the behaviour they may encourage?

This research has focused mainly on the allocation of uncontrollable costs. There is no cause-and-effect relationship at the divisional level so that it is unlikely that divisional resource usage can be measured. Transfer pricing can also be used as a mechanism for charging common resource costs to divisions. However, to do so, usage by the divisions of the resources should be measurable. Therefore, transfer pricing is more likely to be applicable to common resource costs where divisional managers have full or limited autonomy in acquiring the common resources. Nevertheless, it is possible that the transfer prices that are set may incorporate a margin for recouping some of the corporate business-sustaining general administration costs. Examining the interface between cost allocations and transfer prices is beyond the scope of this study. However, a study that focuses on the interrelationship between cost allocations and transfer pricing would be a fruitful area of future research.

Despite the limitations that have been identified, and the failure to address some of the issues that have been identified for future research, this study has provided many additional insights into the area of divisional performance measurement and control. In addition, the research has provided a description of current practices in divisional performance measurement in the UK. One of the major benefits of this survey is that it provides future researchers with useful attention-directing information for identifying specific areas that require more in-depth research.

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Questionnaire

Guidance Notes

The questionnaire contains the following sections:

- A Questions relating to your own company or organisational unit
- B Financial measures used
- C Common resources costs
- D Contingent/explanatory factors
- E Economic value added (EVA)
- F Non financial performance measures
- G Questions about yourself

Definition of a Division

For the purpose of this questionnaire a division is defined as: 'a segment within the organisation where the divisional chief executive has responsibility for most of the production and marketing activities of the segment and is accountable for a profitability measure. Sometimes the divisional chief executive has the responsibility for the investment activities. The division may be known within the organisation as a profit or investment centre, subsidiary, branch, sector or business unit'.

Distinguishing between the economic performance of the divisions and the managerial performance of their managers

Some companies distinguish between the economic performance of the divisions and the managerial performance of their managers or chief executives. As a result some companies use different performance measures to evaluate the economic performance of the divisions and the performance of divisional managers. A separate divisional managerial performance measure is one that excludes those costs that cannot be controlled or influenced by a divisional manager whereas divisional economic measures generally include the allocation of uncontrollable costs based on the principle that if the divisions were independent companies they would have to bear such costs.

Common resource costs

Throughout the questionnaire the term common resources applies to resources or services provided by the head office for the benefit of two or more divisions within the organisation. Common resource costs include central costs relating to activities such as data processing; research and development; marketing services, training programmes; purchasing; personnel; accounting; internal auditing; legal services; and group planning.

B Financial measures used

B1 Some companies distinguish between the economic performance of divisions and the managerial performance of divisional managers. Please tick one box below which best describes the performance measures which are used to evaluate divisional managerial performance and the economic performance of the divisions:

- (a) The same performance measures are used for evaluating the performance of divisional managers and the economic performance of the divisions but different items are included within the performance measures. (For example, profit or return on investment may be used but the managerial measure excludes some non-controllable items whereas the economic measure includes items that are not controlled by divisional managers.)
- (b) Different performance measures are used for evaluating the performance of divisional managers and the economic performance of the divisions
- (c) Identical performance measures are used for evaluating the performance of divisional managers and the economic performance of divisions
- (d) Other (please specify) _____

B2 Using the scale below please circle **one number** to indicate the extent to which the impact of factors that are uncontrollable by divisional managers are informally taken into account when evaluating divisional managerial performance

Not at all			To a small extent			To a considerable extent
1	2	3	4	5	6	7

Note: Sections B, C and D of this questionnaire focus on the financial performance measures that are used to evaluate the performance of divisional managers. If different measures are used to distinguish between the performance of divisional managers and the economic performance of the divisions please relate your responses to the divisional managerial performance measures. Otherwise please relate your response to the financial measures that are used to measure both economic and divisional managerial performance.

B3 Please rank in order of importance the three most important financial measures that are used to evaluate the performance of divisional managers. (Inserting in the boxes below 1 for the most important, 2 the next most important etc. If a particular measure is not used by your company, please insert in the box N/A to indicate that it is not applicable)

- | | Ranking |
|---|--------------------------|
| (a) Achievement of a target rate of return on capital employed | <input type="checkbox"/> |
| (b) A target profit after charging interest on capital employed (residual income) | <input type="checkbox"/> |
| (c) A target profit before charging interest on capital employed | <input type="checkbox"/> |
| (d) A target economic value added figure | <input type="checkbox"/> |
| (e) A target cash flow figure | <input type="checkbox"/> |
| (f) Other (please specify) _____

_____ | |

- B4** Using the scale below please indicate the extent to which (A) corporate headquarters management and (B) divisional management participate in setting the financial target specified in the previous question (B2). (Tick one number per row)

To a considerable extent			To a small extent			Not at all	
1	2	3	4	5	6	7	

- | | | | | | | | |
|---------------------------------------|---|---|---|---|---|---|---|
| (a) Corporate headquarters management | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| (b) Divisional management | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

C Common resources costs

- C1** Do divisions within the group use common corporate resources? Yes No
(See guidance notes for a definition)

Note: If no please go to section D

- C2** Please tick one box below to indicate approximately the cost of common resources as a percentage of divisional turnover

0-5%	6-10%	11-15%	16-20 %	21-25%	26-30%	Over 30%
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- C3** Are some of the costs of common corporate resources allocated to divisional managers prior to computing the performance measures selected in question B3? Yes No

- C4** Do common corporate resources fall within the following categories

- (a) Divisional managers can determine quantity acquired and the price paid because they have the authority to purchase the services either inside or outside the organisation. In other words, they have full autonomy over their acquired services and their prices (Category 1) Yes No
- (b) Divisional managers cannot determine the price paid for the services because they do not have the authority to purchase the service from outside the organisation. However, they can determine the quantity of common resources that are consumed and thus influence the amount of costs that are allocated to them (Category 2) Yes No
- (c) Divisional managers cannot determine either the price or quantity they are charged for resources. They are allocated with a fixed sum irrespective of usage (Category 3) Yes No
- (d) Other category (please specify) _____

C5 For each of the three cost categories specified in question C4 please indicate the extent to which costs are allocated to divisions for the purpose of measuring divisional performance. **(Please tick one box for each column)**

	Category 1	Category 2	Category 3
(a) None of the costs are allocated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Only a minor proportion of the costs are allocated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) A small but significant proportion of the costs are allocated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) Most, but not all of the costs, are allocated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e) All of the costs are allocated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(f) Not applicable (costs do not fall within this category)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(g) Other (Please explain) _____			

C6 When comparing actual and budgeted divisional financial performance how are the differences between the actual and budgeted costs of common corporate resources dealt with at divisional level for each of the 3 categories of costs specified in question C5. **(Please tick one box for each column)**

	Category 1	Category 2	Category 3
(a) Adjustments are made to ensure that divisions are accountable for only part of the differences between actual and budgeted costs (e.g. only usage variances)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) The budgeted and actual costs are allocated to divisions thus making divisions accountable for the full variance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Only budgeted costs are allocated to divisions thus ensuring that divisions are not accountable for any of the variance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C7 In your opinion, to what extent is common resource cost allocation for performance evaluation likely to have the following desirable effects? Please use the scale below and circle one number opposite each statement

Not at all					To a small extent					To a considerable extent
1	2	3	4	5	6	7				

(a) To improve communication between divisions and the group head office	1	2	3	4	5	6	7
(b) To reduce expenditure incurred by divisional managers to improve their own working conditions	1	2	3	4	5	6	7
(c) To reduce slack in divisional managers' budgets	1	2	3	4	5	6	7
(d) To improve the internal resource allocation process	1	2	3	4	5	6	7
(e) To measure common resources consumed by divisions	1	2	3	4	5	6	7
(f) To improve the control of common resources (except general and administrative costs)	1	2	3	4	5	6	7
(g) Other (please specify)	1	2	3	4	5	6	7

C8 Using the scale below please circle one number opposite each statement to indicate how important you think each of the factors listed below is in influencing your organisation to allocate the costs of shared resources to divisions

	Not important at all		Neither important nor unimportant			Extremely important				
	1	2	3	4	5	6	7			
(a) To show divisional managers the total costs of operating their divisions				1	2	3	4	5	6	7
(b) Distinguishing between controllable and uncontrollable elements requires subjective judgements which can create conflicts with divisional managers				1	2	3	4	5	6	7
(c) Divisional managers should bear the full business risk as if they were managers of non-divisionalised companies				1	2	3	4	5	6	7
(d) Because it is extremely difficult to separate controllable and uncontrollable elements. Therefore virtually all common costs are allocated to the divisions				1	2	3	4	5	6	7
(e) To enable inter-division or inter-firm comparisons to be made				1	2	3	4	5	6	7
(f) To provide signals on the efficiency of service department that provides shared resources				1	2	3	4	5	6	7
(g) To make divisional managers aware that such costs exist and must be covered by divisional profits				1	2	3	4	5	6	7
(h) To stimulate divisional managers to economise in their usage of shared resources				1	2	3	4	5	6	7
(i) Because cost allocations are part of a company's traditions				1	2	3	4	5	6	7
(j) To stimulate divisional managers to put pressure on resource centre managers to control their costs				1	2	3	4	5	6	7
(k) To induce divisional managers to take a greater interest in the costs of shared resources				1	2	3	4	5	6	7
(l) Divisional managers control the usage of the resources				1	2	3	4	5	6	7
(m) Divisions would incur such costs if they were independent units				1	2	3	4	5	6	7
(n) Other (please specify)				1	2	3	4	5	6	7

C9 Please refer to your answer in question C 8 above and enter the letter for the three most important reasons that influence the decision of allocating uncontrollable costs to divisions. (For example, if you chose item a in the list as being most important please enter a in the first box below)

	Factor's letter
The most important reason	<input type="checkbox"/>
The second important reason	<input type="checkbox"/>
The third important reason	<input type="checkbox"/>

C10 Using the scale below please tick one number to indicate the extent to which divisional managers can negotiate on the amount allocated (or the price paid) for the costs of common resources

Not at all			To a small extent		To a considerable extent
1	2	3	4	5	6
					7

C11 Using the scale below please tick one number to indicate how accurate you think your cost allocations are in measuring the cost of common resources consumed by divisions

Not accurate at all			Moderate accuracy		Extremely accurate
1	2	3	4	5	6
					7

C12 Using the scale below please tick one number to indicate how significant are allocated common corporate resources for the purpose of evaluating divisional managerial performance

Not significant at all			of minor significant		Extremely significant
1	2	3	4	5	6
					7

C13 Please indicate the extent to which divisional managers are prohibited from using an outside service when the service is provided internally by the head office and the cost of the service is allocated to divisions. Please tick only one box

- (a) They have substantial freedom to purchase the service externally, and in practice they exercise this option
- (b) They have substantial freedom to purchase the service externally, but in practice they do not exercise this option
- (c) They have substantial freedom to use an outside service, and they exercise this option on some occasions
- (d) They have very limited freedom to use an outside service, and in most cases they must use the central services
- (e) They must use the central services in all cases
- (f) Other (please explain) _____

C14 Please tick one box below to indicate the extent to which general and administrative costs (e.g. group head office staff salaries, depreciation on buildings and equipment at the group head office and other head office general and administrative expenses) are allocated to divisions

- (a) None of the costs are allocated
- (b) Only a minor proportion of the costs are allocated
- (c) A small but significant proportion of the costs are allocated
- (d) Most, but not all of the costs, are allocated
- (e) All of the costs are allocated

C15 Where your organisation does not allocate some of the costs of common corporate resources using the scale below tick one number opposite to each statement to indicate how important the factors listed below are in arriving at a decision not to allocate the costs of shared resources (please omit this question if you allocate all of the costs of shared resources to divisions)

Not important at all		Neither important nor unimportant					Extremely important	
1	2	3	4	5	6	7		

- (a) The amount of common corporate costs is too small to warrant allocation 1 2 3 4 5 6 7
- (b) Common corporate costs are not controllable by divisional managers 1 2 3 4 5 6 7
- (c) The costs of making the allocations would exceed their benefits 1 2 3 4 5 6 7
- (d) Divisional managers object to charges they cannot influence and control 1 2 3 4 5 6 7
- (e) Allocations are arbitrary and tend to distort divisional profits 1 2 3 4 5 6 7
- (f) Unnecessary internal tension can be avoided by no allocation 1 2 3 4 5 6 7
- (g) Other (please specify) _____

D Contingent/explanatory factors

D1 Please tick one box below to indicate the extent of the interdependence between the operations of the separate divisions

- (a) Divisions are essentially independent of each other. They can follow their own policies without affecting the performance of other divisions
- (b) Divisions are not entirely independent. There are some divisional inter-relationships and in these areas divisional managers can affect other divisions through their actions
- (c) Divisions are dependent on each other to a significant extent. Actions taken by one division can directly affect the performance of others

Note: If you have ticked (a) above please omit question D2.

D2 Please indicate the nature of the interdependencies which exist between divisions by ticking either yes (to indicate that interdependencies exist) or no (to indicate that interdependencies do not exist)

- (a) Various divisions use the same raw material Yes No
- (b) Divisions' products compete with each other Yes No
- (c) Divisions compete in the same market for their sales Yes No
- (d) Various divisions use common resources Yes No
- (e) The output of one division is to a large extent the input of another Yes No
- (f) Other (Please specify) _____

D3 Using the scale below please circle one number to indicate the degree of decentralisation in decision making from corporate headquarters to divisions within your company

Not decentralised at all	Moderately decentralised			Extremely decentralised		
1	2	3	4	5	6	7

D4 Using the scale below please circle one number to indicate how important it is to coordinate the activities of the different divisions within the group

Not important at all	Neither important nor unimportant			Extremely important		
1	2	3	4	5	6	7

D5 Using the scale below please circle one number to indicate the extent to which your company excludes the effects of uncontrollable factors, such as changing economic conditions, competitors actions, and business climates, when evaluating divisional managers' performance

Not at all	To a small extent			To a considerable extent		
1	2	3	4	5	6	7

D6 Using the scale below please circle one number to indicate the extent to which divisional interdependencies are taken into account when evaluating divisional managerial performance

Not at all	To a small extent			To a considerable extent		
1	2	3	4	5	6	7

D7 Using the scale below please circle one number to indicate your degree of satisfaction with the approach that your company uses to allocate the costs of common resources and general and administrative costs for performance evaluation

Not satisfied at all	Neither satisfied nor dissatisfied			Extremely satisfied		
1	2	3	4	5	6	7

D8 Using the scale below please circle one number to indicate how diverse the activities are within your group

Not diversified at all		Moderately diversified			Extremely diversified	
1	2	3	4	5	6	7

D9 Using the scale below please circle one number to indicate the extent to which you can predict the changes in your division or company environment

Extremely unpredictable		Predictable to a small extent			Extremely predictable	
1	2	3	4	5	6	7

(a) Manufacturing Technology	1	2	3	4	5	6	7
(b) Labour union actions	1	2	3	4	5	6	7
(c) Competitors' actions	1	2	3	4	5	6	7
(d) Market demand	1	2	3	4	5	6	7
(e) Raw materials availability	1	2	3	4	5	6	7
(f) Product attributes/design	1	2	3	4	5	6	7
(g) Government regulation	1	2	3	4	5	6	7
(h) Raw materials prices	1	2	3	4	5	6	7

D10 Using the scale below please circle one number to indicate the extent of autonomy granted to most divisional heads regarding each of the following decisions

Not at all		To a small extent			To a considerable extent	
1	2	3	4	5	6	7

(a) Determining selling pricing	1	2	3	4	5	6	7
(b) Determining the quantity of output	1	2	3	4	5	6	7
(c) Specifying the amount of capital expenditure in the annual budget	1	2	3	4	5	6	7
(d) Choosing capital expenditure projects within capital expenditure limits	1	2	3	4	5	6	7
(e) Arranging external short-term borrowing	1	2	3	4	5	6	7
(f) Arranging external long-term borrowing	1	2	3	4	5	6	7
(g) Development of new products or services	1	2	3	4	5	6	7
(h) Entering into long-term purchases contracts with suppliers	1	2	3	4	5	6	7

D10 Using the scale below please circle one number to indicate the extent to which your company uses the following factors to achieve coordination among divisions

	Not at all		To a small extent			To a considerable extent				
	1	2	3	4	5	6	7			
(a) Employing organisational strategies to achieve co-ordination among divisions				1	2	3	4	5	6	7
(b) Divisional managers at different divisions have to avoid creating problems with each other duties				1	2	3	4	5	6	7
(c) Divisions have to work together to do their job properly and efficiently without duplicating each other's duties				1	2	3	4	5	6	7
(d) Divisional activities have to be well planned				1	2	3	4	5	6	7
(e) In your opinion, please indicate the extent to which your company has been able to achieve coordination among divisions				1	2	3	4	5	6	7

E Economic value added (EVA)

Note: Unless otherwise stated the questions in sections E and F relate to either divisional economic or managerial performance.

E1 Please tick one box below to indicate the statement which is most appropriate to your organisation relating to the use of economic value added (EVA) as a method of evaluating the performance of divisional managers

- (a) EVA is not used and there are no plans to use it
- (b) It is planned to implement EVA within the next 2 Years
- (c) EVA is currently used by my organisation to evaluate divisional managers' performance

E2 Does your company make any adjustments to accounting numbers to adjust for using generally accepted accounting principles or financial reporting standards when computing EVA?

Yes No

F Non financial performance measures

F1 Does your company use non financial measures to evaluate divisional performance? Yes No

F2 Please tick one or more boxes to indicate which of the following schemes your company use to evaluate divisional managers' performance:

- (a) Balanced scorecard
- (b) EFQM
- (c) Tableau de Board
- (d) None of the above
- (e) Other (please specify) _____
- _____

F3 Using the scale below please circle one number to indicate the importance attached to financial versus non financial measures for evaluating divisional performance

Financial measures are considerably more important than non financial measures		They are about the same importance		Non financial measures are considerably more important than financial measures		
1	2	3	4	5	6	7

F4 Using the scale below please circle one number to indicate the extent to which non financial measures are used for the following purposes

Not at all		To a small extent		To a considerable extent		
1	2	3	4	5	6	7

- (a) Comparing the performance of a division with similar divisions within your company
- (b) Comparing the performance of divisions with similar divisions/companies in the industry
- (c) Explaining the fluctuations (trends) in divisional performance during the previous years

F5 Using the scale below please circle one number to indicate your degree of satisfaction with the system of performance evaluation that is used in your company to evaluate divisional performance

Not satisfied at all		Neither satisfied nor dissatisfied		Extremely satisfied		
1	2	3	4	5	6	7

G Questions about yourself

Would you please provide me with the following information which will only be used to contact you directly in the event of a query about your responses. It will not be revealed to third parties.

Person completing the questionnaire

Name _____ Job title _____

Organisation/company name _____

Address _____

Telephone No. _____

G1 Please tick the box if you want a copy of the results of this study

G2 Please indicate the length of time since you started working at your company

- (a) Less than 2 Years
 (b) 2-5 Years
 (c) 5-10 years
 (d) Over 10 Years

G3 Where are you located in the organisational structure?

- (a) at group head office
 (b) at divisional head office
 (c) at an operating unit
 (d) not applicable, no group structure

G4 Please indicate the length of time since you qualified as an accountant

- (a) Less than 2 Years
 (b) 2-5 Years
 (c) 5-10 years
 (d) Over 10 Years

G5 Would it possible to arrange a meeting to discuss some of the issues raised by this questionnaire? Yes No

Thank you for taking the time to complete this questionnaire. If you have any comments about divisional performance evaluation please enter details in the space below.

Please use the prepaid envelope to return the questionnaire. If you have any questions please do not hesitate to contact one of us.

Professor Colin Drury
 University of Huddersfield
 Accountancy Dept.,
 Queensgate HD1 3DH, Huddersfield
 Tel: xxxx
 e-mail: xxxxx

Mr.Hatem Elshishini
 University of Huddersfield
 Accountancy Dept.,
 Queensgate HD1 3DH, Huddersfield
 Tel: xxxxx
 e-mail: xxxxxx