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CHAPTER II

FRAMEWORKS OF PERFORMANCE MEASUREMENT

2.1 Introduction

Accounting information plays a vital role in providing internal and external users with financial and non-financial information. The ability of organisations to compete successfully depends crucially on the availability of information upon which managers can act effectively. Information that is used for planning and controlling business activities is mainly provided by the management accounting function. Performance measurement systems are one of the important areas of management accounting that plays a major role in evaluating the achievement of organizational objectives (Medori, 1998). Thus, a review of the literature shows an increasing emphasis on the design and development of performance measurement systems.

Until recently, literature on management accounting emphasized the use of financial performance measures to enhance organisational strategy and to evaluate managerial performance. Due to the emergence of today's highly competitive business environment, many changes and developments have occurred arising from the use of new technologies such as the adoption of total quality management and just-in-time manufacturing approaches. These changes have created a need for improved performance measures in order to sustain a continuous improvement (Hoque et al., 2001). Additionally, increasing criticisms that have been made by several researchers (e.g. Eccles, 1991; Neely, 1999) relating to relying excessively on financial performance measures have resulted in additional emphasis being given to the use of non-financial performance measures such as quality and customer satisfaction. Recently, new financial performance measures such as added economic value and cash flow return on investment have also attracted a considerable amount of interest in management accounting literature (Ittner and Larcker, 1998a).

Literature on management accounting emphasises the use of financial performance measures in performance measurements and for evaluation purposes. In recent years most organizations have faced changes in their environment. These changes are characterized by a highly competitive business environment, technological innovations and the emergence of new management practices such as a just in time management philosophy and total quality management practices. This has
led management accounting researchers to relying excessive variance on financial performance measures. As a result, the literature of the 1990 advocates that organisation should use a combination of both financial and non-financial performance measures to provide managers with appropriate information about their overall organization situation.

Despite the increasing emphasis placed on including non-financial performance measures, many recent papers in management accounting journals have asserted the need for undertaking more studies on both the use and importance of performance measurement systems (Sandt et al., 2001). More specifically, these papers called for examining the importance of financial and non-financial performance measures and their perceived use in performance measurements and evaluation purposes. In addition, a contingency theory framework has also been widely used in management accounting research. However this stream of research has investigated the impact of few contingent variables related to performance measurement systems in a general manner.

2.2 Management control

This section dwells on the use of performance measurements in management accounting and management control literature. Generally, management accounting is concerned with preparing information for internal use, while its overall purpose is to help managers evaluate results and make rational decisions. The main function of management accounting is to cover a wide range of activities such as financial planning, financial transactions and providing an evaluation of expenditure on property and people. Therefore, management accountants play an important role in measuring and communicating financial information. According to Medori (1998), management accounting is usually divided into the following areas:

- Investment analysis, which is concerned with making the investment decisions by using a number of techniques (e.g. payback period, internal rate of return and net present value).
- Pricing decisions which require information about the cost of products.
- Integration between financial accounts and management accounts around the valuation of stocks.
Budgeting, which provides a plan for achieving organization strategy and as a mechanism for performance measurement.

The performance measurement system, which is used to evaluate, control and improve processes.

It is also used to compare the performance of different organizations, plants, departments, teams, and individuals. The role of management accounting information in performance measurement systems were of central focus of much management accounting research.

Two different functions of control systems have been identified by Merchant (1998), strategic control and management control. Strategic control deals with the validity of the strategies of the firm in a changing environment. In contrast, management control deals with issues relating to influencing the behaviour of employees. According to Anthony (1965), management control is the process by which managers ensure that resources are obtained and used effectively and efficiently in the accomplishment of the organization’s objectives. Kaplan (1983) states that the purpose of the management control system is to provide information that is useful in planning, decision-making, control, and evaluation. Management control system consists of a collection of control mechanisms that have an internal focus.

Drury (2002) argued that management accounting control systems are a form of result controls. These systems are mostly defined in monetary terms such as revenue, profit and ratios and may include non-accounting measures such as the number of customer deliveries. Such results control and involve the following stages:

- Defining the performance dimensions in congruence with an organization’s objectives.
- Setting performance targets to specify every aspect of performance dimensions.
- Providing rewards or punishment.

To understand the performance measurement systems, it is necessary to be aware that financial and non-financial performance measurements are applied at
different hierarchical levels within the organization. At the lowest level (operational level) daily reports might be provided that are likely to rely mainly on non-financial measures (e.g. number of defects, output, quantities, etc.). At some middle organisational level, managers should translate financial goals into operational goals.

These managers' goals are primarily defined in financial terms, so their communications with their superiors are primarily in financial terms (Merchant, 1998). In addition, managers bearing responsibility are likely to be subject to responsibility reporting based on weekly or monthly variance accounting against the annual budget. The next level could be classified as the strategic business unit level typically consisting of divisions. Alternatively, for non-divisionalised companies this would represent the company as a whole. At this level, most of the key results areas are defined in financial terms. Thus, a blend of financial and nonfinancial measurements is, in fact, needed at all organizational levels. It is crucial for senior managers to track not only financial measures, but also non-financial measures. Similarly, employees at lower levels need to understand the financial impact of their operating decisions (Anthony and Govindarajan, 2003).

2.3 Performance measurement system design

Performance measurement systems play a key role in organisations, not only because of their effect on the monetary success of organisations, but also for their importance as a source of information about financial transactions and the internal activities. Traditionally, the main sources of financial information have been the balance sheet, income statement and the cash flow statement (Yeniyurt, 2003). Organisations also use ratios as a method of assessing the financial performance. In order to achieve their objectives, organizations mainly depend on performance measures to evaluate, control and improve processes and to compare the performance of departments, teams, and to assess employees.

In reviewing the literature on performance measurements, it was observed that this topic is often discussed but rarely defined. Even though, performance is an ambiguous term, and capable of no definition (Otley, 1999), performance measurement has been defined in the literature by various writers. For instance, Marshall et al. (1999) define performance measurement as a development of indicators and collection of data to describe, report on, and, analyze performance.
Many other definitions of performance measurement systems were identified in the literature review. Kaplan (1984) defined a performance measurement system as an information system that aims to provide financial signals in order to help management make decisions. Simons (2000) defines a performance measurement system as formal information-based routines and procedures that managers use to maintain or alter patterns in organizational activities. Browne and Devlin (2002) define the performance measurement system as a complete set of performance measures and indicators derived in a consistent manner according to a set of rules or guidelines.

Lohman et al. (2004) provide definitions for four terms related to performance:

✔ A performance indicator or performance metric is a variable that express quantitatively the effectiveness or efficiency or both, of a part of or a whole process, or system, against a given norm or target.

✔ A performance measure is the activity of measuring performance using performance indicators.

✔ A performance measurement system is a system (software, databases, and procedures) to execute performance measures in a consistent and complete way.

The choice of performance measures and performance measurement system design is a critical challenge facing organizations. A set of guidelines (Neely et al, 1995) are as follows:

➢ Performance criteria must be chosen from the organization’s objectives.

➢ The aim and method of calculation of each performance criterion should be clear.

➢ The ability of performance criteria to be comparable with criteria of other organizations.

➢ Objective performance criteria are preferable to subjective ones.

➢ Data collection and methods of calculating the performance must be clearly defined.
- Performance criteria should be under control of the evaluated organisational unit.
- Ratio-based performance criteria are preferred to absolute numbers.
- Determining performance criteria should be selected through people who are involved in the organization.

In the same vein, Maskell (1989) suggested the following group of principles of performance measurement system design:

- The measures should be directly related to the firm’s manufacturing strategy.
- Non-financial measures should be adopted.
- It should be acknowledged that measures change as circumstances do.
- The measures should be simple and easy to use.
- The measures should provide fast feedback.
- The measures should be designed so that they stimulate continuous improvement rather than simply monitor.
- It should be recognized that measures vary between locations—one measure is not suitable for all departments or sites.

### 2.4 The development of performance measurements

Performance measurements in organisations have generated much interest over the years in different business disciplines in different sectors. The developments in performance measurements have been strongly influenced by the increasing level of competition and the changing business environment (Johnson and Kaplan, 1987). Changes in performance measurements have evolved and expanded for the past half century (Kaplan, 1994; Neely, 1999). Earlier, Kaplan (1984) indicated that the evolution of performance measurements began in early 1900 by the 'Dupont Company' which devised the Return On Investment (ROI) as an accounting performance measure of the efficiency of the operating departments, and a measure of financial performance of the company as a whole. During this period, the company used the budgets to compare the actual and the budgeted ROI. The ROI became the only measure of success for many organisations (Johnson and Kaplan, 1987).
Browne and Devlin (2002) highlighted that the financial performance measurements were developed in the late nineteenth and early twentieth century to meet the needs of manufacturing industries. These measurements were formalised in 1930 and became the basis of performance measurement systems. In the 1940s, there was an extension incorporating residual income to the return on investment criteria. By the mid of 1950, companies also started to use discounted cash flow. Johnson (1992) also argued that managing only by the financials became popular after the 1950, before which time senior managers used financial figures for planning rather than control.

Bourne et al. (2000) indicated that in the late 1970s and 1980s authors expressed dissatisfaction with traditional financial performance measurements. By the late 1980s and early 1990 this dissatisfaction led to the development of balanced or multidimensional performance measurement framework. In order to organise these developments, several researchers have divided these developments into several stages. For example, Ghalayini and Noble (1996) indicated that the development of performance measurements has had two stages:

The first stage began in the late 1880s. In this stage, the emphasis was on traditional financial performance measures such as profits, productivity, and return on investment. The second stage began a century later in the late 1980s arising from changes in the market. Organisations started to face high levels of competition through quality and low cost. Therefore, organisations began to change their strategic priorities to cope with the high level of competition. Organisations also began to implement the new techniques in technology such as JIT and TQM. In this stage, organisations started to use non-financial performance measures such as quality, lead time and delivery and flexibility.

2.5 Financial performance measurements

The American Accounting Association (AAA, 1975) defined financial performance measurements as pieces of information expressed in monetary units, and ratios resulting from mathematical manipulations of information. Therefore, these measurements can be defined as performance measures expressed in monetary metrics (e.g. profits, budgets, ROI, market share), which provide financial information. Most organisations rely exclusively on financial measurements to identify the managerial
and economic performance such as profits, accounting returns, and budgets. In the same context, Chenhall and Langfield (1998a) indicated that financial performance measures are of primary importance in many countries. In the UK, a survey of the use of performance measures by board members and executives in 77 manufacturing firms found that financial measures such as working capital and financial returns are of primary importance.

According to a study conducted in the UK, companies still consider internal financial measures more important than external market measures (Yeniyurt, 2003). The above discussion indicates that budgets, variance analysis and financial performance measures have been used traditionally for decades as performance measurements. However, recent critics have argued that organisations should not rely only on these measures. The literature of the 1990s advocates the use of a combination of both financial and non-financial performance measures. This recommendation can be attributed to two reasons. First, the limitations of financial performance measurements and second, the changing bases of performance measurements.

2.6 Limitations of financial performance measurements

The publication of 'Relevance Lost' in 1987 by Johnson and Kaplan concentrated on the criticisms of management accounting. The authors claimed that management accounting practices that were developed in the 1920s had remained unchanged, and were still dominant in the 1980s. In addition, management accounting information was unsuitable for managers' planning and control decisions. Specifically, many limitations and problems associated with traditional financial performance measurements have been identified.

These limitations relate to excessively focusing on the short-term measures through the use of measures such as profits, without considering longer-term performance measures such as quality and customer satisfaction. It is claimed that a major focus on short-term financial accounting measures may no longer provide an adequate indication of good performance for manufacturing companies (Kaplan, 1984; Maskell, 1989). In addition, various writers described the most important criticisms associated with traditional financial performance measurements during the 1980s and early 1990s. The following is a summary of the main criticisms:
Traditional financial performance measurements are based on traditional management accounting systems. The most widely criticised practice is the allocation of overhead according to the direct labour cost. This practice encourages managers to concentrate only on minimising the direct labour cost while ignoring overheads (Kaplan, 1983; Johnson, 1987).

The wide diversity in manufacturing strategies employed by organisations such as quality, flexibility, and customer satisfaction cannot be controlled or monitored by using only the traditional financial performance measurements (Ghalayini and Noble, 1996).

Traditional financial performance measurements are lagging indicators because they are not particularly useful for management accounting reports and operational performance assessment (Maskell, 1989; Eccles, 1991).

Moreover, traditional performance measurements are no longer satisfactory for organizations that seek competitive advantage (Neely et al., 1995). In this context, Phillips (1999a) provides evidence from a survey by the Institute of Management Accounting in 1996 that found only 15% of respondents' measurement systems satisfactorily supported senior manager's strategy objectives; whereas 43% were found in to adequate in support of these objectives.

The criticisms made against traditional financial performance measurements of accounting systems relate to financial measures focusing on historical information concerning past actions and a failure to focus on future attentiveness (Kaplan and Norton, 1996a). In this context, Neely (1999) indicates that financial performance measures are historically focused, for example, sales turnover reports, what happened the previous week, month or previous year. But, managers require predictive measures that indicate what will happen in the future. Another major criticism is that financial performance measurements exclude non-financial performance measurements (Atkinson et al., 1997). Recently, researchers have criticised the traditional financial performance measurements for several reasons.

For instance, Ittner and Larcker (1998a) criticise them for not considering the cost of capital and for being influenced by external reporting rules. Wouters et al. (1999) indicate that current profit and other financial performance measures only partially reflect the effects of past and current activities, and these measures are often
too short-sighted. Norreklit (2000) and Giannetti et al. (2002) have asserted that traditional financial performance indicators do not measure intangible assets. It should be noted from the above discussion that numerous authors have discussed the problems associated with financial performance measurements.

This broad overview led Ghalayini and Noble (1996) to classify the limitations of financial performance measurement into two main groups: specific and general. Specific limitations apply to certain performance measurements such as productivity, cost or profit. General limitations apply to all traditional performance measurements, these limitations are:

1. relying on traditional management and cost accounting systems,
2. providing information about past performance,
3. not incorporating a business strategy,
4. not being appropriate at all organisational levels,
5. not useful for meeting customer needs,
6. many improvements are difficult to quantify in financial terms.

In response to the above criticisms, many academics, consultants and professionals advocated the necessity of using non-financial performance measurements (Lynch and Cross, 1995). In addition, several changes have contributed to the evolution of performance measurements and resulted in the need of using non-financial performance measures. These changes will be addressed in the next section.

2.7 The changing basis of performance measurements

Before discussing the changing bases of performance measurements, it is of crucial importance to highlight the developments in management accounting. According to Otley (2001), these developments may be achieved through implementing the following changes:

✓ Moving from a historical point of view to the future.
✓ Moving from control to planning.
✓ Moving from internal perspective to external perspective.
✓ Moving from cost to value.
✓ Moving from production to marketing.
Today many companies operate in a globally competitive environment. They adopt the continuous improvement ideal, use new manufacturing practices such as total quality management, and just-in-time, and concentrate on the team-working and employee involvement. The challenge for this competitive environment is to develop new and flexible approaches to the design of effective performance measurement systems. Euske et al. (1993) indicated that performance measurement systems are a vital element of the change process in organisations. These changes have created the need for non-financial performance measures to be included in the performance measurement systems (Azofra et al., 2002). Earlier, Eccles (1991) highlighted the need for the following changes in performance measurements:

- The changing nature of work: this is evident in the development in the accounting system particularly changing overhead allocation from direct labour to activity-based costing system and new investments in process automation. These changes require modifications to the performance measurement systems. Increasing competition especially of the intensive global competition, has many organizations that emphasise quality and flexibility and concentrate on non-financial and financial factors in order to cope with the high level of competition.

- Improvement initiatives: The increasing level of competition has resulted in many organisations giving more attention to new improvements such as total quality management, world class manufacturing, and quality costing. To cope with these new techniques, organisations have had to incorporate new performance measurements.

- Quality awards: Many organisations seek national and international awards for which they have developed their performance measurements in order to compete for the quality awards.

- Changing organisational roles: The increasing criticisms of traditional financial performance measurements came from professional accounting associations and academics. They encouraged their members to take action to improve performance measurement systems.

- Changing external demand: Many organisations are subject to regulators, demand to achieve certain performance measurement standards. These
regulations have had an impact on the performance measurement systems of organisations.

- Information technology: New technology has provided the potential to enhance the performance measurement systems by capturing data which previously had been difficult to access.

Drury (1997) indicated that many organisations monitor the efficiency and effectiveness of performance measurements in activities such as time-based measures, cost of activities and quality as a means of advancing competitiveness and managing costs. The importance of measuring time is based on the view that it will increase quality, enhance delivery and improve responsiveness to customer's orders. Thus, in order to improve time performance measurements all operational measures should be considered. Kaplan and Norton (1996b) asserted that companies should exploit intangible assets such as high-quality products, skilled employees and satisfied customers as this help companies in:

- Developing customer relationships that retain the loyalty of customers and enable new customers to be served effectively and efficiently.
- Introducing innovative products and services.
- Producing high-quality products and services at low cost and with short lead time.

Thus employees’ skills are mobilised and motivation for continuous improvements is possible. Through the use of information technology, databases, and systems. Because of the new challenges facing organisations, the importance of using nonfinancial performance measurements has been emphasised by researchers. For example, Kaplan (1984) indicated, there was a need for non-financial performance measurements on quality, productivity, deliverability and flexibility in order to cope with the global competition. In response to the importance of including non-financial performance measurements, the following section presents a brief discussion of non-financial performance measurements.

**2.8 Non-financial performance measurements**

According to a publication by the American Accounting Association (1975), non-financial performance measurements is information expressed in non-monetary
units and ratios. The use of non-financial measurements is a call for using operations-based measures that are the origins of management accounting systems (Johnson and Kaplan, 1987). Maskell (1989) summarised non-financial measures into five categories: quality, delivery, production process time, flexibility and cost. These measurements are, however, not a new phenomenon. The use of these performance measurements has become a subject of great interest particularly in relation to intensive competition, customer satisfaction, inadequacy of traditional measurements and the use of new manufacturing practices.

Ittner and Larcker (1998a) suggest the following reasons for the use of non-financial performance measurements: (a) Perceived limitations in the use of traditional financial measures, (b) increased competitive pressure, and (c) implementation of other programmes like TQM.

In addition, Medori and Steeple (2000) summarise the following advantages of using non-financial performance measurements:

- The measures are more timely than financial.
- The measures are very measurable and precise.
- The measures are meaningful to the workforce so aid continual improvement.
- The measures are consistent with company goals and strategies.
- The measures change and vary over time as markets needs change.

It seems clear that there are wide differences between traditional 'financial' and non-traditional 'nonfinancial' performance measurements. These differences were identified and summarised by Ghalayini and Noble (1996). Thus, Table 2.1 shows these differences.
Table 2.1

A comparison between traditional and modern performance measures

<table>
<thead>
<tr>
<th>Traditional Performance Measures</th>
<th>Modern Performance Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Based on outdated traditional accounting system.</td>
<td>a) Based on company strategy</td>
</tr>
<tr>
<td>b) Mainly financial measures</td>
<td>b) Mainly non-financial measures</td>
</tr>
<tr>
<td>c) Intended for middle and high level managers</td>
<td>c) Intended for all employees</td>
</tr>
<tr>
<td>d) Lagging metrics (weekly or monthly)</td>
<td>d) Uses on-time metrics (hourly, or daily)</td>
</tr>
<tr>
<td>e) Difficult, confusing and misleading</td>
<td>e) Simple, accurate and easy to use</td>
</tr>
<tr>
<td>f) Lead to employee frustration</td>
<td>f) Lead to employee satisfaction</td>
</tr>
<tr>
<td>g) Neglected at the shop floor</td>
<td>g) Frequently used at the shop floor</td>
</tr>
<tr>
<td>h) Have a fixed format</td>
<td>h) Have no fixed format- depends on needs</td>
</tr>
<tr>
<td>i) Do not vary between locations</td>
<td>i) Vary between locations</td>
</tr>
<tr>
<td>j) Do not change over time</td>
<td>j) Change over time as needs change</td>
</tr>
<tr>
<td>k) Intended mainly for monitoring performance</td>
<td>k) Intended to improve performance</td>
</tr>
<tr>
<td>l) Not applicable for JIT, TQM, CI, etc</td>
<td>l) Applicable for JIT, TQM, etc</td>
</tr>
<tr>
<td>m) Hinders continuous improvement</td>
<td>m) Helps in achieving continuous improvement</td>
</tr>
</tbody>
</table>

**Source:** Ghalayini and Noble (1996)

Lingle and Schiemann (1996), conducted a survey on the quality, uses, and the importance of a diversity of financial and non-financial performance measurements. They surveyed 203 executives from a variety of industries (65% manufacturing companies). Table 2.2 summarises the findings of this study.

Table 2.2

Quality, uses, and importance of financial and non-financial performance measures

<table>
<thead>
<tr>
<th>Type of performance measures</th>
<th>Practices</th>
<th>Financial</th>
<th>Customer</th>
<th>Operating</th>
<th>Employee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information is highly valued*</td>
<td>82%</td>
<td>85%</td>
<td>79%</td>
<td>67%</td>
<td></td>
</tr>
<tr>
<td>Willing to bet job on the Quality of information*</td>
<td>61%</td>
<td>29%</td>
<td>41%</td>
<td>16%</td>
<td></td>
</tr>
<tr>
<td>Measures clearly defined in each performance category*</td>
<td>92%</td>
<td>48%</td>
<td>68%</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>Regular management review for measures **</td>
<td>98%</td>
<td>76%</td>
<td>82%</td>
<td>57%</td>
<td></td>
</tr>
<tr>
<td>Measures are used to drive organizational change**</td>
<td>80%</td>
<td>48%</td>
<td>62%</td>
<td>29%</td>
<td></td>
</tr>
<tr>
<td>Measures are linked to compensation**</td>
<td>94%</td>
<td>37%</td>
<td>54%</td>
<td>20%</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Ittner and Larcker (1998a)

* Percent of executives responding to me survey who agreed wan this statement.

**percent of respondents using these measures who agreed with this statement.
In an attempting to understand the initiatives of non-financial performance measurements and their economic benefits, Said et al. (2003) conducted a study to investigate whether the use of non-financial measurements in compensation is associated with future accounting and stock market performance. The study also examined the relationship between the use of nonfinancial measurements and economic performance, as a function of the fit between a company's operational and competitive circumstances, and its choice of performance measurements. The empirical analysis conducted in this study was by comparing performance consequences of companies incorporating both financial and non-financial measurements versus companies using only financial measurements.

The study found some evidence for future accounting-based performance. The overall evidence of the effect of nonfinancial measurements' on accounting-based performance was mixed. The results also showed that non-financial measurements usage were significantly associated with innovation strategy, quality strategy, the length of the product development cycle, industry regulation and the level of financial distress. Finally, the association between non-financial measurements and company performance was contingent on whether the use of these measurements matched the company's characteristics.

2.8.1 Non-financial performance measurements as leading indicators

Many arguments have been raised concerning the determination of non-financial performance measurements as lead indicators of financial performance. According to Otley (1997), he argued that the improvements in different non-financial areas such as customer satisfaction, quality and innovation would affect future financial performance. A survey of such vice-presidents of major US companies, it was found that only 28% could relate their customer satisfaction measures to accounting returns, and only 27% to stock returns (Ittner and Larcker, 1998a).

Moreover, Anderson et al. (1994) conducted a study to investigate the relationship between non-financial measurements and financial performance in 77 Swedish companies. They found that a higher customer satisfaction leads to a higher return on investment, after controlling the past returns and the time trend. Furthermore, Ittner and Larcker (1998b) found support for the claim that customer satisfaction measurements are associated with the company's current market value,
but not with contemporaneous accounting measures. Srinivasan (1997) investigated the relationship between financial and non-financial performance measurements in the context of hotels. The study demonstrated that customer satisfaction measurements were significantly associated with future performance, in terms of revenue and profit.

2.8.2 Need for Integrated Performance Measurement

Change might be inevitable, but all too often it occurs like an unguided missile seeking an elusive target at unpredictable speed. For most activities, it is far better to manage change with a plan- one that includes clear goals and useful indications of progress toward a desired objective (Higgins and Hack, 2004). Participants in any activity need to know what outcome is to be expected, how their work contributes to the overall goal, how well things are progressing, and what to do if results are not as they should be. This approach places performance measures where they are the most effective: integrated with the activity.

Recent research into manufacturing systems integration has identified the need for effective deployment of business objectives down through the organization and the subsequent measurement of performance in critical areas as key elements of sustainable competitive advantage (Carrie and MacIntosh, 1992). Other researchers have also noted the links between performance measures and strategic plans and/or critical success factors of the business.

There is already considerable work being carried out by the accounting profession on performance measurement. Indeed, most manufacturing organizations have extensive performance measurement systems based on cost and financial accounting practices. Recent innovations, such as activity-based costing, overcome some of the difficulties associated with traditional methods but still do not promote continuous improvement and strategic orientation. Notable work has been carried out by Kaplan (1983; 1990), and Johnson and Kaplan (1987) in recognition of these weaknesses. Neely (1998) summarizes the shortcomings of the current accounting practices with respect to performance measurement in manufacturing enterprises. As the financial measures that are currently in place are not feasible in the process of change, there is a case for new styles of measurement systems that are appropriate to the needs of the changing modern business.
Performance measurement systems succeed when the organization’s strategy and performance measures are in alignment and when senior managers convey the organization’s mission, vision, values and strategic direction to employees and external stakeholders (Powell, 2004). The performance measures give life to the mission, vision, and strategy by providing a focus that lets each employee know how they contribute to the success of the company and its stakeholders ‘measurable expectations.

In summary, the need for an integrated set of performance measures which support rather than contradict business objectives is clearly established (Bititci et al, 2005). Integration makes it possible for performance measures to be effective agents for change. If the measures quantify results of an activity, one only need compare the measured data with the desired goals to know if actions are needed. In other words, the measures should carry the message.

2.9 Types of integrated performance measurement systems

It was pointed out in the previous section that there is no single performance measurement for evaluating business performance. Therefore, it is advocated that companies should adopt new performance measurement frameworks that present a balance of both financial and non-financial performance measurements. Nanni et al. (1992) emphasise the importance of integrated performance measurements. They state that: Integrated performance measurement is used to manage work rather than costs. Traditional approaches employed planning data to achieve control, whereas integrated performance measurement uses measures to influence plans. It is a dynamic approach to finding a way, not a rigid approach based on knowing the desired end.

According to Toni and Tonchia (2001), the main models of Performance Measurement Systems can be referred to under one of five typologies:

1. Performance Measurement Systems that are strictly hierarchical (or strictly vertical), characterised by cost and non-cost performance on different levels of aggregation, until they ultimately become financial.
2. Performance Measurement Systems that are balanced scorecard, where several separate performance measures that correspond to diverse perspectives (financial, customer, etc), are considered independently.
3. Performance Measurement Systems that can be called frustum, where there is a synthesis of low-level measures into more aggregated indicators, but
without the scope of translating non-cost performance into financial performance.

4. Performance Measurement Systems that distinguish between internal/external performances.

5. Performance Measurement Systems that are related to the value chain.

Several Performance Measurement Systems have been developed since the late 1980 such as the Performance Measurement Matrix, Performance Pyramid and the Performance Prism. These, along with more innovative frameworks, will now be explained.

2.9.1 The performance measurement matrix

This framework was introduced by Keegan et al. (1989) based upon the idea that performance measurements are a guide for management activities. Thus, the measurements should be derived from a business strategy. This framework consists of four dimensions which are: internal, external, cost, and non-cost performance measurements. Some of the performance measurements used in this framework is shown in Chart 2.1.

**Chart 2.1**

**The performance measurement matrix**

<table>
<thead>
<tr>
<th>Non-cost</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market share</td>
<td>Relative labour cost</td>
</tr>
<tr>
<td>Number of customer complaints</td>
<td>Relative R&amp;D expenditure</td>
</tr>
<tr>
<td>Number of repeat buyers</td>
<td>Supplier cost position</td>
</tr>
<tr>
<td>First-pass quality</td>
<td>Distribution cost</td>
</tr>
<tr>
<td>Number of new products</td>
<td>Manufacturing cost</td>
</tr>
<tr>
<td>Design cycle time</td>
<td>Overhead</td>
</tr>
</tbody>
</table>

**Source:** Keegan et al. (1989)
This framework is based upon the need and importance to support an organisation's multi-dimensional environment by the performance measurements. In addition, the performance measurements must be based on a thorough understanding of cost relationships and cost behaviour. This framework is easy to understand, and it consists of different performance measurement dimensions.

The strength of this framework lies in the way it seeks to integrate different classes of performance measurements (financial and non-financial, internal and external). The main weaknesses of this framework are that it does not provide specific criteria to choose the measurements, and it does not mention any dimensions relating to the innovation perspective and time. Finally, the framework also does not list any popular financial performance measurements such as return on investment.

2.9.2 The performance pyramid model

This framework was reported by Lynch and Cross (1995). It relies on a pyramid approach. This framework translates strategic objectives top down (based on customer priorities) and rolls measurements bottom up. The main objective of the pyramid approach is to contrive a management control system with performance measurements to achieve organizational objectives. The objectives of the pyramid approach consists of four levels. These are summarised as follows (see also chart 2.2):

- The pyramid starts with the definition of business strategy, which is then translated into the business unit objectives.
- The second level of objectives consists of market and financial measurements; these measurements are identified to monitor performance and to achieve business strategy.
- The third level consists of the objectives and priorities for each operating system in terms of customer satisfaction.
- The fourth level consists of measurements related to individual departments.
Lynch and Cross (1995) indicate that the pyramid approach is useful for describing the communication between organisational objectives. It is also useful for monitoring performance at all levels of organisation to ensure that the business strategy is satisfactorily implemented. This framework ties together the hierarchical view of business performance measurement with the business process view. It also differentiates between performance measurements that are of interest to external parties (customer satisfaction, quality and delivery) and performance measurements that are of interest within the business (productivity, cycle time and waste).

Ghalayini et al. (1997) suggest that the main strength of the performance pyramid is its attempt to integrate corporate objectives with operational performance indicators. However, this approach does not provide any mechanism to identify key performance indicators, nor does it explicitly integrate the concept of continuous improvement.

**2.9.3 The performance measurement system for the service industry**

Fitzgerald et al. (1991) developed a performance measurement system exclusively for the service industry. This framework consists of several performance dimensions which are: competitive performance, financial performance, quality of service, flexibility, resource utilisation, and innovation. These dimensions incorporate...
both financial and non-financial performance measurements that are important to competitive success in addition to its main focus on several quantifiable aspects such as productivity and cost.

The main feature of this framework is that all the dimensions fall into two main groups, they are:

- **Results**: This group consists of competitive and financial performance, which reflects the success of the chosen strategy.
- **Determinants**: This group consists of quality of service, flexibility, resource utilisation, and innovation, which are the factors that determine competitive and financial performance.

Table 2.3 illustrates the dimensions and measurements of this framework. The results in the framework are a function of past business performance (lagging indicators), whereas the determinants are leading indicators.

Fitzgerald et al. (1991) found that many service organisations used the same criteria based on their suggested results and determinant categories. The main disadvantage of this performance framework is that the authors of this framework did not emphasise the causal link between the results and determinants.

Table 2.3

<table>
<thead>
<tr>
<th>Dimensions of Performance</th>
<th>Types of Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Results</strong></td>
<td>Relative market share and position</td>
</tr>
<tr>
<td>Competitiveness</td>
<td>Sales growth</td>
</tr>
<tr>
<td>Financial performance</td>
<td>Measures of customer base</td>
</tr>
<tr>
<td></td>
<td>Profitability</td>
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<tr>
<td></td>
<td>Liquidity</td>
</tr>
<tr>
<td></td>
<td>Capital structure</td>
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<tr>
<td></td>
<td>Reliability</td>
</tr>
<tr>
<td></td>
<td>Responsiveness</td>
</tr>
<tr>
<td></td>
<td>Aesthetics/appearance</td>
</tr>
<tr>
<td></td>
<td>Cleanliness/tidiness</td>
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<tr>
<td></td>
<td>Comfort</td>
</tr>
<tr>
<td></td>
<td>Friendliness</td>
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<tr>
<td></td>
<td>Communication</td>
</tr>
<tr>
<td></td>
<td>Courtesy</td>
</tr>
<tr>
<td></td>
<td>Competence</td>
</tr>
<tr>
<td><strong>Determinants</strong></td>
<td></td>
</tr>
<tr>
<td>Quality of service</td>
<td></td>
</tr>
</tbody>
</table>
### 2.9.4 The EFQM business excellence model

The EFQM business excellence model has been developed by the European Foundation for Quality Management to assess organisational quality performance. EFQM has clearly become the most applied model in Europe for total quality management (Westlund, 2001). Oakland (1999) indicates that this model emphasises the society results dimension as one result of quality development. The EFQM model shown in Chart 2.4 illustrates key business areas, (i.e. enablers and results), which are typically addressed by organisations to achieve superior business performance.

#### Chart 2.3

**The EFQM model**

<table>
<thead>
<tr>
<th>Flexibility</th>
<th>Access</th>
<th>Security</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource utilization</td>
<td>Availability</td>
<td>Volume flexibility</td>
</tr>
<tr>
<td>Innovation</td>
<td>Delivery speed flexibility</td>
<td>Specification flexibility</td>
</tr>
<tr>
<td></td>
<td>Productivity</td>
<td>Efficiency</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Performance of the innovation process</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Performance of individual innovations</td>
</tr>
</tbody>
</table>

Source: Fitzgerald et al. (1991)

The EFQM model includes nine main categories such as: customer satisfaction, people satisfaction impact on society, leadership driven policy, strategy, people management, resources and processes. Success in these categories leads
ultimately to excellence in business results both financial measurements (e.g. profit and cash flow) and non-financial measurements such as market share and product delivery time (Hughes and Halsall, 2002). Oakland (1999) indicated that there are a large number of organisations using this model for self-assessment and in the entries for quality awards. Finally, it should be noted that this model contains no detailed instructions for its use, although the nine elements must be considered in the award assessment process.

2.9.5 The performance prism

This recent framework was developed by Neely et al. (2002). It is a comprehensive measurement framework that addresses the key business issues to companies. The performance prism has five perspectives, the top and bottom perspectives are the stakeholder satisfaction and stakeholder contribution. The remaining perspectives are strategies, processes and capabilities (Neely and Adams, 2001). In the first perspective, managers should ascertain the needs and wants of the most influential stakeholders. After determining the stakeholders, it is necessary to choose the appropriate strategies that organisations should adopt to satisfy stakeholders’ needs. The performance measurements are then established after identifying the strategies. The third and fourth perspectives are to determine what processes need to be put in place to execute strategies. This is followed by determining the capabilities required for operating these processes. The final perspective is to identify stakeholder contribution to maintain and develop the capabilities. The advantage of this framework is the ability to allow the larger groups of stakeholders to be handled in the performance measurement scheme (Abran and Buglione, 2003).

2.9.6 Performance Dashboards

A performance dashboard is an executive information system that captures financial and nonfinancial measures as indicators of successful strategy deployment. Many dashboards are indexed measures that roll-up performance in a weighted manner to a few select gauges based on many measures, or inputs.

This performance measurement system emerged in France and was developed by process engineers who were looking for ways to enhance their production process by understanding the cause-effect relationships between actions and process performance. The same principle was then applied at the top management level to
provide managers with a set of indicators to monitor the progress of organisation. “Tableaux De Bord” literally means ‘dashboard’ and it represents a set of indicators that allows managers or engineers to operate successfully.

It can be used within organisations without depending just on financial performance measurements, because it also uses operational measurements (Lebas, 1994). According to Epstein and Manzoni (1998), the development of this framework involves translating a unit’s vision into a set of objectives from which the units identify their key success factors and translate them into quantitative key performance measurements.

The benefit of this framework is to provide managers with a periodic overview about a unit’s performance and the organisation overall, so that the tableaux de bord can contribute to the managerial decisions. This framework aims to provide management with vital information (Lebas, 1994). In conclusion, the tableaux de bord is a French tradition of management accounting. This tradition does not give the accounting-based information a major concern. Epstein and Manzoni (1997) indicate that this approach has not been widely adopted in practice due to the little emphasis that has been given to non-financial indicators.

Chart 2.4
The Performance Dashboard

Source: Epstein and Manzoni
2.9.7 The Balanced ScoreCard (BSC)

The best known and most cited performance measurement framework which incorporates key non-financial and financial performance measurements is the balanced scorecard. This framework was originally devised by Kaplan and Norton (1992) to overcome the limitations of managing only with financial measurements, and was refined in their later publications to look at business strategy. This approach is an effective combination of financial and non-financial performance perspectives (i.e. customer, internal business processes/operational, learning and growth/innovation, and financial). The main benefit of implementing this approach is that it uses a set of financial and non-financial performance measurements, and these measurements are in line with business strategy. A graphic representation of these perspectives is provided in Chart 2.5 overleaf.

Chart 2.5
The Four Perspectives of Balanced Scorecard

Source: Amaratunga et al (2001)
Of particular interest to this approach was the number of models similar to that of Kaplan and Norton, and all of them were designed to measure business performance, and to link these measurements to the company's overall strategy. Balanced scorecard (1992) is the as the Kaplan and Norton approach. Maisel (1992) defines four perspectives for performance measurements. Instead of a learning and growth perspective, Maisel uses a human-resource perspective in his model. Finally, the balanced scorecard has some limitations. For instance, Neely et al. (1995) indicated that the balanced scorecard does not consider the competitor perspective. This technique is not intended to be applicable for all organisation levels.

**2.9.8 Input-Process-Output Model**

The Input-Process-Output Model developed by Fitzgerald et al. (1994) was created in the context of service organisations and reinforces effectively the connections between various activities of the business. Fitzgerald participated in the research that led to the development of the ‘Results and Determinants Matrix’, hence the similarities to its predecessor (Fitzgerald et al, 1994).

Fitzgerald et al. (1994) argue that there are six generic performance dimensions: competitive performance, financial performance, quality of service, flexibility, resource utilisation and innovation. The key element of their proposition is that these dimensions may be divided into two categories: resultant and determinant factors. As can be seen in Chart 2.6, a number of measures may then be developed which relate to both determinants and results.

**Chart 2.6**

**Input-Process-Output Model**

Source: Fitzgerald et al. (1994)
2.9.9 Activity-Based Costing

Activity-based costing was developed by Johnson and Kaplan (1987) in the late 1980s as an attempt to resolve some of the fundamental inadequacies of traditional cost accounting. Activity-based costing is concerned with the cost activities within a company and their relationship to the manufacture of specific products rather than to basic functional areas (Hill, 1995). The basic technique is to analyse the indirect costs within a company and to discover the activities that cause those costs. Such activities are called “cost drivers” and can be used to apply overheads to specific products. In this way, it is believed that activity-based costing results in a more accurate identification of costs than traditional cost allocation.

According to Maskell (1989), several sample cases indicate that activity-based costing can be of practical value for product pricing, production decision-making, overhead cost reduction and continuous improvement. However, there are researchers who claim that the argument that activity-based costing provides more accurate product costs has never been proved (Neely et al. 1997). More importantly, an improved cost accounting system will not entirely solve the problem with financial measures – measures other than cost are needed to adequately gauge manufacturing performance relative to a competitive strategy (White, 1996). This is why many researchers have focused on developing more complex performance measurement systems during the last decade.

2.9.10 Competitive Benchmarking

Competitive Benchmarking is where it is necessary to discover where a company’s performance is compared with an immediate competitor. This can be across the entire spectrum of business comparators, i.e. finance, products and services, organisation, technology, research and development, personnel policies, etc. (Hutchins, 2008).

The main goals of benchmarking are to identify key performance measures for each function of a business operation; measure one’s own performance levels as well as those of the leading competitors; compare the performance levels and identify areas of comparative advantage and disadvantage and implement programmes to close a performance gap between one’s own operations and the operations of the leading competitors (Furey, 1987).
2.10 Challenges of Performance Measurement

It is rare to find an organization that doesn’t have problems with its integrated performance measurement system. Some may need only simple fixes while others may need major overhauls. However, it is important to learn what mistakes organizations have made in order to avoid falling in the same trap. Amongst the greatest challenges is amassing too much (or too little) data. In the end, it can get so bad until the managers and employees either will ignore the data or use it ineffectively (Kennerley and Neely, 2002). Conversely data can be summarized so much that it becomes meaningless. If business decisions are going to be based on the data, then the data needs to be reported clearly and understandably. There is also a related problem of collecting inconsistent, conflicting, and unnecessary data. All data should lead to some ultimate measure of success for the company (Brown 1994). An example of conflicting measures would be measuring reduction of office space per staff while, at the same time, measuring staff satisfaction with facilities.

Many companies use their measurement systems to focus on the short-term. This is through collection of only financial and operational data. They forget to focus on the longer-term measures of customer satisfaction, employee satisfaction, product/service quality, and public responsibility. Bourne et al (2003) argues for a trade off between hitting today's financial results and sustaining the capabilities and competences that allow companies to compete effectively in the future.

Managers also fail to base business decisions on the data available (Powell, 2004). They use their intuition and past experience rather than the data being reported to them. This renders the measurement system irrelevant and the measurement team disillusioned, eventually leading to collection of poor quality data since they are not used anyway. If the data is valid, it should be used appropriately.

This happens when performance results are used to punish employees or settle scores without an objective evaluation of all circumstances. Sometimes business executives ask who is to blame instead of asking what went wrong. Performance data should primarily be used for improvement of the organisation. The purpose of a performance measurement system is not merely to collect data, but rather to collect data upon which to make critical business decisions that will in turn drive business improvement.
Organizations should also be on the lookout against measures which encourage competition and discourage teamwork. Comparing performance results of organizational unit to organizational unit, or one employee to another, sometimes creates fierce competition to be ‘Number 1’ at the expense of destroying a sense of teamwork (PBM SIG, 2001). All the measures should compare to stated performance goals for the benefit of the whole organization.

Polanen (2005) discourages the use of unrealistic and/or unreasonable measures which do not fit into the organization’s budgetary and personnel abilities. The measures must be cost effective and achievable. Nothing can demoralize an employee quicker than a goal that can never be reached. Measures should be linked to the organization’s strategic plan and should cascade down into the organization, linking both horizontally and vertically (Powell 2004). There also has to be a balance on the frequency of measures. Measuring progress too often could result in unnecessary effort and excessive costs, resulting in little or no added value. On the other hand, not measuring progress often enough puts an organization in the situation where it might not know about potential problems until it’s too late to take appropriate action.

Management often wants to measure only an organization’s internal components and processes. That way they can ‘command and control’ it. However, in reality, it is the customer who drives any organization’s performance. As noted by NPR (1997), most of the best-in-class organizations place customer satisfaction above all else. Customers should therefore not be ignored.

2.11 Applications of Performance Measurement in Hotel Organisations

Fay et al. (1976) identified ratios to be the most commonly used performance measures in hospitality businesses in order to monitor and control operations. This information is compared and measured against goals, to indicate where problems and successes are. Andrew and Schmidgall (1993), state that by tracking a selected set of ratios, hospitality managers are able to maintain a fairly accurate perception of the effectiveness and efficiency of their operations. The results of financial statements have significance if they are compared with some form of yardstick. The main source of comparative information comes from internal performance, which is past results.
and budget performance and external performance, which are inter company results and industry studies (Fay et al. 1976; Harris, 1992).

Schmidgall (1988) collected data from 115 hospitality businesses to rank the most commonly used ratios and concluded that the monthly occupancy %, the cost of labour % and the cost of food % were the most commonly used. Further research determined that different groups of users assign different importance to the ratios and the main users were identified as being the management, the owners and the creditors. The users all rated different measures to be important such that management used operating ratios more than others, owners considered profitability ratios extensively and creditors utilised solvency ratios for making decisions (Andrew and Schmidgall, 1993; Coltman, 1998).

Schmidgall (1997) classified and defined the common ratio measures in the hospitality business into the following five groups:

- **Liquidity** – ability to meet short-term obligations.
- **Solvency** – ability to meet long-term obligations through debt and equity finances.
- **Activity** – management’s effectiveness in using its resources.
- **Profitability** – management’s overall effectiveness.
- **Operations** – supports other measures by analysing the operations of a hospitality establishment.

Collier and Gregory (1995), in association with the Chartered Institute of Management Accountants, conducted research on the use of financial and non-financial performance measures in a sample of six UK hotels. Collier and Gregory (1995) concluded that Return on Investment, which is believed to be the favourite measure in manufacturing businesses, is used only when new investments are undertaken and the most common way of measuring performance in hotels is through a comparison of actual with budgeted figures. They also concluded that the hotels measured quality through the use of guest questionnaires, mystery guests and quality standard forms.

Brander-Brown et al. (1998) provided evidence that achieving a balance of performance information, in terms of type, financial-operation dimensions and the links between key performance areas are necessary for the design of appropriate
performance management systems in full-service hotels. Additionally, effective communication of performance information at all levels, therefore, producing and communicating clear and understandable performance information is also a core element of the performance management system.

Southern (1999) demonstrated the value of a systems approach in considering performance management at an operational level in the hospitality sector. Southern (1999) applied systems concepts and techniques to a hypothetical hotel company in order to describe and analyse influences between subsystems. Work measurement and quality performance standards were identified for the company and an operations management analysis framework was then used to consider the design of operating systems with specific reference to performance measures which drive, and perhaps support, an organisation’s competitive stance based on competitive factors.

Southern (1999) concluded that for the most part, management of performance in the hospitality industry is ruled by intuition and past experience and a more systematic approach to process design, as practised in the manufacture and financial services industries may well pay dividends.

Atkinson and Brander-Brown (2000) undertook research to ascertain whether UK hotel companies were still focusing on the more ‘traditional’ performance measures and assessed the extent to which UK hotel companies were addressing the folly of measuring the wrong things and the steps they were taking to rethink their performance measurement systems.

They concluded that a proportion of the UK’s hotel industry does place an emphasis on non-financial performance dimensions such as customer satisfaction and quality of service but, in the main, the industry appeared to concentrate on financial dimensions. Moreover, the researchers concluded that the non-financial dimensions were overwhelmingly dominated by ‘lag’ (result) indicators, thus focusing the management’s attention even further toward the results of past actions rather than toward determinants of future success. The evidence therefore suggested that performance measurement systems in UK hotels were by no means ‘balanced’.

Haktan (2000) undertook research into the practice of performance measurement in independent hotels and made reference to ‘The Uniform Systems of
Accounts for the Lodging Industry’, which is the commonly practiced method of recording and analyzing accounting data in hospitality businesses.

Atkinson and Brander-Brown (2001) undertook research in UK hotels and concluded that the industry relies predominantly on financial performance dimensions, despite the progress taking place with regard to the design of more effective performance measurement systems. Their research also suggested that some organisations placed an emphasis on non-financial measures such as quality of service and customer satisfaction.

Guilding (2002) describes financial management procedures and analytical techniques in the context of hospitality decision-making and criticises financial performance measures for focusing on symptoms rather than causes and being oriented towards the short-term performance of the past. Guilding (2002) concludes that continued management emphasis on financial controls is to be expected due to the needs of the investing community.

Banker et al. (2005) studied data from a number of U.S. lodging properties managed by a large hospitality firm that implemented an incentive system based on non-financial and financial performance measures. Their research addressed the following research questions: 1) Are the non-financial performance measures leading indicators of financial performance? and 2) Does the adoption of an incentive compensation plan that increases the emphasis on non-financial performance measures for key managers lead to improvements in both financial and non-financial performance? Banker et al. (2005) concluded that non-financial measures of customer perceptions are related to future financial performance and that both financial and non-financial performance improves following the implementation of an incentive plan that includes non-financial measures of performance.

Haktanir and Harris (2005) explored performance measurement practices in a 392-room resort hotel in Northern Cyprus. Their research indicated six main themes, which were grouped under business dynamics and overall performance; employee performance; customer satisfaction; financial performance; and innovative activities performance measures. These six themes were discussed so that the communication process and purpose of utilising the performance measures could be described and analysed.
Ramdeen et al. (2007) examined the effect of using financial information with nonfinancial performance information and surveyed 1200 departmental managers in 400 US hotels to determine why users may be interested in non-financial measures, and whether or not the users would receive incremental benefits from incorporating non-financial measures in budgetary reports. He concluded that resource allocation decisions made by individuals were significantly associated with financial information. In addition, the research concluded that non-financial information was influential in the performance evaluations of both department personnel and the department manager and that both financial and non-financial information significantly affected the performance evaluation of the departmental managers.

The literature reviewed in this section is predominantly based on U.S. (Atkinson and Brander-Brown, 2001) hotels and has been developed mainly through the use of case study strategies. This therefore does not provide a representative overview of performance measurement in the hospitality industry and there is clearly a shortage of European related research.