Department of Business Studies

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An investigation into the practice of critical success factors by Irish publicly listed companies in performance management.

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DECLARATION

Disclaimer 1

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ABSTRACT

Overview

Globalisation, increased competition and the fact that both strategy and performance must stay abreast of rapidly changing conditions has led to an increase in the use of performance management tools by organisations to improve the quality of their products and services, providing a sense of direction for performance improvement which supports strategy execution.

One such performance management tool is the critical success factor method. The performance indicators from the csf method provide an accurate indication of performance and determine how business processes could be improved to achieve strategic objectives, offering real-time performance management.

Purpose

This paper explores the practice of csfs within the performance management of the publicly listed companies in Ireland. It specifically focuses on the purpose and extent of their practice, while simultaneously acquiring the opinions of publicly listed companies on the merits and demerits of using csfs in performance management.

Findings

Csfs were found to be widely practiced in both strategic management and performance management and in general, organisations see the benefits of their use. However, discrepancies to the literature have occurred in the practice of csfs in both the strategic management and performance management processes with a possible gap emerging between strategy and execution leading the researcher to recommend further research to explore that gap.

Future research

The researcher also discovered that the balanced scorecard had perhaps, been used in every aspect except name only, prompting their recommendation for further research to evaluate this analysis.

The regular practice of csfs without the balanced scorecard framework has also raised the question of csfs as a separately identifiable strategic management system which will also require further research.

Importance

Since strategic management is such a complex and intricate topic area, any research on its practice can only enhance understanding while simultaneously contributing to current management theory.

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LIST OF ABBREVIATIONS

CEO(s)   Chief Executive Officer(s)

CSF(s)   Critical Success Factor(s)

KPI(s)   Key Performance Indicator(s)

VS   Versus

CFO(s)   Chief Financial Officer(s)

PLC(s)   Publicly Listed Company (Companies)

EBIT   Earnings Before Interest and Tax

ROIC   Return on Invested Capital

US   United States

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Chapter 1

INTRODUCTION

1.1 Prologue

According to Fortune magazine, over eighty percent of organisations fail to achieve their stated strategic intent. (Ashworth, 2000) Executing strategy is clearly not an easy task and since strategies seldom differ, competitive advantage is often gained through an organisations ability to implement strategy effectively. Effective strategy implementation can be achieved through the auspices of performance management.

A review of performance management literature confirms that performance management is the single largest contributor to organisational success. (Walker, 2007) Notwithstanding exceptions, a critical performance management gap is emerging due to the rapidly changing business environment as organisations struggle to adapt. Finance has not helped with its traditional emphasis on historical financial control combined with limited financial re-forecasting leading to criticism of their work and its linkage to strategy. (Ashworth, 2000: Parmenter, 2003)

Csfs have emerged as a performance management method that link strategy to execution and include both financial and non-financial perspectives. (Schiff, 2005)

1.2 Research question and objectives

The research question is:

- Do Irish plcs employ csfs in performance management?

The research objectives are:

- To discover the purpose and extent of csf practice by Irish plcs in performance management.
- To determine the opinion of Irish plcs in relation to the practice of csfs in performance management.

1.3 Justification for the research

The researcher found no previous peer reviewed studies on the use of csfs in performance management in Ireland. Most previous studies on csfs are either industry specific, exploring the csfs that are relevant to that industry or case studies that are specific to a particular organisation, all completed outside Ireland. This is a broader study that encompasses many organisations and industries and attempts to bridge the gap left in the research by exploring the purpose and extent of csf practice in performance management by plcs in Ireland.

The literature suggests that the balanced scorecard is the most popular, least criticised and most widely implemented strategic management system. (Paranjape et al, 2006; Kaplan et al, 2001; Neely, 2003, cited Paranjape et al, 2006; Marr, 2005) The research will provide insight to this concept in the Irish context.

There has been much research on the use and implementation of the balanced scorecard, which to date, has not been universally adapted and since csfs support the balanced scorecard it is rational to examine whether csfs are used either as a separate performance management tool or within the balanced scorecard framework.

The csfs method can be used to connect an organisation's strategic objectives to their performance measurements thereby enabling effective performance management. This research explores the opinion of Irish plcs on the merits and demerits of using csfs in performance management.

Seventy-one percent of the researched population requested a copy of the research findings while fifty-seven percent considered the research to have merit.

Chapter 2

LITERATURE REVIEW
Critical Success Factors and Performance Management

2.1 Strategic management

"*Strategy is the direction and scope of an organisation over the long term which achieves advantages in a changing environment through its configuration of its resources and competencies with the aim of fulfilling stakeholder expectations.*" (Johnson et al, 2005, p9) Strategic management encompasses managing that process and is defined by Chen (2005), as *".… a series of four processes: "situation analysis", "strategy planning", "strategy implementation" and "strategy evaluation", with the competitive strategies created and developed by an organisation resulting from these four phases."* (Chen, 2005, p366; Johnson et al, 2005)

2.1.1 Situation analysis

Situation analysis includes formulating the organisations mission, a broad declaration of why the organisation exists and what they should be doing; (Pearce and Robinson, 1997; Eisenhardt, 1999, cited Becherer et al, 2006) performing an internal analysis establishing the quantity and quality of the organisations financial, human and physical resources, assessing the organisations strengths and weaknesses, identifying the organisations current and future capabilities; (Pearce and Robinson, 1997) and evaluating the organisations external environment, including competitive and contextual factors. (Pearce and Robinson, 1997; Eisenhardt, 1999, cited Becherer et al, 2006)

From the aforementioned analysis, the competitive position is determined and the organisation's strategic options are analysed with the most appropriate option selected by matching its resources and capabilities to its external environment. (Pearce and Robinson, 1997; Eisenhardt, 1999, cited Becherer et al, 2006; Chakravarthy, 1981; Miles and Snow, 1978; Zammuto, 1982; cited Chakravarthy, 1986)

2.1.2 Strategy planning

A strategic plan is developed containing actionable goals and objectives that must be achieved if strategy is to be successfully implemented. (Pearce and Robinson, 1997) The strategic plan concentrates on the csfs for the organisation, providing plans for closing the gaps between what the organisation is currently capable of doing and what the organisation needs to be able to do. (Summers, 2007)

2.1.3 Strategy implementation

Strategy implementation includes implementing the strategic choices by means of allocating resources to tasks, people, structures, technologies, and reward systems aimed at the achievement of strategic objectives. (Pearce and Robinson, 1997)

2.1.4 Strategy evaluation

Strategy evaluation assesses the success of the strategic processes as an input for future decision-making. (Pearce and Robinson, 1997) Three fundamental strategy evaluation activities include, reviewing the external and internal factors that are the basis for current strategies, measuring performance and taking corrective actions. (David, 2007) The evaluation and control stage of the strategy process enables performance results to be monitored so that actual performance can be compared with desired performance.

2.1.5 Conclusion

If the strategy is not working, change becomes necessary. Strategic management must be a self-reflective learning process that familiarises managers with the key strategic issues and feasible alternatives for solving those issues. (David, 2007) When nine out of ten strategies fail they fail because of flawed implementation rather than flawed strategies. Strategies are seldom unique and the effective implementation of strategy separates success from failure. (Kaplan and Norton, 2001c; Foster, 2006)

2.2 Performance management

Performance management enables "*an organisation to effectively monitor, control, and manage the implementation of strategic initiatives.*" (Frolick and Ariyachandra, 2006, p41)

The evaluation and control stage of the strategic management process determines whether the organisation is achieving what it set out to achieve and is synonymous with strategic performance management. It contains five steps; determine what to measure, establish standards of performance, measure actual performance, compare actual with the standard and take corrective action. (Kaplan and Norton, 2001c; Frolick and Ariyachandra, 2006)

2.2.1 Evaluation of performance management

Performance management enables managers to define and track performance on measures for every strategic objective set by their organization, addressing performance that falls short of targets and ensuring continuous improvement. (Tangen, 2003, cited Tangen, 2005; Neely et al., 1994, cited Tapinos et al, 2005; Denton, 2005)

It shows how performance in one part of an organisation can affect performance in other parts. By identifying these interrelationships, organisations can make more informed decisions. Efforts to improve one measure can and often do occur at the expense of another. (Denton, 2005)

Performance measurement is used to direct the allocation of resources, to assess and communicate progress towards strategic objectives and to evaluate managerial performance. (Ittner and Larcker, 2003, cited Tapinos et al, 2005; Tangen, 2003, cited Tangen, 2005)

Performance measurement systems have a critical role to play in translating strategy into action (Kaplan and Norton, 1996a) and have a supporting role in the development of strategies. (Tapinos et al., 2005)

A performance management system should plan and measure things that drive value, align processes for planning, budgeting, forecasting and reporting in order to formulate, communicate and monitor strategy. (Prickett, 2003)

Measuring outcomes like profits, sales, and service levels is clearly necessary because this performance determines the success or failure of an organisation. Nevertheless each of these lagging indicators does not show what specifically went right or wrong,

nor help organisations clarify what needs to be done to improve. What is needed is a way to measure inputs or those things that lead to favourable outcomes (leading indicators). (Denton, 2005) It has been acknowledged that people do more of what is reinforced by inspection than is promoted by expectation so performance management can have a positive impact on performance if done correctly. (Ginsburg and Miller, 1991 cited Denton, 2005)

A survey of two hundred executives from the Fortune 500, Fortune 500 service, and INC 500 concluded that strategic management is instrumental to high performance, action orientated and cost effective. The respondents see strategic management as critical to organisational success. (Pearce and Robinson, 1997; David, 2007)

2.3 Critical success factors(csfs)

The csf method is used for performance management.

2.3.1 Definition of csfs

A number of definitions of csfs have emerged in the literature. It should also be noted at this point, that csfs and kpis are often used interchangeably throughout the literature. The literature refers to csfs as the factors that are critical to success whereas kpis are usually applied to a form of measurement of those factors.

Daniel was the first to recognise csfs (Daniel, 1961), but one of the most frequently cited definitions of csfs and therefore, presumably the most appropriate as it encompasses all the other definitions is the one cited by Rockart. "*Csfs thus are, for any business, the limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organisation. They are the few key areas where "things must go right" for the business to flourish."* (Rockart, 1979, p.85)

2.3.2 Introduction to csfs

Csfs came about because of the lack of data relevancy that existed in organisations. Although data was abundant it was not relevant for setting objectives, for shaping alternative strategies, for making decisions and for measuring results against planned goals. (Daniel, 1961; Rockart, 1979)

The emergence of information technology with database capabilities lead to increased data collection and reporting. However, the ability to produce reports on almost every aspect of an organisations business meant that organisations suffered from a lack of focus on the performance measures that mattered. A lack of focus on those csfs meant that organisations were not extracting valuable and actionable insights from their performance data. (Neely et al., 2002, cited Marr, 2005; Ittner et al., 2003, cited Marr, 2005)

Managers today need information that is pertinent to their particular roles and responsibilities. They need to identify, select and monitor the information that is related to the strategic performance of the organisation. The csf method is one method of achieving this. (Rockart, 1979; Bullen and Rockart, 1981; Jenster, 1987)
The csf method selects a set of key indicators of the health of the business, produces exception reporting, and expands the availability of better, cheaper and more flexible visual display techniques. (Rockart, 1979)

2.3.3 Csfs in performance management

Csfs are used by organisations to identify, monitor and control the factors that are critical to success so that actual performance is aligned with desired performance. This method is a top down approach which begins with the organisation's mission from which strategic business objectives are established. Csfs are identified and targets aligned for the achievement of those objectives. Performance is then managed by evaluating the achievement or not of those objectives. (Fidler and Rogerson, 1996)

2.3.3.1 Determine what to measure

The identification of csfs is probably the most important aspect of the csf method. Selecting the wrong factors leads to a focus on those things that are not critical. Selecting the correct factors leads to the clear definition of the types of information that must be collected which can help in both information systems planning and performance management. The literature has many guidelines for selecting and designing performance measures but in practice there are many problems associated with selecting and designing performance measures. (Paranjape et al, 2006)

Designing performance measurement systems is all about deciding which measures to

select and just as importantly which measures to ignore. (Rockart, 1979; Bullen and Rockart, 1981; Leidecker and Bruno, 1984; Paranjape et al, 2006) The type of company or the nature of the industry will determine which csfs are important and the identification of csfs can be an important element in the eventual development of a firm's strategy as well as an integral part of the strategic planning and implementation processes. (Bullen and Rockart, 1981; Anthony et al, 1984; Leidecker and Bruno, 1984)

Keeping measures relevant to changing organisational contexts is yet another problematic area as old and often irrelevant measures are often not discarded and new measures are merely added to the confusion. (Paranjape et al, 2006) Csfs should be important to achieving organisational goals and objectives, measurable and controllable by the organisation, few in number and expressed as things that must be done. (Hunger and Whelan, 1996)

The measures when identified should be reliable, timely, simple and acceptable to subordinates, as they are entrusted with the achievement of results. Senior executives understand that their organisations measurement system strongly affects the behaviour of managers and employees. Wrongly designed, inappropriate measures drive dysfunctional behaviours that can have harmful performance consequences. (Kaplan and Norton, 1992; Bourne and Neely, 2002; Paranjape et al, 2006)

No single measure can provide a clear performance target or focus attention on the critical areas of the business. Managers need a balanced presentation of both financial and non-financial measures. (Kaplan and Norton, 1992) Excessive measures lead to contradictions of intent or over-constraint that ensures an inability to perform well against all measures. (Parmenter, 2005; Paranjape et al, 2006)

Leidecker and Bruno suggest eight techniques for csfs identification, analysis of the environment, industry structure, industries business experts, competition, dominant firm in the industry, companies internal strengths and weaknesses, temporal factors and profit impact on market strategy results. (Leidecker and Bruno, 1984) Many other techniques have been used for csfs identification namely, structured interview (Rockart and Van Bullen, 1986, cited Leidecker and Bruno, 1984), literature review (Esteves

and Pastor, 2000), case studies (Sumner, 1999) but the most frequently used method is the questionnaire. (Saunders et al, 2003)

2.3.3.1.1 Sources of csfs

Several sources of csfs have emerged in the literature.

2.3.3.1.1.1 Hierarchy vs. group

Like goals and objectives, csfs appear at different levels in the organisational hierarchy. (Rockart 1979) There are four different hierarchical levels of csfs namely, industry csfs, corporate csfs, sub-organisation csfs and individual csfs. (Bullen and Rockart, 1981)

Industry csfs affect each organisation in an industry in the development of its strategy, objectives and goals. In turn, the strategy, objectives and goals developed by an organisation lead to the development of a particular set of csfs for the organisation. In turn, corporate csfs become an input into a similar csfs determination process for each sub-organisation, (Bullen and Rockart, 1981) resulting in the requirements of individual managers being aligned with organisational goals and objectives and therefore, strategy. (Fidler and Rogerson, 1996)

2.3.3.1.1.2 Temporary vs. ongoing

Ongoing factors are those factors that will remain constant throughout a projects lifecycle. (Ferguson and Khandewal, 1999)

Temporal factors are those areas of activity within an organisation, which become critical for a particular period. (Bullen and Rockart, 1981) The relative importance of the project csfs are contingent upon the life cycle stage suggesting that tactical issues become more critical as the project progresses. (Pinto and Prescott, 1988; Williams and Ramaprasad, 1996)

2.3.3.1.1.3 Internal vs. external

The primary characteristic of internal csfs is that they deal with issues within the manager's sphere of control, like products, processes, people, and structures. These csfs reflect a company's core capabilities and competencies that are critical to its

competitive advantage. However external csfs pertain to situations generally less under the managers control although they can be measured and their effects controlled to a certain degree. (Bullen and Rockart, 1981)

2.3.3.1.1.3.1 Industry

Each industry has a set of csfs that are determined by the characteristics of the industry itself." (Bullen and Rockart, 1981, p14; Rockart, 1982; Anthony et al, 1984) Csfs will often change as the industry's environment changes, as the company's position within an industry changes, or as particular problems or opportunities arise for a particular manager. (Daniel, 1961; Rockart, 1979; Bullen and Rockart, 1981)

A study by Sousa de Vasconcellos and Hambrick (1989) showed that organisations that match their strengths with their industry csfs will outperform their competitors. However, "*an organisations strategy is not achieved with mastering the industry's csfs alone, it also requires mastering capabilities that differentiate the company in the eyes of its suppliers, customers, and other stakeholders.*" (Ketelhohn, 1998, p.335)

2.3.3.1.1.3.2 Company specific

Rockart found that differences in organisations led to differences in csfs because of factors such as size and competitive strategy but that similarities could be noted. (Rockart, 1982)

2.3.3.1.1.3.3 Manager specific

Csfs differ from organisation to organisation and manager to manager. Anthony et al, (1972) introduced the concept of csfs which were business unit specific and dependent on managerial perception. Rockart agreed that the perception of csfs by managers will differ depending on the manager's position and experience. (Anthony et al, 1972, cited Rockart, 1979)

2.3.3.1.1.4 Building vs. monitoring

Monitoring csfs involve the continued scrutiny of existing situations whereas building csfs are concerned with the strategic planning of the organisation. The more competitive pressure for current performance that the organisation feels, the more their csfs tend toward monitoring results. (Arce and Flynn, 1997) Every manager appears to

have, at some level, both monitoring and building or adapting responsibilities, (Rockart, 1979; Bullen and Rockart, 1981; Arce and Flynn, 1997) but these csfs vary for different strategy types. (Jenster, 1987)

2.3.3.1.1.5 Strategic vs. tactical

Anthony et al, (1972), saw the need to tailor management planning and control systems to organisations particular strategic objectives. They concluded as too did Rockart (1979), that csfs are strategically significant. (Anthony et al, 1972, cited Rockart, 1979) Strategic factors seek to identify which goals are to be achieved while the tactical factors describe possible alternatives concerning how these goals can be met. The tactical factors are derived from the strategy and resources are allocated to those factors so that strategic goals can be achieved providing a link between an organisation's tactical and strategic planning objectives. (Boynton and Zmud, 1984; Kaplan and Norton, 2001a)

2.3.3.2 Establish standards of performance

Once the csfs have been identified it is important to set targets for those factors and then to measure the achievement or not of those targets so that performance can be managed and aligned with strategic objectives. This enables good performance management with corrective action taken at the earliest possible time. These measures are also indicative of what managers and staff need to do to dramatically increase performance. (Rockart, 1979; Bullen and Rockart, 1981; Anthony et al, 1984; Jenster, 1987; Parmenter, 2005)

Generating performance measures that are tied to strategic value drivers can be challenging. Organisations often struggle to identify metrics that accurately capture progress on organisational goal attainment. (Politano. 2005, cited Frolick and Ariyachandra, 2006)

While more than one individual may be designated as responsible for the achievement of a critical factor, each individual typically has appropriate strategic performance indicators assigned so that their performance can be monitored separately. (Jenster, 1987; Parmenter, 2005)

These measures must then be reviewed on a periodic basis to ensure that they accurately reflect changing market conditions and thus remain relevant. (Jenster, 1987; Parmenter, 2005; Paranjape et al, 2006; Frolick and Ariyachandra, 2006)

2.3.3.3 Measure actual performance

Measurement matters, it is not just what is measured, but how the measurements are used that determines organisational success. (Kaplan and Norton, 2001b) Kaplan effectively rationalises, "*Dave Norton and I worked from the adage that if you do not measure a variable, you cannot manage and improve it*." (Kaplan, 2006, p133)

Measuring processes like the activities or effort toward an organisation's concerns and having critical capabilities in those areas is essential to achieving strategic objectives. (Denton, 2005)

2.3.3.4 Compare actual with standard

Performance is evaluated when actual performance is compared to desired performance, with the difference identifying the gap between what the organisation set out to accomplish and what they actually achieved. (Fidler and Rogerson, 1996) This is a very important stage as it can identify weaknesses in previously implemented strategies which begin the entire process again.

"*According to a survey conducted by the American Management Association, of 203 companies ranging in size from $27 million to $50 billion, "measurement-managed "companies consistently outperform their peers*." (Frolick and Ariyachandra, 2006, p44) For evaluation and control to be effective managers must receive clear, timely and unbiased information on the organisations performance. (Wheelan and Hunger, 2000)

2.3.3.5 Take corrective action

In taking corrective action organisations address issues that arose during the evaluation and control stage which bridges the gap between strategy and execution. (Frolick and Ariyachandra, 2006)

Control should involve the minimum amount of information to give a reliable view of

events. Too many controls create confusion so it is important to focus on csfs, those twenty percent of factors that determine eighty percent of the results. By monitoring meaningful results on a timely basis and basing rewards on meeting or exceeding the standard encourages increased performance. (Wheelan and Hunger, 2000; Frolick and Ariyachandra, 2006)

2.3.4 Evaluation of critical success factors

"*Senior managers seem to intuitively understand the thrust of the csf method, and consequently, they strongly endorse its application as a means of identifying important areas that need attention.*" (Boynton and Zmud, 1984, p.18) However, it has been asserted that the csf method is difficult to use and is therefore not appropriate for organisations without the capability to successfully apply the method. (Boynton and Zmud, 1984) Kenny (2003), concludes that because the method is complex, crucial measures are almost inevitably overlooked.

The validity of the csf method can also be questioned because of the threat of analyst and manager bias introduced through the selection process. (Boynton and Zmud, 1984) However, Munro's study showed that two independent csf analyses yielded comparable results, indicating these potential biases can be overcome. (Munro and Wheeler, 1983 cited Boynton and Zmud, 1984)

Csfs are interrelated in the sense that changes in one of them can influence all others, directly or indirectly, (Akkermans and van Helden, 2002; Ang et al, 2002, cited Esteves et al, 2003) reiterating the claim made by Kaplan and Norton that the csfs on the balanced scorecard have a set of cause-and-effect relationships. (Kaplan and Norton, 1996b) However, as humans often exhibit difficulty in dealing with causality, any association between csfs and organisational success as interpreted by a manager may not represent a true causal relationship. (Davis, 1980 cited Boynton and Zmud, 1984)

The isolation of csfs provides a vehicle for the design of an effective system of performance measurement and control. Explicit recognition and use of such csfs provides therefore a planning process through which strategy formulation can be made operational and controlled within the firm. (Bullen and Rockart, 1981; Rockart, 1979;

Boynton and Zmud, 1984; Jenster, 1987)

The csfs method does not require a large commitment of organisational resources and can be continually revised to reflect the important issues that confront a manager in a dynamic environment. (Boynton and Zmud, 1984)

It helps managers to determine those factors on which management attention should be focused ensuring those significant factors receive careful and continuous management scrutiny as they are the factors that make the difference between success and failure. (Rockart, 1979; Bullen and Rockart, 1981) The csf method also helps organisations identify specific competencies, capabilities and processes that an organisation must do well to be successful. (Boar, 2001)

The identification of csfs allows a clear definition of the amount of information that must be collected by organisation and limits the costly collection of more data than necessary. It focuses attention on data that can help managers receive their strategic performance information needs. (Boynton and Zmud, 1984; Leidecker and Bruno, 1984) Therefore, csfs also aid information systems development. (Boynton and Zmud, 1984; Millar, 1984, cited Jenster, 1987)

Csf identification helps communicate top management's priorities, thereby directing organisational efforts in the desired direction. (Bullen and Rockart, 1981; Rockart, 1979; Boynton and Zmud, 1984; Millar, 1984, cited Jenster, 1987) The process forces managers to develop good measures for those identified csfs and to seek reports on each of the measures so performance can be managed. (Rockart, 1979; Bullen and Rockart, 1981)

The csf method acknowledges that some factors are temporal and manager specific suggesting organisations must adapt their csfs and reporting systems to accommodate changes in the organisations strategy, environment and structure, which should be seen as a continuous process. (Rockart, 1979)

2.3.5 Critical success factors methodology
The balanced scorecard is a csf methodology.

2.3.5.1 The balanced scorecard

"The need to integrate financial and non-financial measures of performance and identify key performance measures that link measurement to strategy led to the emergence of the Balanced Scorecard, an integrated set of performance measures derived from the companies strategy that gives top management a fast but comprehensive view of the organisational unit." (Drury, 2004, p1001)

The balanced scorecard assumes that an organisations vision and strategy is best achieved when the organisation is viewed from the following four perspectives, customer, internal business processes, learning and growth, and the financial perspective. (Kaplan and Norton, 1992)

The balanced scorecard has evolved as a strategic management system that provides boundaries of control but is not prescriptive or stifling and most importantly removes the separation between formulation and implementation of strategy. (Lawrie and Cobbold, 2004; Huang et al, 2006)

However, some organisations find establishing their own csfs difficult, focusing on too many indicators or the wrong indicators invariably overlooking crucial measures. (Kenny, 2003) The balanced scorecard allows organisations select measures to suit their strategy. Incorrect factor selection represents a lack of understanding of the balanced scorecard and the factors that are critical to success. (Kaplan and Norton, 1996c) Many organisations are working with the wrong measures. (Parmenter, 2005) The adverse effects of poor measure selection on the usefulness and adoption rates of the balanced scorecard have been noted by several authors.(Lingle and Schieman, 1996; Schneiderman, 1999; Malina and Selto, 2001, cited Lawrie and Cobbold, 2004) This in turn has triggered a number of "how to" books and articles that attempt to fill the gap, (Bourne and Bourne, 2000; Niven, 2002, Parmenter, 2002) but the fact that such instructional texts are still being published indicates a failure to find a solution. (Lawrie and Cobbold, 2004)

Others have argued that the balanced scorecard does not consider the interests of other key stakeholders such as competitors, suppliers, community and regulators, (Kenny,

2003; Paranjape et al, 2006) but Kaplan and Norton, (1996c) did not imply that four perspectives were both necessary and sufficient.

Kaplan and Norton, (2001c) have documented the success of the balanced scorecard, while Neely (2003) found that seventy percent of large US firms had adopted it by the end of 2001, (Neely, 2003, cited Paranjape et al, 2006) and Marr (2005) also discovered that the balanced scorecard is used by thirty-five percent of organisations in North America proving its success. (Marr, 2005) Various journal articles and surveys have also confirmed it as the most popular, least criticised and most widely implemented strategic management system. (Paranjape et al, 2006)

Despite its success there have been many unsuccessful implementations as a result of inappropriate or excessive measures, inefficient implementation by management, a delay in feedback or an overemphasis on financial measures. (Venkatraman and Gering, 2000; Olve et al, 2004; Pforsch, 2005; Dent, 2005, cited Paranjape et al, 2006)

The balanced scorecard has been acclaimed as an effective tool for communication which leads to strategic alignment. (Olve et al, 2004, cited Paranjape et al, 2006) However Marino and Selto state that effective communication is neither associated with nor causes strategic alignment, effective motivation or positive outcomes. (Marino and Selto, 2001, cited Paranjape et al, 2006)

Others have argued that performance may not always improve because of the balanced scorecard implementation. They claim that attention placed on the activities being measured can lead to performance improvements. (Kenny, 2003; Ittner et al, 2003a) Paranjape et al, 2006, found no empirical evidence that the balanced scorecard implementation leads to improved performance.

Ittner and associates have further argued that weighting measures for reward systems may give both employees and managers incentives to distort performance measures and could lead to game playing behaviour. (Ittner et al, 2003b; Kaplan and Norton, 1996c, cited Chang, 2004)

2.4 Conclusion

It is apparent that the csf method is the dynamic and crucial first step in an organisations movement towards greater management effectiveness. By generating clarity of vision, focus, and alignment, and by accomplishing these tasks in a fast and effective manner, the csf method becomes the critical link between the recognition of an organisations goals and the ultimate realisation of organisational success.

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Chapter 3

RESEARCH METHODOLOGY

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3.1 Introduction

Research methodology refers to the systematic process of collecting and analysing information in order to increase the understanding of the phenomenon concerned. (Leedy and Ormrod, 2001)

3.2 Research aims and objectives

The aim of this research is to operationalise the research question into research objectives and field questions with the capacity to answer the research question.

3.3 Research design

"A research design is a procedural plan that is adopted by the researcher to answer questions validly, objectively, accurately and economically." (Kumar, 1999, p74) Its main function is to explain how the researcher will find answers to their questions and sets out the logic of their enquiry. (Kumar, 1999)

3.3.1 Research philosophy (The logic of the research)

The purpose and context of research can differ significantly from pure research(deductive approach) involving the development and testing of a hypothesis with knowledge discovered adding to the existing body of knowledge, to applied research(inductive approach) which is used in the social sciences and collates information and enhances understanding about aspects of a situation, issue, problem or phenomena. (Kumar, 1999; Saunders et al, 2003)

The first step the researcher must take in designing their research strategy is to identify the most suitable philosophy to pursue.

3.3.1.1 Positivist research

Positivism is a structured approach to data gathering which is analysed and interpreted in both a factual and statistical manner facilitating replication whereby repeated

examination yield the same outcome. A key distinction of this method is the fact that "*the researcher is independent of and neither effects or is affected by the subject of the research*" (Remenyi et al, 1998, p33)

Other distinguishing features of the positivist approach are, it is a deductive approach, it seeks to explain relationships between variables, it generally uses quantitative data and it uses controls to test a hypothesis. (Gill and Johnson, 1997; Hussey and Hussey, 1997) It also uses large samples, the location is artificial, reliability is high, validity is low; and it generalises from one sample to a population. (Hussey and Hussey, 1997)

3.3.1.2 Interpretive research (phenomenology)

Those researchers critical of positivist research argued that "*rich insights into this complex world are lost if such complexity is reduced entirely to a series of law like generalisations.* " (Saunders et al, 2003, p84) Hence, interpretivism emerged. Interpretive research seeks to understand the subjective reality of those being studied, making sense of their motives, actions, and intentions in a way that is meaningful to the research participants. (Saunders et al, 2003; Walliman, 2001)

Collis and Hussey, 2003, identified the following features of interpretive research, it normally produces qualitative data, it uses smaller samples, it is concerned with generating theories, data is rich and subjective, the location is neutral, reliability is low, validity is high, and it generalises from one setting to another. (Collis et al, 2003; Hussey and Hussey, 1997)

3.3.1.3 Research philosophy adopted

The researcher has chosen the interpretive approach for its strengths in enhancing understanding about aspects of csfs and because it is the most appropriate method to answer the research question. Both the researcher and the participants could introduce bias to the findings using this approach as they interpret the questions and findings in their own unique way. However, the research methodology and the research questions have been designed to limit this possibility.

3.3.2 Research focus (The purpose of the research)

The objective of the research has four main classifications. (Saunders et al, 2003;

Kumar, 1999)

3.3.2.1 Exploratory research

Exploratory research is a valuable means of finding out *"what is happening: to seek new insights; to ask questions and to assess phenomena in a new light."* (Robson, 2002, p59) It is often used to investigate the possibilities of undertaking a research study or to develop, refine or test measurement tools or procedures. (Kumar, 1999)

3.3.2.2 Explanatory research

Explanatory research attempts to clarify how and why there is a relationship between two aspects of a situation or phenomenon. (Kumar, 1999)

3.3.2.3 Descriptive research

Descriptive research attempts to describe systematically a situation, problem, phenomenon, service, program or attitudes towards an issue (Kumar, 1999), often providing a basis for further research. (Sekaran, 2000)

3.3.2.4 Correlation research

Correlation research attempts to discover a relationship, association or interdependence between two or more aspects of a situation. (Kumar, 1999)

3.3.2.5 Research focus adopted

This research begins as exploratory research as the researcher finds out what is happening concerning csfs in the Irish context.

Descriptive research will then be used to describe csf practice in Ireland including the opinions of plcs to the merits and demerits of that practice.

3.3.3 Research tools (The process of the research)

The research process will depend on the type of information required.

3.3.3.1 Data required

The data required will dictate the research tool adopted.

3.3.3.1.1 Qualitative

Qualitative data is based on meanings expressed through words whereby results are collected through non-standardised data requiring classification into categories for analysis using conceptualisation. (Dey, 1993; Kumar, 1999)

3.3.3.1.2 Quantitative

If information is gathered using predominantly quantitative variables, and if analysis is geared to ascertain the magnitude of the variation, the study is classified as a quantitative study. (Kumar, 1999)

3.3.3.1.3 Information required

The information required in this research is quantitative in nature and since the study is substantially descriptive, this research provokes statistical and diagrammatical analysis.

3.3.3.2 Data collection methods

There are two broad categories of primary and secondary data..

3.3.3.2.1 Secondary data

Secondary data are data that have previously been compiled. (Kervin, 1999) The value of the data found will vary depending on the availability, format, and quality of the data, which are a function of, validity and reliability, personal bias, availability of data, and format. (Kumar, 1999)

3.3.3.2.1.1 Evaluation of secondary data

This research found much valid and reliable literature as it had been peer reviewed, and was produced by highly regarded authors. Some literature, however, did show evidence of bias which the researcher tried to overcome by including contrary facts and opinions. It proved difficult to find literature or data relevant to the Irish situation and there was a distinct shortage of recently published books on this very specific topic area.

3.3.3.2.2 Primary data

There are several methods available for collecting primary data. The choice of method

depends on the purpose of the study, the resources available, and the skills of the researcher. (Kumar, 1999) Each method has its own specific advantages and disadvantages and the researcher must select the most appropriate method to answer the research question while simultaneously considering their constraints.

3.3.3.2.2.1 Interviews

"An interview is a purposeful discussion between two or more people," (Kahn and Cannell, 1957) and is an effective means of gathering valid and reliable data pertinent to the research question(s) and objective(s). (Saunders et al, 2003) It is suitable for gathering quantitative data but particularly good when qualitative data are required. (Walliman, 2001) There are three main categories:

3.3.3.2.2.1.1 Structured interview

Structured interviews ask a set of predetermined questions providing comparable uniform information which requires few interviewing skills. (Kumar, 1999) They are useful in both descriptive studies as a means of identifying general patterns, (Saunders et al, 2003) and quantitative and statistical analysis containing closed questions similar to a questionnaire. (Walliman, 2001)

3.3.3.2.2.1.2 Unstructured interview

This is an in-depth interview, useful in exploratory research, follows a framework guide, allows for spontaneous questions, is suitable for sensitive topics and is extremely useful when little is known about the topic area. It requires researcher skill in following a direct line of enquiry. It suffers difficulties both in terms of data analysis, interviewer bias and comparability as each interviewee can be asked different questions. (Kumar, 1999) Sample size is limited due to interviews being one-to-one causing time and financial constraints with questions requiring careful planning and preparation. (Saunders et al, 2003)

3.3.3.2.2.1.3 Semi-structured interview

This type of interview is a combination of the structured and unstructured interview. It achieves defined answers to defined questions while leaving time for further development of those answers often containing more open-ended questions.

(Walliman, 2001) It is useful in explanatory studies as it aids understanding of the relationships between variables. (Saunders et al, 2003)

3.3.3.2.2.2 Survey questionnaires

A questionnaire includes all techniques of data collection in which each person is asked to respond to the same set of questions in a predetermined order. (deVaus, 2002) Questionnaires are descriptive in nature as they are largely concerned with the what, when, where and how questions. (Saunders et al, 2003)

3.3.3.2.2.2.1 Merits of questionnaires

- Distributed to a large population
- Data are standardised enabling comparison
- Data is easily analysed
- Quick and simple for respondent to complete
- Respondents have time to consider their answers
- Address a large number of issues in a relatively efficient way
- Permit anonymity, increasing the rate of response and the likelihood of genuinely held opinions
- Less expensive than other methods

3.3.3.2.2.2.2 Demerits of questionnaires

- Low response rate
- Self selecting bias as some not returned
- Ambiguous questions are not clarified
- Spontaneous answers are not allowed for as there is time to reflect
- Responses may be affected by other questions as respondents can read the entire questionnaire
- It is possible to consult others before answering
- Responses cannot be supplemented with other information (Kumar, 1999)

3.3.3.3 Research tool adopted

After reviewing the research tools available, the researcher concluded that questionnaires and interviews were best suited to the research question so observations and case studies were discounted and therefore are not included.

Questionnaires were chosen as the method of data collection most appropriate for achieving the objectives of this study as the majority of the research questions are closed, the research is largely descriptive, the data are quantitative, and the population selected is large and geographically dispersed. The researcher also considered the many advantages of using questionnaires as previously discussed but was unable to counteract the disadvantages.

The researcher recognises that a multi-method of data collection, including interviews would allow triangulation of data, whereby the researcher would be more confident that the data is telling them what they think it is telling them, enabling the researcher to attain a better understanding of the responses given, whilst simultaneously addressing some of the disadvantages of questionnaires. However, the constraints of resources, time, and the availability of CEO time do not make this an option for this research project.

The questionnaire will be administered via e-mail to the CEOs as the target participants are assumed highly educated, computer literate, and difficult to contact personally. The CEO was chosen as they are assumed to have the requisite knowledge on this topic area. E-mail offers greater control because most readers read and respond to their own mail, which increases sample size, reliability and response rate. However, most organisations would not disclose their CEOs e-mail address but did furnish an address saying that the questionnaire would be forwarded to the appropriate person. The questionnaire was pilot tested and two amendments were made.

The e-mail addresses were obtained by searching every plcs website. The researcher could not find all the addresses and subsequently rang the remaining nine: one did not answer; one did not possess an e-mail address; and the remaining seven gave their addresses. An e-mail was sent advising the companies that they would be receiving a questionnaire within the next couple of days with two addresses failing to send. The researched population was thus reduced to sixty-seven.

3.3.4 Constructing an instrument for data collection

A questionnaire was constructed to collect primary data..

3.3.4.1 Questionnaire design

Good questionnaire design will affect the response rate along with the reliability and validity of the data collected. This can be achieved by, careful design of individual questions, clear layout of the questionnaire form, coherent explanation of the purpose of the questionnaire, pilot testing and carefully planned and executed administration. (Saunders et al, 2003) The researcher worked meticulously and iteratively to achieve good questionnaire design. The researcher engaged, at a cost, the services of an on-line survey company (www.zoomerang.com) achieving a professionally presented questionnaire appropriate for CEO use.

3.3.4.2 Questions

The researcher designed the research questions as there was no previous similar study from which to adapt questions. The questions are mostly closed where alternative answers are provided for the respondent to select the most appropriate response with a few open questions allowing participants the freedom to reply in their own way. (Dillman, 2000) The field questions are derived from the literature, the research question and the objectives of the research. The following types of questions are included.

3.3.4.2.1 Category questions

Select only one reply from a given set of categories.

3.3.4.2.2 List questions

Select all appropriate responses from a list of items.

3.3.4.2.3 Ranking questions

Place something in order.

3.3.4.2.4 Rating questions

These questions use a scale to ascertain the relative strength of opinion.

3.3.4.3 Research population

The research population selected is the plcs in Ireland. The reasons for selecting plcs are, the response rate may be higher from plcs than private companies, plcs are at/near

the top of their requisite industries, the researcher assumes they have a strategic plan and therefore have the requisite knowledge to complete the questionnaires.

3.3.4.3 Sampling process

As the entire population of plcs was selected, sampling is not a feature of this research project. The reasons for selecting the entire population are, the population contains only seventy-one companies, all but four are contactable by e-mail and larger samples enable results to be generalised.

3.3.4.4 Data analysis

The data will be analysed using Excel and Likert Scales. Likert Scales are mainly used to obtain opinions which assumes that each statement on the scale has equal attitudinal value or importance, a limitation of this scale as statements on a scale seldom have equal attitudinal value. The likert scale places participants relative to each other showing the strength of views or attitudes relative to each other. (Kumar, 1999)

The data will be coded into a form ready for analysis.
1. Transforming the responses into meaningful categories
2. Assigning numerical codes to the categories
3. Creating a data set suitable for analysis
 (Parasuraman et al, 2004)

As many of the research questions are closed, they are already categorised. However, the researcher will have to categorise responses to the open questions. The researcher will also include codes for a failure to respond, which will then be interpreted as the researcher feels appropriate, introducing the possibility of researcher bias.

The categories will be coded using both nominal (numbers applied to categories) and ordinal scales (numbers are in rank order from strongly agree to strongly disagree).

3.4.4.4.1 Category question analysis

Questions that require one category selection will be coded and analysed.

3.4.4.4.2 List question analysis

Questions that require the appropriate number of categories to be selected and which in effect are asking more than one question will have to be separated into yes/no answers for each relevant reply creating a multitude of data for analysis.

3.4.4.4.3 Ranking question analysis

Questions requiring a rating reply will also have to be separated for each category relative to the rating assigned by the participants.

3.4.4.4.4 Rating question analysis

Questions requiring participants to give either their opinion or the frequency of practice rating statements on a five point Likert Scale will be analysed by determining the mean value, the central tendency and the dispersion. (Parasuraman et al, 2004)

The measures of central tendency can be classified as the mode, the median, and the mean. The mode is the most frequently occurring variable. The median is the centre value when all responses are arranged from highest to lowest. The mean is the average of the responses pertaining to a variable. (Parasuraman et al, 2004)

Measures of dispersion describe how data are gathered around the mean or central value providing a richer description of data. The most commonly used measures of dispersion are standard deviation and range. The range is the difference between the largest and smallest value. The standard deviation is a measure of dispersion and is the degree of deviation of the numbers from their mean, calculated as the square root of the variance. The variance of a set of data is a measure of the deviation of the data around the arithmetic mean which is calculated as the average of squared deviations about the mean. (Parasuraman et al, 2004)

3.4 Credibility of the research

The credibility of the research findings are inextricably linked to the validity and reliability of the research. (Kumar, 1999) The readers will seek evidence that the findings are both valid and reliable.

3.4.1 Validity of the research

"*Validity is defined as the degree to which the researcher has measured what he has set out to measure.* " (Smith, 1991, p106; Kumar, 1999) The validity of what is found rests largely on how it was found.

3.4.2 Reliability of the research

"A scale or test is reliable to the extent that repeat measurements made by it under constant conditions will give the same result." (Moser and Kalton, 1989, p353; Kumar, 1999)

3.4.3 Generalisability

Generalisability is referred to as external validity and the extent to which the research findings are representative of a larger population. (Saunders et al, 2003)

3.4.4 Evaluation of the credibility of this research

Readers can evaluate the credibility of this research (interpretive in nature) as they explore the linkages between the research question, the research objectives, the field questions and finally the findings for evidence of a research methodology appropriate to the research question.

3.5 Ethical issues

Ethics are a code of behaviour appropriate to academics and the conduct of research. Being unethical involves; causing harm to individuals, breaching confidentiality, using information improperly and introducing bias. (Kumar, 1999; Saunders et al, 2003) This research is conducted in an ethical manner.

3.6 Limitations of the research

This research has several limitations, many of which stem from the constraints of the research. The researcher had the constraints of time (being a mature student with a family), financial (privately funded), and human resources (only one researcher and so much to research) which all contributed to the research methodology pursued.

Other limitations include the dispersed geographical location and size of the researched population which prevented interviews and the attainment of in-depth

knowledge and the lack of availability of emerging literature particularly in the Irish context.

This research is also subject to the limitations that questionnaires entail, the main factors being that the researcher is never sure who completed them nor are they sure that they were completed in earnest with both having the potential to affect the credibility of the findings. Questionnaires also prevent the exploration of in-depth meanings that lie beneath the survey questionnaire responses.

As this research uses substantively closed questions, the answers provided may have influenced the participants contributing to researcher bias. There is also the possibility of participants ticking responses without much thought affecting the credibility of the research.

3.7 Conclusion

This research was carried out to investigate the use of csfs by Irish plcs in performance management. The research will take the form of interpretive research using the inductive approach. It will be exploratory in nature leading to descriptive research. The data will be quantitative establishing the magnitude of variations and will be presented both statistically and diagrammatically. Survey questionnaires are the research tool used to collect the primary data and are distributed to the entire population. Data analysis will be performed using Excel.

Chapter 4

RESEARCH FINDINGS AND ANALYSIS

4.1 Introduction

The findings of this research are based on the fourteen survey questionnaires returned which represent twenty-one percent of the surveyed population. The researcher realised, in hindsight that the low response rate was caused by not having an e-mail address for the "appropriate person", the person with the requisite knowledge of csfs with the possibility of different job titles for each organisation contingent on organisational structure and management practices.

Most e-mails were sent to a central information centre to be forwarded to the CEO but only twenty-seven questionnaires were accessed indicating that access and not questionnaire design was the principal cause of the low response rate. Access could have been achieved by acquiring knowledge of each individual organisation but was prevented through the constraint of time.

Although the questionnaire was addressed to the CEO, not one CEO responded. This could be judged as researcher error but although the researcher realised that replies from CEOs would be difficult to achieve they could not identify any one specific job title that would be guaranteed to have csfs knowledge across all organisations. The results reiterate this fact. The respondents varied from those in human resources and corporate finance to those in strategy indicating that csf knowledge resides at a managerial level across diverse departments.

The credibility of the research will be increased by the status, qualifications and experience of the respondents as indicated in the questionnaire results. All respondents are in managerial positions with seventy-one percent professionally qualified and twenty-nine percent with honours degrees. Their experience is the converse with twenty-nine percent with up to five years experience and seventy-one percent from five to ten years experience.

Other replies were received but are not included. One organisation stated that it was their policy not to answer research questionnaires while another stated that they only have eight employees and therefore *"don't have any formal strategic management processes."* (not considered by the researcher as representative of the population) The researcher also received two partially completed questionnaires that only included the general information. Interestingly, these respondents had certificate qualifications and stopped the questionnaire as soon as they reached the first question relating to csfs. The researcher interpreted that the respondents did not have the requisite knowledge to complete the questionnaire.

4.2 Findings and analysis

The researcher analysed all the results calculating the mode, median, mean, range, and standard deviation for each rating question. In general, the following findings contain the average or mean response unless otherwise specified. Significant deviations from the mean are identified but the standard deviation was not considered relevant in most findings, as the dispersion around the mean was, in general, not significant.

4.2.1 Purpose of csf practice
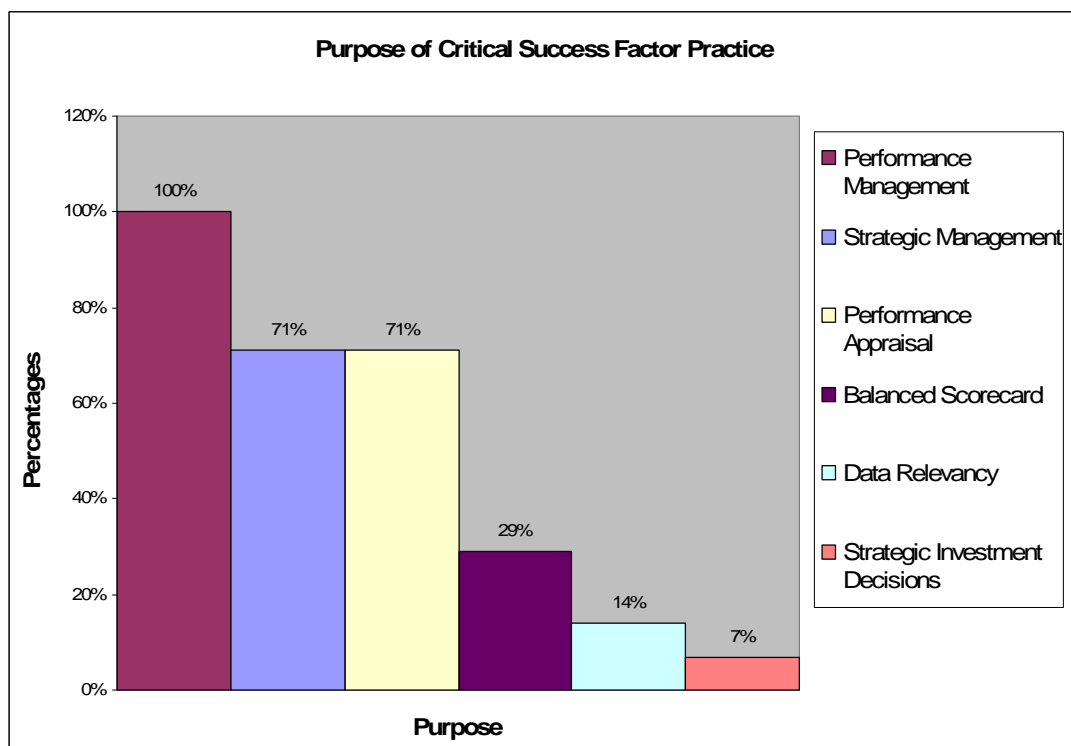
Table 4.1: The purpose of critical success factor practice

All respondents use csfs with some element of csf practice found in all the listed options. Strategic investment decisions were added by one respondent even though they are a distinct sub-section of the strategic management process, namely, "strategy planning" whereby investment decisions are made based on the internal capabilities and the strategic objectives of the organisation.

4.2.1.1 Performance management

Since csfs are used by every surveyed organisation for performance management, the researcher interpreted that organisations realise the contribution csfs make to successful performance management, later reinforced in the opinion section.

4.2.1.2 Performance appraisal

Kpis are usually used for the performance appraisal of managers with all managers being assigned kpis so that their performance can be separately appraised as the literature suggests. Most organisations (71%) then reward managers based on the achievement or not of those kpis. However, 14% reward performance based on financial results.

Appraising a manager on one measure and then rewarding them on another would seem a contradiction of intent as the manager would presumably be more influenced by the achievement of the financial results that yield personal rewards than the kpis that appraise their performance. This type of performance appraisal could create dysfunctional behaviour as discussed in the literature review where managers may promote financial returns at the expense of important non-financial kpis potentially affecting the long term prospects of the organisation. (Kaplan and Norton, 1992; Bourne and Neely, 2002; Paranjape et al, 2006)

4.2.1.3 Strategic management

Csfs Practice in the Strategic Management Processes
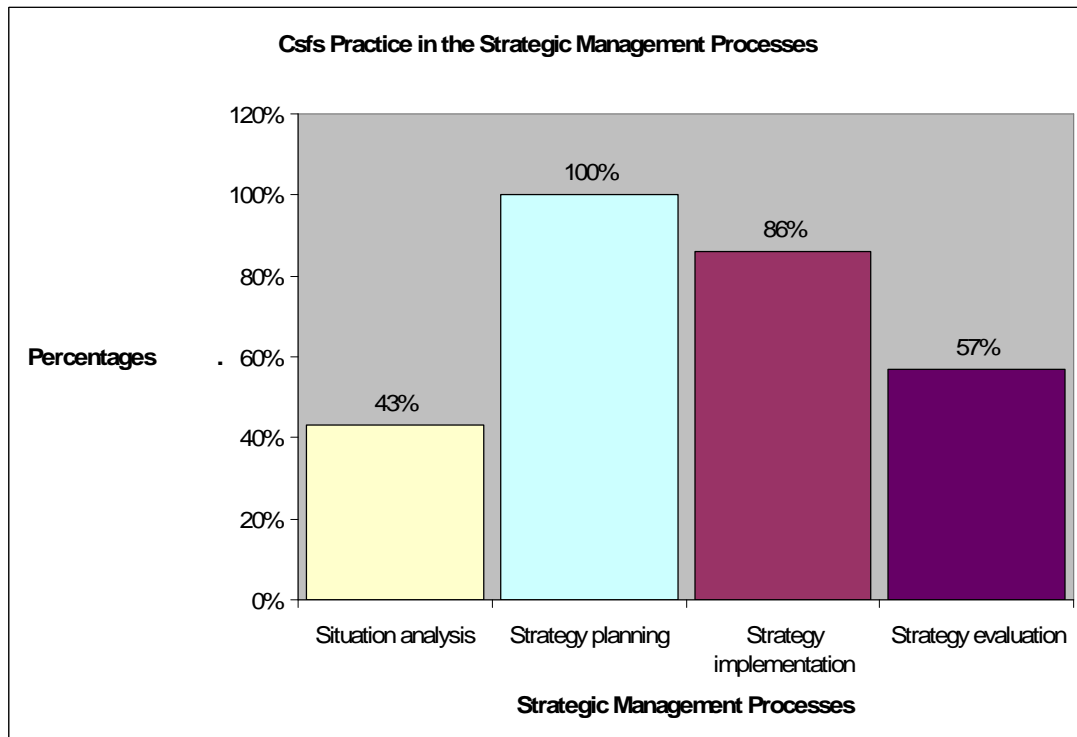
Table 4.2: Csf practice in the strategic management processes

It is interesting to note that csfs are extensively used in the strategy implementation process (86%), the phase of the strategic management process that separates success from failure as indicated in the literature. (Kaplan and Norton, 2001c; Foster, 2006) The extensive practice of csfs for the implementation of strategy suggests that organisations have found them successful for achieving strategic objectives.

Nevertheless, inconsistency with the literature exists in this response as although all respondents use csfs for strategic planning (100%) they are not consistent by continuing their use into the implementation (86%) and evaluation stages (57%) of the strategic management process. Planning strategy around csfs but not then implementing or evaluating them introduces a gap in the strategic management process as strategy cannot be successfully implemented without continuous evaluation.

The kpis used in performance management are usually linked to strategy, usually used

to assess progress towards strategic objectives and usually direct the allocation of resources for the attainment of strategic objectives displaying consistency with the literature. (Pearce and Robinson, 1997)

The low practice of csfs in situation analysis is also consistent with the literature as csfs are usually established after the situation analysis.

4.2.1.4 Data relevancy

Csfs are usually used to identify relevant data although only 14% of respondents claimed to use csfs for data relevancy. These two findings would appear to be contradictory statements that could have been clarified through interviews. Perhaps the respondents found the questions ambiguous or interpreted them differently, or possibly, they did not considerably reflect their response particularly in relation to the purpose of csfs practice. Further research would help clarify this contradiction.

Using csfs to identify relevant data enable organisations to extract valuable and actionable understanding from their performance data improving the organisations decision-making process.

4.2.1.5 Balanced scorecard

Although all organisations use csfs, only 29% use csfs for the balanced scorecard whereas 70% of large US organisations had adopted the balanced scorecard by the end of 2001.(Neely, 2003, cited Paranjape et al, 2006) However, the balanced scorecard is generally only used sometimes in performance management.

4.2.1.5.1 Perspectives
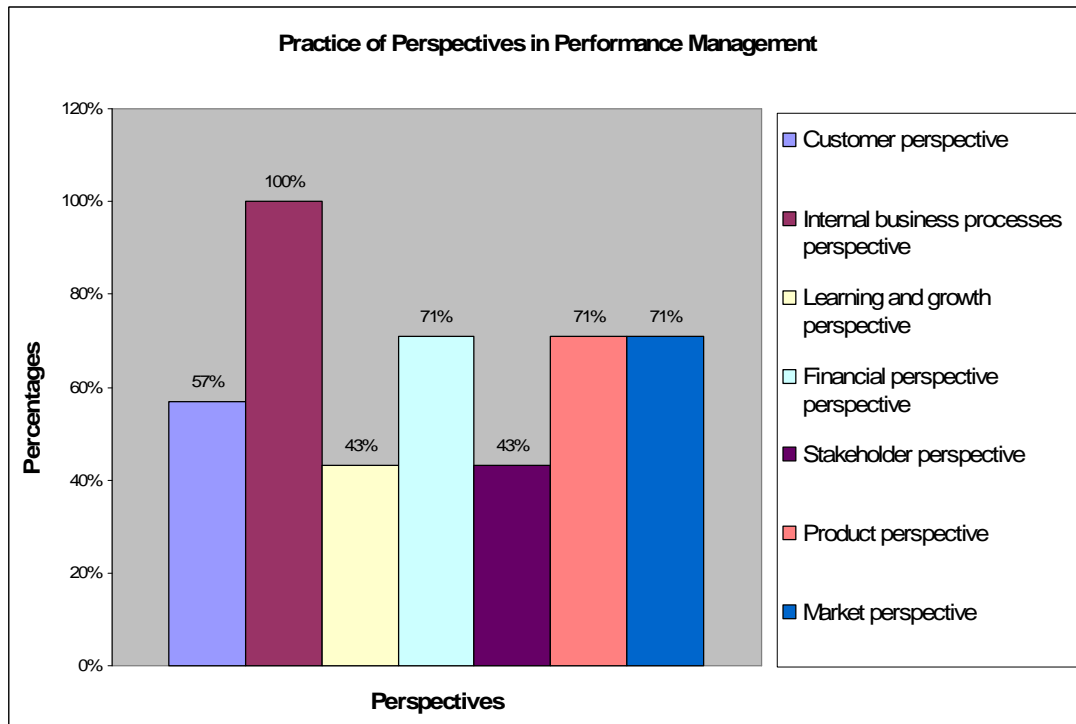
Table 4.3: The practice of perspectives in performance management

Many perspectives are used in performance management. It is interesting to note that one of the least practiced perspectives is the stakeholder perspective(43%) considering the ethos of strategic management is the maximisation of shareholder wealth (Watson and Head, 2004), and would appear at first glance to contradict the literature.

The learning and growth perspective (43%) is the other least practiced perspective and consistent with the literature as even Kaplan and Norton admitted that this is the weakest perspective of their highly acclaimed balanced scorecard.

The low practice of the customer perspective (57%) was not expected as the literature strongly suggests that organisations are now very customer orientated. The financial perspective as the literature suggests is widely used but the researcher was surprised at the high practice of both the product and market perspectives. The literature did not suggest these findings although much of the research on perspectives was relative to the balanced scorecard and the work of Kaplan and Norton perhaps indicating a need for further research as neither products nor markets are included.

Most Important Perspectives

0%
0%
29%
29%
0%
0%
42%

- Customer perspective
- Internal business processes perspective
- Learning and growth perspective
- Financial perspective perspective
- Stakeholder perspective
- Product perspective
- Market perspective
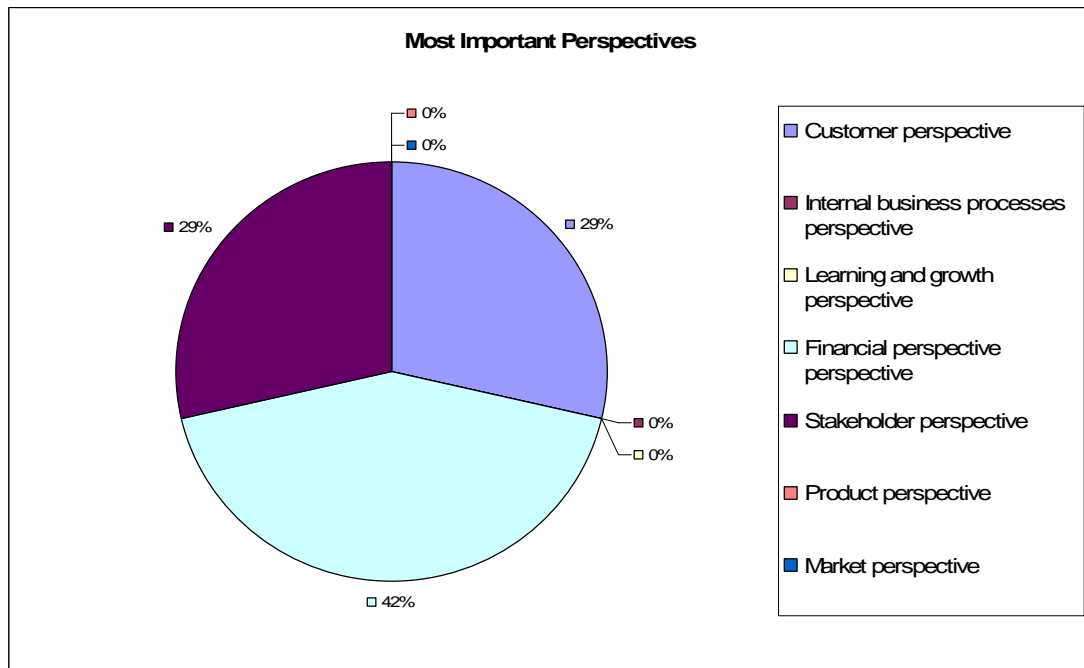
Table 4.4: The most important perspectives

The financial perspective is considered the most important (43%), suggesting that although theorists have researched and shown the success of using non-financial perspectives, the financial perspective is still perceived the most important.

The customer and stakeholder perspectives are considered of equal importance (29%), suggesting the surveyed organisations know what is important for achieving success even though the practice would suggest otherwise. However, organisations obviously realise that focusing on the perspectives of products, markets and internal capabilities yields a direct and positive impact on the customer, stakeholder, and financial perspectives.

4.2.1.5.2 Financial and non-financial measures

Reasons for using Non-Financial Measures

Legend:
- They assist in performance appraisal
- They contribute to financial performance
- They increase customer satisfaction
- They increase product quality
- They create market awareness
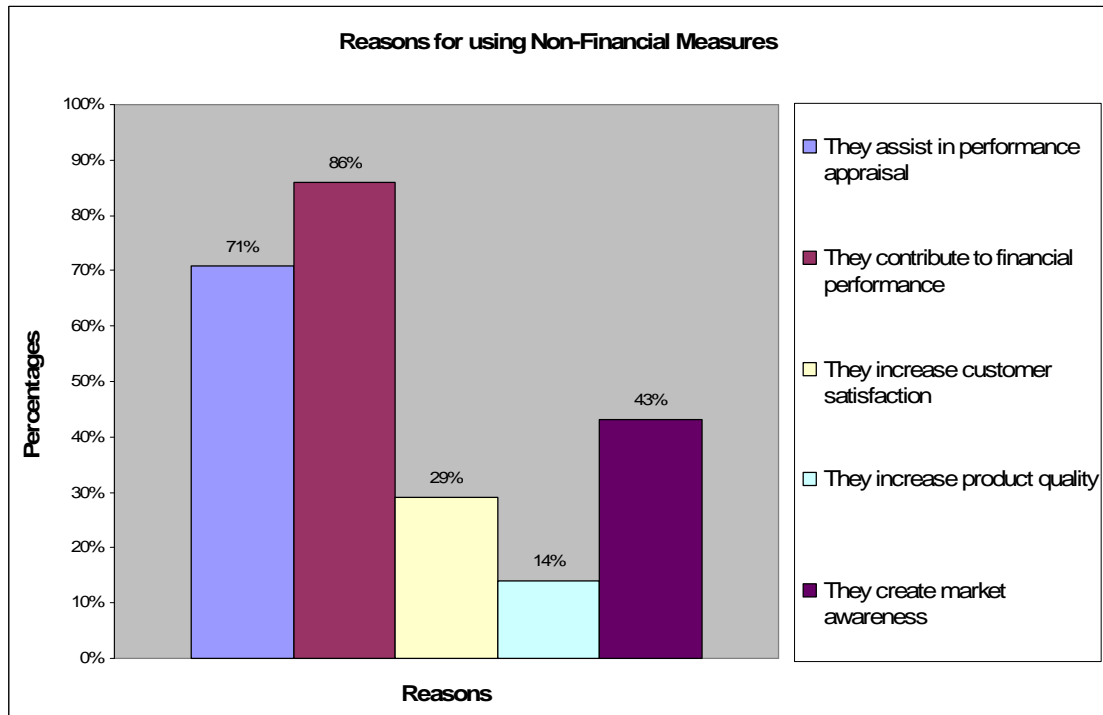
Table 4.5: The reasons for using non-financial measures

All respondents use non-financial measures while only 86% use financial measures in performance management. The respondents clearly recognise the importance of operational measures and their contribution to performance as suggested by their many reasons for using them.

The researcher notes that the contribution to financial performance (86%) and performance appraisal (71%) with the potential to directly impact financial performance are the major reasons for using non-financial measures. Market awareness (43%), customer satisfaction (29%) and product quality (14%) are also recognised for their contribution to performance particularly for identifying areas that need improvement.

Percentage of Measures that are Non-Financial

29%

14%

57%

- 1-25%
- 26-50%
- 51-75%
- 76-100%
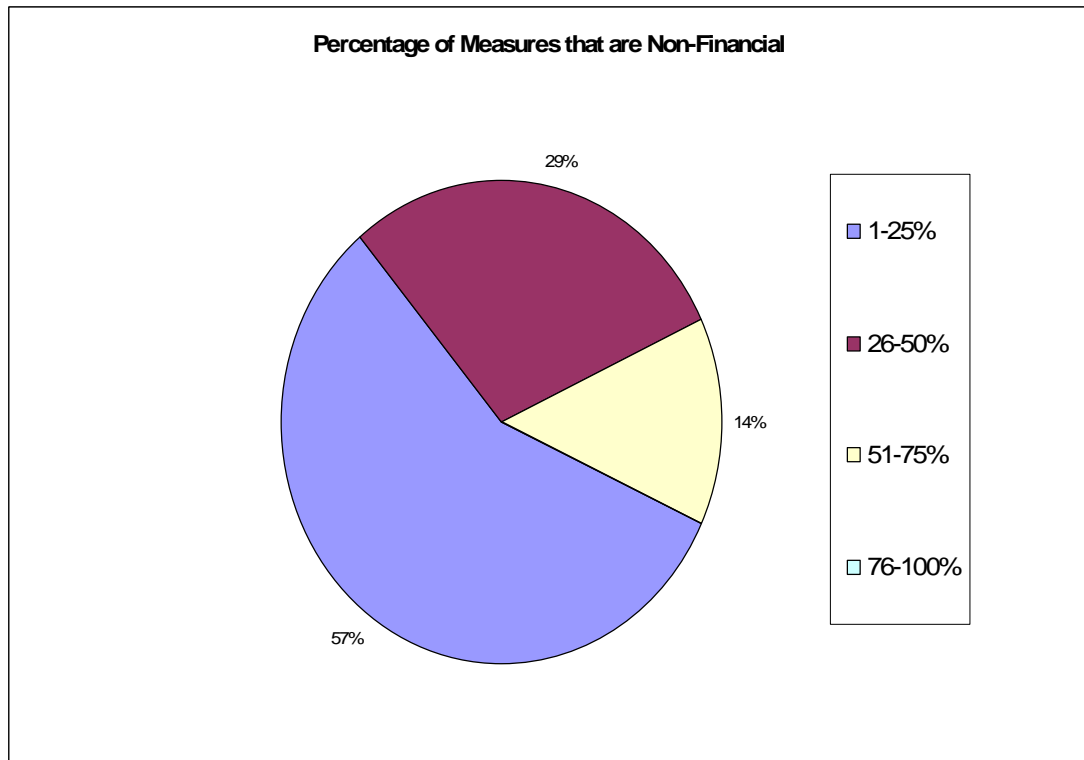
Table 4.6: The percentage of measures that are non-financial

All respondents are using at least 25% non-financial measures with some using
significantly more. This is consistent with current management theory that
acknowledges the importance and contribution that non-financial measures make to
financial performance. (Drury, 2004)

4.2.1.5.3 Cause-and-effect relationship
The surveyed organisations mildly agree that csfs have a cause-and-effect relationship
whereby changes in one kpi may influence changes in another although 14% mildly
disagree. Most organisations usually review their kpis when they change a kpi to
evaluate whether the change has influenced other kpis as implied in the literature.
(Kaplan and Norton, 1996b)

4.2.2 Extent of csf practice
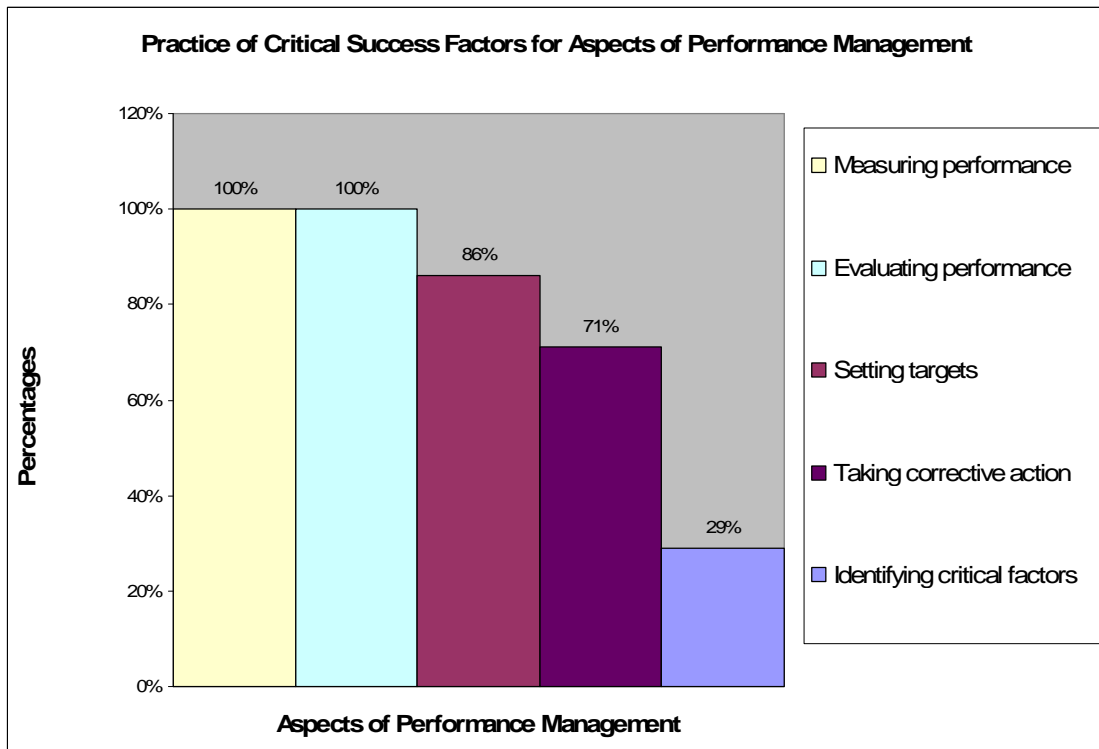
Table 4.7: The practice of csfs for aspects of performance management

Csfs are practiced extensively throughout the performance management process, but the question arises as to how to measure performance, set targets, evaluate performance and then take corrective action without first identifying those factors that are critical to success. The researcher would have questioned this response further had interviews been an option. The researcher interprets this response as a lack of reflection as the findings when combined, seem contradictory, particularly when the identification of csfs is considered the most important aspect of the csf method. (Paranjape et al, 2006) Further research would help to clarify this.

Inconsistencies with the literature also exist as the organisations measure and evaluate performance. Not all organisations set targets or take corrective action, identifying a gap in the performance management process. Strategy cannot be successfully implemented if targets are not set and aligned with strategic objectives and corrective action is not taken when actual performance deviates from desired performance.

4.2.2.1 Identifying critical factors
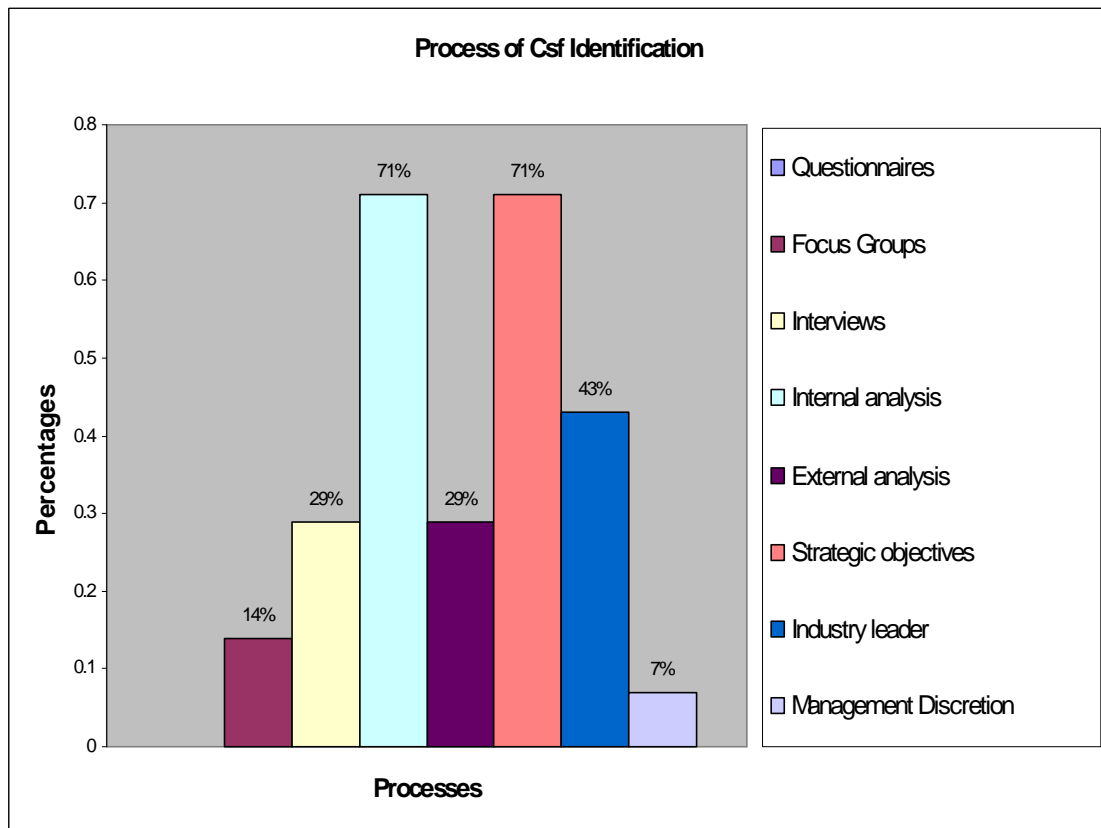
Table 4.8: The process of csf identification

Strategic objectives and internal analysis are the two most practiced methods of csf identification (71%). One respondent added the management discretion option and although a valid process, this option could relate to one of the above-mentioned processes because they will presumably need to identify their csfs on some basis.

Prime Source of Csf Identification
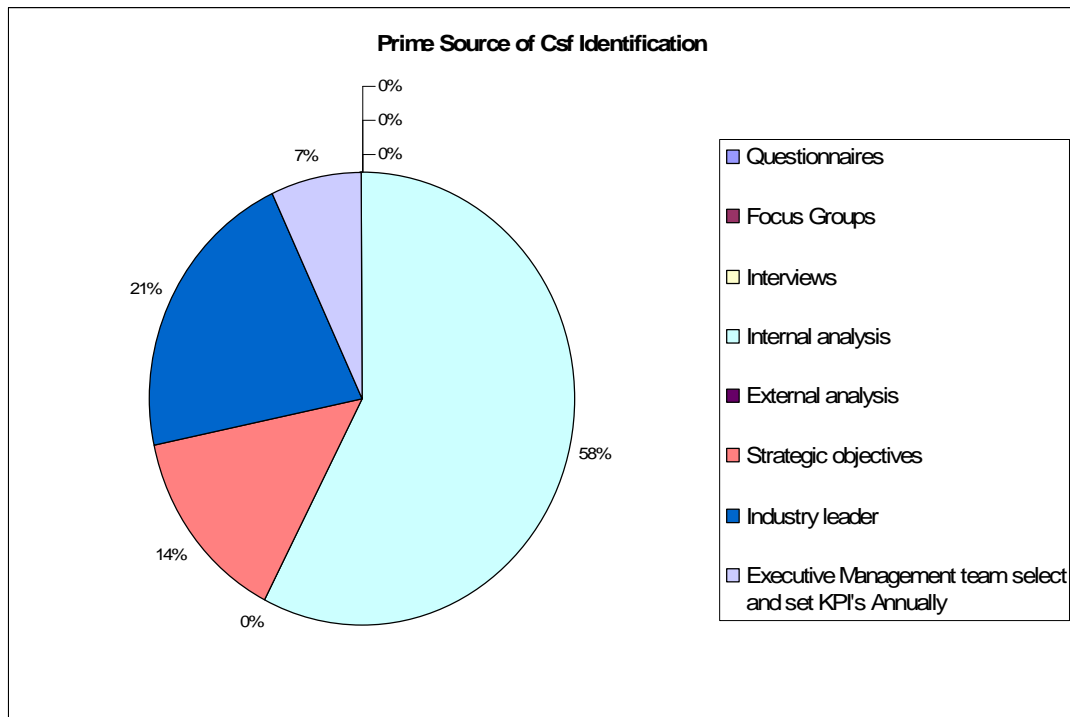
Table 4.9: The prime source of csf identification

Although the researcher did expect to see internal analysis, industry leader and strategic objectives amidst the prime sources of csf identification the literature contradicts this finding. It suggests that the selected strategy should be based on a combination of an internal analysis to discover current capabilities combined with an external analysis (including an industry analysis) to select the best strategy by matching current capabilities with the external market.

Organisations usually review their csfs when the competitive environment changes ensuring that measures remain relevant to current organisational contexts.

When asked to identify their five primary kpis in performance management, only three respondents chose to answer the question. This question is of a sensitive nature (conveying the factors of critical importance to organisations) and the respondents could not be sure of the integrity of the researcher. The researcher is not surprised at the low response rate to this question. Interviews could have helped overcome this limitation.

Remarkably, of the fifteen csfs given not one was repeated. The csfs disclosed are EBIT, ROIC, market share, utilisation, staff turnover, number of product downloads, number of new customers, revenue, business specific csfs, technology specific csfs, return on net assets, return on sales, safety statistics, working capital statistics and capital expenditure vs depreciation.

Significantly, 40% of the primary csfs disclosed are non-financial showing consistency with the extensive practice of non-financial measures as indicated in the balanced scorecard analysis.

4.2.2.1.1. Sources of csfs
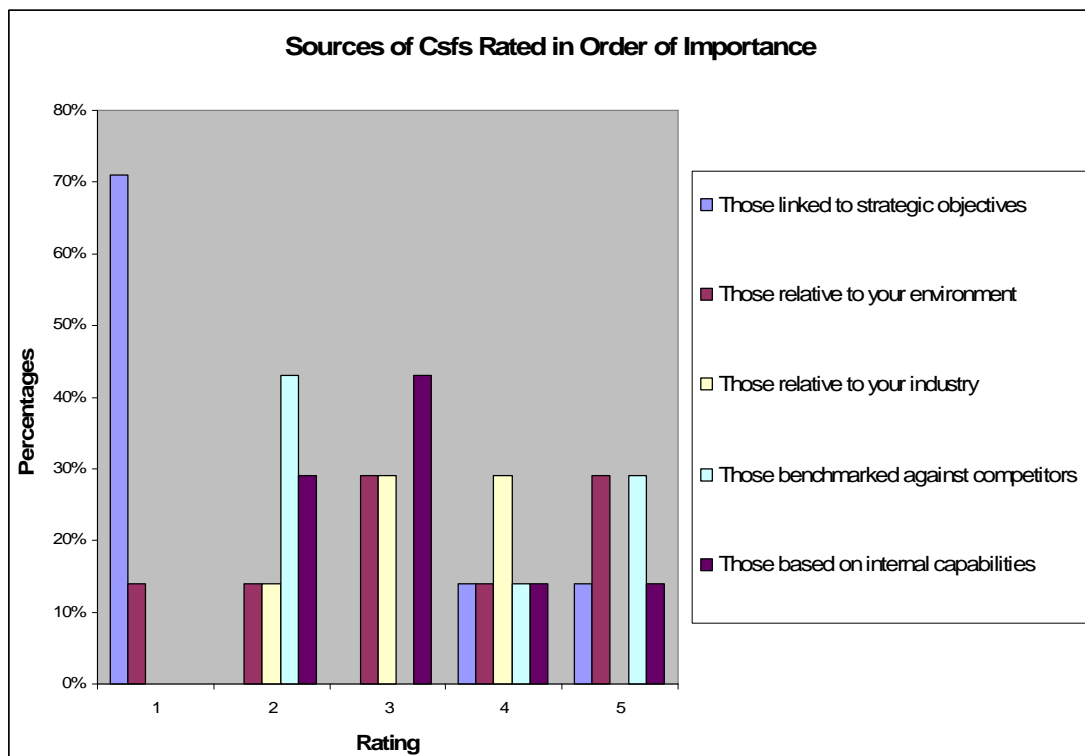
Table 4.10: The sources of csfs rated in order of importance

When asked to rate in order of importance the sources of csfs most critical to performance management the results were diverse. The average of all the results was three, except for csfs linked to strategic objectives, which had an average of two suggesting that this is the most important source of csf.

The other sources of csfs are difficult to analyse except to say that no distinct identifiable pattern exists indicating that in general organisations are indifferent to the other sources of csfs which are, on average, equally rated.

These findings are consistent with the literature stating that strategic objectives are based on a combination of an internal analysis of current and future internal capabilities and an external analysis of the current competitive environment. (Pearce and Robinson, 1997)

4.2.2.2 Setting targets

Methods of Determining Targets
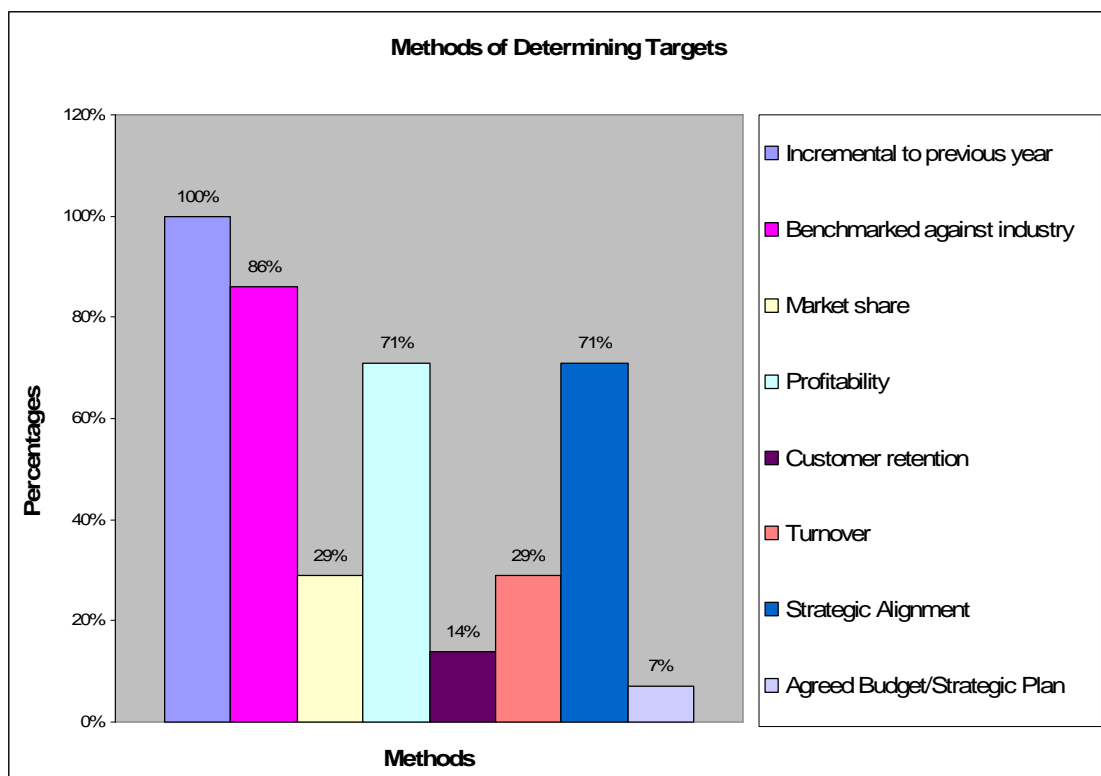
Table 4.11: The methods of determining targets

Targets are usually applied to kpis in performance management enabling performance to be managed and aligned with strategic objectives.

The most commonly practiced method of determining targets is an increment to the previous year (100%) and consistent with the use of budgets but is completely at odds with the new beyond budgeting philosophy which believes that each years targets

should be justified based on current circumstances ensuring that inappropriate targets are not repeated. (Hope and Fraser, 2003)

Organisations are also benchmarking targets against their industry competitors (86%), a necessity in the current competitive environment as keeping abreast of new and impending products and technologies can often give a competitive edge with the potential to increase market share.

Strategic alignment and profitability (71%) are frequently practiced methods of determining targets. The literature suggests that strategy should dictate targets but many organisations are profit driven and allow profitability to dictate targets, although it is possible for both to be set simultaneously. The identical percentage of respondents using both these methods suggests that strategy and profitability targets are linked. Interviews could help clarify this.

Market share and turnover (29%) are equally used methods of target identification, a predictable result as they are inextricably linked as a change in turnover directly affects market share.

Customer retention (14%) is a seldom-used method but does give credence to the increase in non-financial measures, their contribution to financial profitability and the realisation that customer retention contributes to future success.

The reply given relative to strategy and budgets (7%) can be assessed as a combination of increment to the previous year and strategic alignment although the respondent may have differentiated their response as their budgets are not incremental to the previous year but annually justified as discussed earlier.
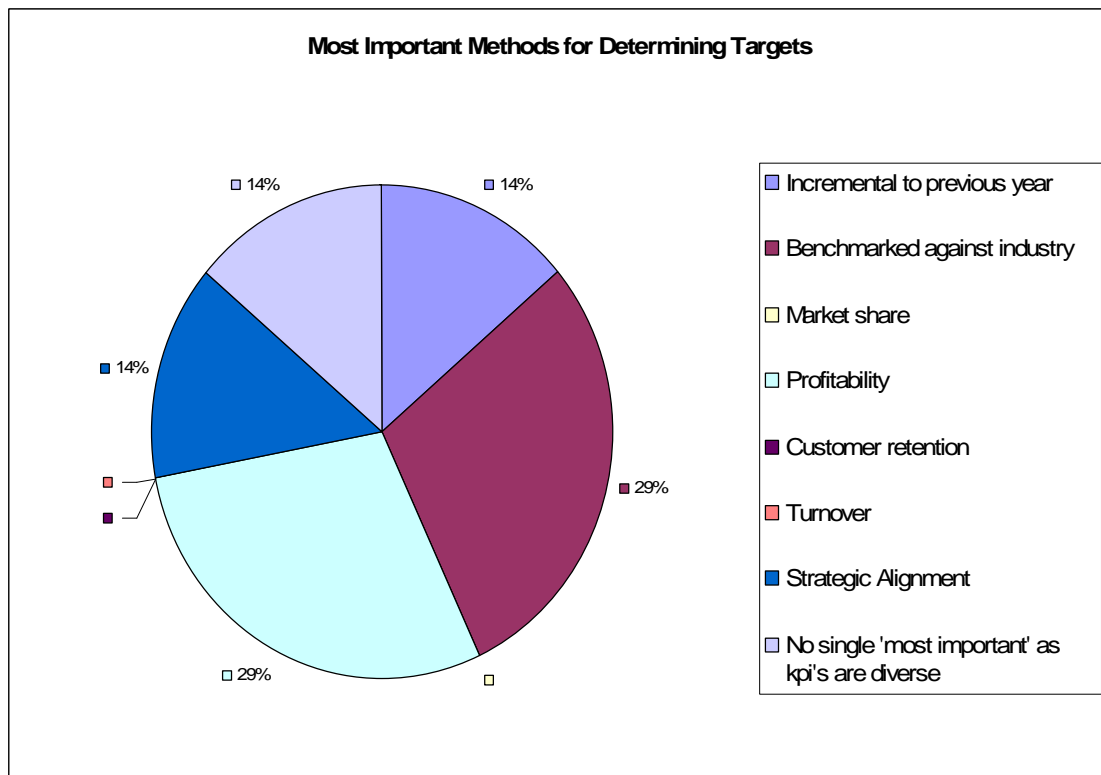
Table 4.11: The most important methods of determining targets

Although incremental targets are commonly used, they are not considered the most important. Organisations realise the importance of industry competition as they directly affect organisational profitability, market share and customer retention with an overall impact on organisational success or failure. Two respondents recognised the intricacies of these methods when they replied that there is no single most important method although strategic analysts might argue that strategic alignment is the most important as it can encompass all the other methods.

Organisations usually review their targets when the competitive environment changes ensuring targets remain relevant.

4.2.2.3 Measuring performance

Performance is usually measured against targets with 57% of organisations always measuring performance. They also usually review targets when they are not being achieved displaying consistency with the literature as performance cannot be managed if it is not measured. (Kaplan, 2006) The researcher is concerned for the organisations who only review targets sometimes, as they are not keeping their targets relevant to the

current competitive environment and may fail to achieve their strategic objectives. Further research would establish reasons.

4.2.2.4 Evaluating performance

However, organisations always evaluate the reasons for not attaining targets with the mode, median and mean consistent with this finding. Evaluating performance is a very important step in the performance management process as it can identify gaps between the organisation current performance and desired performance. (Fidler and Rogerson, 1996)

4.2.2.5 Taking corrective action

Evaluation usually leads to strategic realignment but 29% only strategically realign sometimes, a worrying finding for those organisations as they are reducing the possibility of achieving their strategic objectives and closing the gap between current and desired performance. Further research would establish reasons.

4.2.3 Opinions

When asked for their opinion regarding the merits and demerits of using csfs as indicated by a serious of statements the respondents replied as follows.

4.2.3.1 Merits of csfs

The surveyed organisations mildly agreed that csfs are successful at focusing information systems development on the collection of data relevant for strategic performance showing conformity with the literature. (Bullen and Rockart, 1981; Rockart, 1979; Boynton and Zmud, 1984; Millar, 1984, cited Jenster, 1987)

It was also mildly agreed that csfs are successful at focusing manager's attention on those critical factors ensuring that manager's limited time is focused on those factors that lead to organisational success. (Rockart, 1979; Bullen and Rockart, 1981)

There is mild agreement that csfs are easy to understand although 14% were indifferent.

There was a difference of opinion as to whether csfs are easy to use, with 57% mildly

agreeing, 29% indifferent, and 14% mildly disagreeing. The mean result was indifference, even though the mode and median are mildly agreeing. The ease of use of csfs is relative to an understanding of csfs and how they work. Perhaps some organisations do not fully comprehend the csf method as the previous finding suggests. Further research would help resolve this issue.

Implementing csfs was seen as inexpensive by many respondents, but there was a stronger inclination to disagreement with 29% mildly disagreeing and 14% strongly disagreeing. The average result showed indifference consistent with the median but not the mode which is mildly agreeing. The wide dispersion of results resulted in the standard deviation being consistent with the mode of mildly agreeing. This finding is adverse to the opinion conveyed in the literature (Boynton and Zmud, 1984), possibly as this reference is aged and not relevant to the current abundance of data and the related expense of extracting those critical data.

Organisations mildly agreed that csfs are successful at supporting the achievement of strategic objectives suggesting the overall success of the csf method in the strategic management process.

The average consensus is the evaluation of csfs enables corrective action to be taken at the earliest possible time with 29% strongly agreeing and 43% mildly agreeing although 29% of respondents were indifferent. Finding organisations indifferent to this statement suggests a lack of understanding of the csf method as csfs that are evaluated and found to deviate from targets, without question, present an opportunity to take corrective action. Maybe the organisations are indicating that their csfs are not evaluated regularly enough to enable corrective action to be taken at the earliest possible time. Further research could clarify this point.

The consensus that organisations mildly agree that csfs when assigned to managers are effective for performance appraisal is borne with the mode, median and mean all returning a mildly agree response. Assigning kpis to managers enables manager's performance to be aligned with strategic objectives guiding the successful implementation of strategy. Further research could clarify whether or not the indifferent respondents are finding strategy difficult to implement.

No organisation strongly agreed that csfs are easy to change as the environment changes although all other options were selected. The average or mean response showed indifference even though 29% both mildly disagreed and strongly disagreed with this statement. Despite these results, the most frequently returned response was mild agreement. Changing csfs when the environment changes involves a huge amount of analysis so the researcher was not surprised to find adversity in this response.

The average response is mild agreement that csfs use both financial and non-financial measures which support successful performance even though both the central and most frequent replies were strong agreement. There were also 14% indifferent to this statement requiring clarification through further research as earlier research shows recognition of both financial and non-financial measures and their contribution to varying aspects of performance.

There is great indifference to the statement that csfs are a flexible process with no fixed framework with 43% choosing the neither agreed or disagreed option. Significantly, this is also the finding for the mode, median and mean. This statement was interpretative in nature as the application of csfs in performance management can be as structured or unstructured as organisations decide. However, effective csfs practice would suggest a relatively structured hierarchy of csfs. (Bullen and Rockart, 1981; Fidler and Rogerson, 1996)

4.2.3.2 Demerits of csfs

There is strong disagreement that csfs are difficult to identify with 57% mildly disagreeing causing both the mode and median to concur. However, 29% did strongly agree showing the diversity of opinion causing the mean finding to show indifference. The high percentage disagreement suggests an understanding of the csfs method that makes csf identification easy with the strongly agreeing respondents suggesting the converse. Further research again would clarify.

There was much indifference (57%) to the statement that the csfs cause-and-effect link is difficult to understand, causing the mode, median, and mean to yield the same result. However, 29% of respondents did strongly agree with the statement, with only 14%

mildly disagreeing. The indifference to this statement concurs with the literature as humans often display difficulty in dealing with causality resulting in the majority of respondents being indifferent. (Davis, 1980, cited Boynton and Zmud, 1984)

There was mild agreement that wrongly designed csfs can lead to dysfunctional behaviour with 43% both strongly and mildly agreeing, leaving 14% indifferent. This finding concurs with the literature. (Kaplan and Norton, 1992; Bourne and Neely, 2002; Paranjape et al, 2006)

Although 57% strongly agreed that excessive kpi's can prevent good performance against all measures, the average finding was mild agreement. This finding is consistent with the literature as organisations need to identify their csfs from the top down with the higher csfs taking precedence. However, csfs can conflict, with the successful achievement of one adversely affecting another so care must be taken to ensure compatibility. (Parmenter, 2005; Paranjape et al, 2006)

4.2.3.3 Overall assessment of csfs in performance management

Generally, respondents mildly agreed that csfs contribute to successful performance management. The range of results from strongly to mildly agreeing strongly suggests that csfs are renowned for their contribution to organisational success adding credence to the justification for this research.

4.3 Conclusion

The results of the survey instrument have revealed that csfs are used for the purposes of performance management, performance appraisal, strategic management, data relevancy and the balanced scorecard. They are also used within the performance management process for the identification of csfs, the setting of targets, measuring performance, evaluating performance and taking corrective action.

The opinion of the researched population ranged from mildly agreeing to neither agreeing or disagreeing to the merits and demerits of using csfs in performance management.

In conclusion, the findings have answered the research question and met the research objectives.

Chapter 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this chapter, the researcher will outline the main findings of the research, drawing conclusions from those findings and making recommendations for further research.

5.2 Overview of the main findings

5.2.1 Purpose of csfs practice

Csfs are practiced to a greater or lesser degree for all the suggested practices of csfs. However, issues did arise.

As csfs were used by all organisations for performance management and deemed successful at contributing to successful performance management, the researcher concluded that csfs contribute to organisational success.

Although csfs are used for performance appraisal, some organisations were not rewarding managers on their kpi's but reverting to financial measures creating the potential for dysfunctional behaviour.

The researcher concluded that there was inconsistency with the literature in the practice of csfs in the strategic management process as the practice of csfs in strategy planning was not, in all cases, carried forward into both the implementation and evaluation stages of the strategic management process creating potential gaps between desired and actual performance.

There were contradictory replies to the data relevancy questions and after much analysis, the researcher decided that no conclusion could be drawn without further research.

The balanced scorecard is not as widely used in Ireland as in the US. However, when it is considered that all respondents use csfs, perspectives, financial and non-financial measures and most of them recognise the cause-and-effect relationship of csfs, the researcher concluded that many respondents could be using the balanced scorecard in every aspect except name only. Further research would be required to confirm this conclusion.

The regular practice of internal business processes, financial, market and product perspectives combined with the low use of both the stakeholder and customer perspectives by organizations was interpreted by the researcher, as astute management practice. These organisations realise that a focus on products, markets and internal capabilities have the potential to increase both customer and stakeholder satisfaction indicating that departure from the literature in this case is not necessarily bad practice.

5.2.2 Extent of csfs practice

Csfs are widely used for aspects of performance management but the low practice of csfs for the identification of critical factors did cause the researcher some concern. Either the respondents did not consider this response carefully or possibly there are other reasons for their low practice which can only be found through further research.

The deviation from the literature was so strong in the process of csf identification that the researcher concluded that misinterpretation may have occurred. The respondents may have considered their current csfs and associated them to internal, external or industry analysis, not linking them to the strategic objectives that initially defined them. The researcher concluded that further research would be needed to clarify this point.

The researcher also concluded that since organisations are not carrying their csfs through the entire performance management process they are allowing gaps to emerge between strategy and execution.

Respondents were deemed as astute by the researcher for not divulging their prime csfs as they portray what an organisation deems important and are usually a culmination of much reflective analysis. The researcher was not surprised to find that csfs derived

from strategy are considered the most important, as the literature suggests.

The researcher concluded that although many methods of determining targets are used, the important ones were diverse suggesting that strategy and the related strategic objectives did not dictate the organisations targets creating a possible gap in the strategic performance management process with similar gaps emerging as some organisations are only reviewing their targets sometimes.

Fortunately, organisations are evaluating performance and therefore identifying gaps between actual and desired performance making the link between strategy and execution. However, if targets are not linked to strategy and performance is evaluated based on those targets then the link between strategy and execution is broken. Although organisations are identifying gaps between actual and desired performance they are not always closing them through corrective action.

5.2.3 Opinions

The researcher concluded a lack of reflection in answering the opinion question when an average of twenty percent of respondents returned an indifferent opinion. Considering the status, qualifications, and experience of the respondents, the researcher expected more definite opinions. An inability to express an opinion can reflect a lack of understanding of a topic area, or a lack of reflection of the questions asked. The respondents realised the indifferent answer would not significantly affect the overall findings.

The overall consensus of opinion varied between mildly agreeing to neither agreeing or disagreeing to the merits of csfs with disagreement existing with csfs ease of use, their inexpensive implementation, their ease of change when the environment changes and their claim of being a flexible process with no fixed framework. All other merits provided a consensus of mildly agreeing leading the researcher to conclude that overall the organisations substantially agree to the merits of using csfs.

Similarly, almost twenty-five percent of organisations returned an indifferent opinion to the demerits of csfs. Likewise, the consensus varied between mildly agreeing to neither agreeing or disagreeing. Disagreement exists with csfs difficulty of

identification, the comprehension of their cause-and-effect link and the prevention of good performance if excessive measures are used. The respondents contradict the literature by conveying that csfs are easy to identify. Remarkably, there is not substantial agreement to the demerits of using csfs, a positive demonstration of their extreme benefits. The researcher concludes that csfs do contribute to successful performance management with their extensive practice a testament to that fact.

5.3 Strengths and limitations of the research

The strengths of this research are in the methodology of the research as every effort was taken to achieve credible results within the constraints of the research project, the accomplishment of the research aims and objectives and the creation of a document that provides evidence of the practice of csfs in performance management in the Irish context.

However, there were limitations many of which were discussed earlier. The word count was a limiting constraint, as although much thorough in-depth research was completed and compiled, it had to be edited, excluding some evaluative analysis.

The use of questionnaires as discussed earlier was a limiting factor particularly as the researcher believed that adequate reflection was not given to several responses as referenced throughout the findings and analysis section.

Another limitation is the low response rate of survey instruments even though the researcher engaged a professional survey format for ease of completion. It is extremely interpretive whether the survey findings could be generalised even though the dispersion from the mean was in most cases not significant.

5.4 Overall conclusion

In conclusion, csfs were found to be widely practiced in both strategic management and performance management and in general, organisations see the benefits of their use. However, discrepancies to the literature have occurred in the practice of csfs in both the strategic management and performance management processes, possibly caused by different interpretations or alternatively, may reflect a gap in their strategic

management processes. The researcher realised at the outset that this type of research on such a complex and intricate topic, when completed through the instrument of survey questionnaires would only ever serve as an exploratory investigation that could pave the way for future research.

5.5 Recommendations

The researcher recommends that this research should be repeated or expanded through interviews addressing all the issues that arose in the findings section, particularly in the areas of data relevancy and gaps that were considered in the performance management process through the aspects of critical factor identification, setting targets and taking corrective action.

5.6 Future research

Although csfs are widely practiced in Ireland, only twenty-nine percent claim to use them through the balanced scorecard framework even though the researcher has hypothesised that the balanced scorecard has been used in every aspect except name only. Further research is required on the use of the balanced scorecard in the Irish context to evaluate this analysis.

The converse of this finding is that 71% of organisations are using csfs without the balanced scorecard. Is this an indication that csfs are in themselves a strategic management system? The relatively small amount of literature available on csfs would not suggest this. Further research is also required to evaluate this analysis.

APPENDICES

Appendix 1 - Questionnaire

This is a representation of the questions asked but the questionnaire was presented through an on-line survey package available at www.zoomerang.com to improve presentation and user friendliness.

Section A- General Information

Q1. Company Name:

Q2. E-mail address

Q3. Name of person who completed the questionnaire

Q4. Status/job title

Q5. Number of years in that position (please select one of the following)

1-5

6-10

11-15

16 and over

Q6. Qualifications (please select one of the following)

Certificate

Diploma

Ordinary Degree

Honours Degree

Postgraduate qualification

Professional qualification

Other

> **Q6a. If other, please specify?**
> Insert text box

Section B - This section explores the purpose of Key performance indicator (Critical success factor) practice in publicly listed companies in Ireland.

PURPOSE- PERFORMANCE MANAGEMENT

Q7. Do you use key performance indicators (critical success factors)?

(Please select one of the following)

Yes

No

Q.8 If you <u>do not </u>use key performance indicators (csfs) for performance management state the strategic management tool(s) currently used in your organisation?

(Please state up to two and then finish, as this questionnaire is not relevant to you)

Insert list text box

1.

2.

Q.9 If you <u>do </u>use key performance indicators (csfs), for what purposes are they used?

(Please select as appropriate)

Strategic management

Performance management

Performance appraisal of managers

Data relevancy (identifying relevant data)

Balanced scorecard

Other

  Q9a. If other, please specify

  Insert text box

Q10. If key performance indicators (csfs) are used in performance management, for what aspects of performance management are they used?

(Please select as appropriate)

Identifying critical factors

Setting targets

Measuring performance

Evaluating performance

Taking corrective action

Other

> **Q10a. If other, please specify**
>
> Insert text box

PURPOSE- PERFORMANCE APPRAISAL

Q11. Are key performance indicators (csf measures) used to evaluate managerial performance?

(Please select one of the following)

Always

Usually

Sometimes

Seldom

Never

Q12. Is every manager assigned key performance indicators (critical performance measures) so that their performance can be appraised separately?

(Please select one of the following)

Yes

No

Q13. If the response to the previous question is "no", how is performance appraised?

(Please give one example)

Insert text box.

Q14. Are rewards linked to performance on those key performance indicators?

(Please select one of the following)

Yes

No

Q15. If the response to the previous question is "no", how is performance rewarded?

(Please give one example)

Insert text box.

PURPOSE- DATA RELEVANCY

Q16. Do you use key performance indicators (csfs) to identify relevant data (the data that are relevant for setting objectives, shaping strategies, making decisions and measuring results against planned goals)?

(Please select one of the following)

Always

Usually

Sometimes

Seldom

Never

PURPOSE- STRATEGIC MANAGEMENT

Q17. In which, if any, of the following strategic management processes do you use key performance indicators (csfs)?

(Please select as appropriate)

Situation analysis

Strategy planning

Strategy implementation

Strategy evaluation

Other

   Q17a. If other, please specify

   Insert text box

Q18. Are key performance indicators (csf measures) used to assess progress towards strategic objectives? (Please select one of the following)

Always

Usually

Sometimes

Seldom

Never

Q19. Are key performance indicators (csfs) used to direct the allocation of resources for the attainment of strategic objectives?

 (Please select one of the following)

Always

Usually

Sometimes

Seldom

Never

Q20. Are the key performance indicators (csfs) used in performance management linked to your strategy?

(Please select one of the following)

Always

Usually

Sometimes

Seldom

Never

PURPOSE- BALANCED SCORECARD

Q21. Do you use the balanced scorecard in performance management?

(Please select one of the following)

Always

Usually

Sometimes

Seldom

Never

Q22. Which of the following perspectives do you use in performance

management? (Please select as appropriate)

Customer perspective

Internal business processes perspective

Learning and growth perspective

Financial perspective

Stakeholder perspective

Product perspective

Market perspective

Other

> **Q22a. If other, please specify**
>
> Insert text box

Q23. Which perspective do you consider the most important?

(Please select one of the following)

Customer perspective

Internal business processes perspective

Learning and growth perspective

Financial perspective

Stakeholder perspective

Product perspective

Market perspective

Other

> **Q23a. If other, please specify**
>
> Insert text box

FINANCIAL AND NON-FINANCIAL MEASURES

Q24. Do you use financial measures (key performance indicators) in performance management?

(Please select one of the following)

Yes

No

Q25. Do you use non-financial (operational) measures (key performance indicators) in performance management?

(Please select one of the following)

Yes

No

Q26. If the answer to the previous question is "yes", why do you use non-financial measures (key performance indicators)?

(Please select as appropriate)

They assist in performance appraisal

They contribute to financial performance

They increase customer satisfaction

They increase product quality

They create market awareness

Other

> **Q26a. If other please specify**
>
> Insert text box

Q27. Approximately what percentages of your key performance indicators (critical success factor measures) are non-financial?

(Please select one of the following)

1-25%

26-50%

51-75%

76-100%

CAUSE AND EFFECT RELATIONSHIP

Do you agree with the following statement?

Q28. Key performance indicators (csfs) are interrelated (have a cause and effect relationship) whereby changes in one key performance indicator (csf) may influence changes in another.

(Please select one of the following)

Strongly agree

Mildly agree

Neither agree or disagree

Mildly disagree

Strongly disagree

Q29. When you change a key performance indicator (csf), do you review other key performance indicators (csfs) to evaluate whether the change has impacted on them?

(Please select one of the following)

Always

Usually

Sometimes

Seldom

Never

Section C- This section explores the extent of key performance indicator (critical success factor) practice in publicly listed companies in Ireland.

EXTENT-CSF IDENTIFICATION

Q30. What process do you use to identify your key performance indicators (csfs) for performance management?

(Please select as appropriate)

Questionnaires

Focus Groups

Interviews

Internal analysis

External analysis

Strategic objectives

Industry leader

Other

> **Q30a. If other, please specify**
>
> Insert text box

Q31. Please select your prime source of key performance indicator (csf) identification?

(Please select one of the following)

Questionnaires

Focus Groups

Interviews

Internal analysis

External analysis

Strategic objectives

Industry leader

Other

> **Q31a. If other, please specify**
>
> Insert text box

Q32. Do you review your key performance indicators (csfs) when your competitive environment changes?

(Please select one of the following)

Always

Usually

Sometimes

Seldom

Never

Q33. Can you identify your five primary key performance indicators (csfs) in performance management?

Insert list box

SOURCES OF CSFS

Q34. Please rate in order of importance the sources of key performance indicators (csfs) most critical to performance management with one being the most important, two, the next most important and so on?

Those linked to strategic objectives

Those relative to your environment

Those relative to your industry

Those benchmarked against competitors

Those based on internal capabilities

Other

> **Q34a. If other, please specify**
>
> Insert text box

EXTENT-TARGETS

Q35. Do you apply targets for each key performance indicators (csfs) in performance management?

(Please select one of the following)

Always

Usually

Sometimes

Seldom

Never

Q36. What methods do you use to determine your targets?

(Please select as appropriate)

Incremental to previous year

Benchmarked against industry

Market share

Profitability

Customer retention

Turnover

Strategic Alignment

Other

>**Q36a. If other, please specify**
>
>Insert text box

Q37. Which of the following methods do you consider the most important?

(Please select one of the following)

Incremental to previous year

Benchmarked against industry

Market share

Profitability

Customer retention

Turnover

Strategic Alignment

Other

> **Q37a. If other, please specify**
>
> Insert text box

Q38. Do you review your targets when your competitive environment changes?

(Please select one of the following)

Always

Usually

Sometimes

Seldom

Never

EXTENT-MEASURES AND EVALUATION

Q39. Do you measure performance against targets?

(Please select one of the following)

Always

Usually

Sometimes

Seldom

Never

Q40. Do you review your targets if they are not being achieved?

(Please select one of the following)

Always

Usually

Sometimes

Seldom

Never

Q41. Do you evaluate the reasons for not reaching those targets?

(Please select one of the following)

Always

Usually

Sometimes

Seldom

Never

EXTENT-TAKING CORRECTIVE ACTION

Q42. Does your evaluation lead to strategic realignment (corrective action)?

(Please select one of the following)

Always

Usually

Sometimes

Seldom

Never

Section D - This section explores the opinion of publicly listed companies in relation to the practice of key performance indicators (csfs) in performance management.

Q43. What is your opinion regarding the following statements referencing the benefits of using key performance indicators (csfs)?

Q43a. "Key performance indicators (csfs) are successful at focusing information systems development on the collection of data relevant for strategic performance."

(Please select one of the following)

Strongly agree

Mildly agree

Neither agree or disagree

Mildly disagree

Strongly disagree

Q43b. "Key performance indicators (csfs) are successful at focusing managers attention on those critical factors."

(Please select one of the following)

Strongly agree

Mildly agree

Neither agree or disagree

Mildly disagree

Strongly disagree

Q43c. "Key performance indicators (csfs) are easy to understand."

(Please select one of the following)

Strongly agree

Mildly agree

Neither agree or disagree

Mildly disagree

Strongly disagree

Q43d. "Key performance indicators (csfs) are easy to use."

(Please select one of the following)

Strongly agree

Mildly agree

Neither agree or disagree

Mildly disagree

Strongly disagree

Q43e. "Key performance indicators (csfs) are inexpensive to implement."

(Please select one of the following)

Strongly agree

Mildly agree

Neither agree or disagree

Mildly disagree

Strongly disagree

Q43f. "Key performance indicators (csfs) are successful at supporting the achievement of strategic objectives."

(Please select one of the following)

Strongly agree

Mildly agree

Neither agree or disagree

Mildly disagree

Strongly disagree

Q43g. "The evaluation of key performance indicators (csfs) enables corrective action to be taken at the earliest possible time."

(Please select one of the following)

Strongly agree

Mildly agree

Neither agree or disagree

Mildly disagree

Strongly disagree

Q43h. "Key performance indicators (csfs) when assigned to managers are effective for performance appraisal."

(Please select one of the following)

Strongly agree

Mildly agree

Neither agree or disagree

Mildly disagree

Strongly disagree

Q43i. "Key performance indicators (csfs) are easy to change as the environment changes." (Please select one of the following)

Strongly agree

Mildly agree

Neither agree or disagree

Mildly disagree

Strongly disagree

Q43j. "Key performance indicators (csfs) use both financial and non-financial measures which supports successful performance."

(Please select one of the following)

Strongly agree

Mildly agree

Neither agree or disagree

Mildly disagree

Strongly disagree

Q43k. "Key performance indicators (csfs) are a flexible process with no fixed framework."

(Please select one of the following)

Strongly agree

Mildly agree

Neither agree or disagree

Mildly disagree

Strongly disagree

Q44. What is your opinion regarding the following statements referencing the demerits of using key performance indicators (csfs)?

Q44a. "Key performance indicators (csfs) are difficult to identify."

(Please select one of the following)

Strongly agree

Mildly agree

Neither agree or disagree

Mildly disagree

Strongly disagree

Q44b. "The key performance indicators (csfs) cause and effect link can be difficult to understand."

(Please select one of the following)

Strongly agree

Mildly agree

Neither agree or disagree

Mildly disagree

Strongly disagree

Q44c. "Wrongly designed key performance indicators (csfs) can lead to dysfunctional behaviour."

(Please select one of the following)

Strongly agree

Mildly agree

Neither agree or disagree

Mildly disagree

Strongly disagree

Q44d. "Excessive key performance indicators (csf measures) can prevent good performance against all measures."

(Please select one of the following)

Strongly agree

Mildly agree

Neither agree or disagree

Mildly disagree

Strongly disagree

OPINION ON THE USE OF CSFS IN PERFORMANCE MANAGEMENT

Q45. What is your opinion in regard to the following statement? "Key performance indicators (csfs) contribute to successful performance management."

(Please select one of the following)

Strongly agree

Mildly agree

Neither agree or disagree

Mildly disagree

Strongly disagree

Section E - MISCELANEOUS MATTERS

Q46. Would you like a copy of the findings of this research?

Yes

No

Q47. Do you see any merit in researching critical success factors (key performance indicators)?

Yes

No

Q48. If yes, briefly state the merit of this research, in your opinion?

Insert text box

Q49. Any other comments you would like to add?

Appendix 2 - Questionnaire Results

Section A- General Information

Q1. Company Name:	Number of Replies	Percentage of Entire Population
Site hits	27	45%
Partial completions	4	6%
Completed surveys	14	21%
Total population	67	100%

Q4. Status/job title	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Assistant Corporate Planner	1	7%	1%
CFO	4	29%	6%
Vice President Human Resources	2	14%	3%
HR Development Manager	3	21%	4%
Associate Director, Corporate Finance	2	14%	3%
Group Controller	1	7%	1%
Strategy Manager	1	7%	1%

Q5. Number of years in that position	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
1-5 years	10	71%	15%
6-10 years	4	29%	6%
11-15 years			
16 years and over			

Q6. Qualifications	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Certificate	2 (Partials)		
Diploma			
Ordinary Degree			
Honours Degree	4	29%	6%
Post graduate qualification			
Professional qualification	10	71%	15%

Section B - This section explores the purpose of key performance indicator (critical success factor) practice in publicly listed companies in Ireland.

PURPOSE- PERFORMANCE MANAGEMENT

Q7. Do you use csfs?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Yes	14	100%	21%
No			

Q.9 For what purposes are csfs used?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Strategic management	10	71%	15%
Performance management	14	100%	21%
Performance appraisal of managers	10	71%	15%
Data relevancy	2	14%	3%
Balanced scorecard	4	29%	6%
Strategic investment decisions	1	7%	1%

Q10. For what aspects of performance management are csfs used?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Identifying critical factors	4	29%	6%
Setting targets	12	86%	18%
Measuring performance	14	100%	21%
Evaluating performance	14	100%	21%
Taking corrective action	10	71%	15%

PURPOSE- PERFORMANCE APPRAISAL

Q11. Are kpi's used to evaluate managerial performance?	Always	Usually	Sometimes	Seldom	Never
Number of Replies	2	12			
Percentage of Population Replies	14%	86%			
Percentage of Entire Population	3%	18%			

Mode	Median	Mean	Range	Standard deviation
Usually	Usually	Usually	Always to Usually	Always

Q12. Is every manager assigned kpi's so that their performance can be appraised separately?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Yes	14	100%	21%
No			

Q14. Are rewards linked to performance on those key performance indicators?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Yes	10	71%	15%
No	4	29%	6%

Q15. If the response to the previous question is "no", how is performance rewarded?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Financial Results	2	14%	3%

PURPOSE- DATA RELEVANCY

Q16. Do you use kpi's to identify relevant data?	Always	Usually	Sometimes	Seldom	Never
Number of Replies	4	6	4		
Percentage of Population Replies	29%	43%	29%		
Percentage of Entire Population	6%	9%	6%		

Mode	Median	Mean	Range	Standard deviation
Usually	Usually	Usually	Always to Sometimes	Sometimes

PURPOSE- STRATEGIC MANAGEMENT

Q17. In which, if any, of the following strategic management processes do you use kpi's?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Situation analysis	6	43%	9%
Strategy planning	14	100%	21%
Strategy implementation	12	86%	18%
Strategy evaluation	8	57%	12%

Q18. Are kpi's used to assess progress towards strategic objectives?	Always	Usually	Sometimes	Seldom	Never
Number of Replies	6	8			
Percentage of Population Replies	43%	57%			
Percentage of Entire Population	9%	12%			

Mode	Median	Mean	Range		Standard deviation
Usually	Usually	Usually	Always to Usually		Usually

Q19. Are kpi's used to direct the allocation of resources for the attainment of strategic objectives?	Always	Usually	Sometimes	Seldom	Never
Number of Replies	2	6	6		
Percentage of Population Replies	14%	43%	43%		
Percentage of Entire Population	3%	9%	9%		

Mode	Median	Mean	Range		Standard deviation
Always	Usually	Usually	Always to Sometimes		Sometimes

Q20. Are the kpi's used in performance management linked to your strategy?	Always	Usually	Sometimes	Seldom	Never
Number of Replies	6	4	4		
Percentage of Population Replies	43%	29%	29%		
Percentage of Entire Population	9%	6%	6%		

Mode	Median	Mean	Range		Standard deviation
Always	Usually	Usually	Always to Sometimes		Sometimes

PURPOSE- BALANCED SCORECARD

Q21. Do you use the balanced scorecard in performance management?	Always	Usually	Sometimes	Seldom	Never
Number of Replies		2	6	4	2
Percentage of Population Replies		14%	43%	29%	14%
Percentage of Entire Population		3%	9%	6%	3%

Mode	Median	Mean	Range		Standard deviation
Sometimes	Some-times	Sometimes	Usually to Never		Sometimes

Q22. Which of the following perspectives do you use in performance management?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Customer perspective	8	57%	12%
Internal business processes perspective	14	100%	21%
Learning and growth perspective	6	43%	9%
Financial perspective	10	71%	15%
Stakeholder perspective	6	43%	9%
Product perspective	10	71%	15%
Market perspective	10	71%	15%

Q23. Which perspective do you consider the most important?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Customer perspective	4	29%	6%
Internal business processes perspective			
Learning and growth perspective			
Financial perspective	6	43%	9%
Stakeholder perspective	4	29%	6%
Product perspective			
Market perspective			

FINANCIAL AND NON FINANCIAL MEASURES

Q24. Do you use financial measures (kpi's) in performance management?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Yes	12	86%	18%
No	2	14%	3%

Q25. Do you use non-financial (operational) measures (kpi's) in performance management?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Yes	14	100%	21%
No			

Q26. Why do you use non-financial measures (kpi's)?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
They assist in performance appraisal	10	71%	15%
They contribute to financial performance	12	86%	18%
They increase customer satisfaction	4	29%	6%
They increase product quality	2	14%	3%
They create market awareness	6	43%	9%

Q27. Approximately what percentage of your kpi's are non-financial?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
1-25%	8	57%	12%
26-50%	4	29%	6%
51-75%	2	14%	3%
76-100%			

CAUSE AND EFFECT RELATIONSHIP

Q28. Do kpi's have a cause and effect relationship whereby changes in one kpi may influence changes in another?	Strongly agree	Mildly agree	Neither agree or disagree	Mildly disagree	Strongly disagree
Number of Replies	4	8		2	
Percentage of Population Replies	29%	57%		14%	
Percentage of Entire Population	6%	8%		3%	

Mode	Median	Mean	Range	Standard deviation
Mildly agree	Mildly agree	Mildly agree	Strongly agree to Mildly disagree	Neither agree or disagree

Q29. When you change a kpi (csf) do you review other kpi's (csfs) to evaluate whether the change has impacted on them?	Always	Usually	Sometimes	Seldom	Never
Number of Replies	2	10	2		
Percentage of Population Replies	14%	71%	14%		
Percentage of Entire Population	3%	15%	3%		

Mode	Median	Mean	Range	Standard deviation
Usually	Usually	Usually	Always to Sometimes	Usually

Section C- This section explores the extent of key performance indicator (critical success factor) practice in publicly listed companies in Ireland.

EXTENT-CSF IDENTIFICATION -identifying critical factors

Q30. What process do you use to identify your kpi's (csfs) for performance management?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Questionnaires			
Focus Groups	2	14%	3%
Interviews	4	29%	6%
Internal analysis	10	71%	15%
External analysis	4	29%	6%
Strategic objectives	10	71%	15%
Industry leader	6	43%	9%
Management Discretion	1	7%	1%

Q31. Please select your prime source of key performance indicators (csfs) identification?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Questionnaires			
Focus Groups			
Interviews			
Internal analysis	8	57%	12%
External analysis			
Strategic objectives	2	14%	3%
Industry leader	3	21%	4%
Management Discretion	1	7%	1%

Q32. Do you review your kpi's (csfs) when your competitive environment changes?	Always	Usually	Sometimes	Seldom	Never
Number of Replies	8	6			
Percentage of Population Replies	57%	43%			
Percentage of Entire Population	12%	9%			

Mode	Median	Mean	Range	Standard deviation
Always	Always	Always	Always to Usually	Usually

Q33. Can you identify your five primary key performance indicators (csfs) in performance management?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
EBIT	1a	7%	1%
RoIC	1a		
Market Share	1a		
Utilisation	1a		
Staff Turnover	1a		
No. product downloads	1b	7%	1%
No. new customers	1b		
Revenue	1b		
Business specific	1b		
Technology	1b		
Return on Net assets	1c	7%	1%
Return on Sales	1c		
Safety statistics	1c		
Working capital statistics	1c		
Capital Expenditure vs Depreciation	1c		
No Reply	11(d-n)	79%	16%

SOURCES OF CSFS

Q34. Please rate in order of importance the sources of key performance indicators (csfs) most critical to performance management with one being the most important, two, the next most important and so on?

Those linked to strategic objectives	1	2	3	4	5	No Reply
Number	10			2	2	
% surveyed	71%			14%	14%	
% population	15%			3%	3%	
Mode	**Median**	**Mean**	**Range**			
1	1	2	1 to 5			

Those relative to your environment	1	2	3	4	5	No Reply
Number	2	2	4	2	4	
% surveyed	14%	14%	29%	14%	29%	
% population	3%	3%	6%	3%	6%	
Mode	**Median**	**Mean**	**Range**			
3	3	3	1 to 5			

Those relative to your industry	1	2	3	4	5	No Reply
Number		2	4	4		4
% surveyed		14%	29%	29%		29%
% population		3%	6%	6%		6%
Mode	**Median**	**Mean**	**Range**			
3	3	3	2 to 4			

Those benchmarked against competitors	1	2	3	4	5	No Reply
Number		6		2	4	2
% surveyed		43%		14%	29%	14%
% population		9%		3%	6%	3%
Mode	**Median**	**Mean**	**Range**			
2	3	3	2 to 5			

Those based on internal capabilities	1	2	3	4	5	No Reply
Number		4	6	2	2	
% surveyed		29%	43%	14%	14%	
% population		6%	9%	3%	3%	
Mode	**Median**	**Mean**	**Range**			
3	3	3	2 to 5			

EXTENT-TARGETS

Q35. Do you apply targets for each kpi (csf) in performance management?	Always	Usually	Sometimes	Seldom	Never
Number of Replies	2	10	2		
Percentage of Population Replies	14%	71%	14%		
Percentage of Entire Population	3%	15%	3%		

Mode	Median	Mean	Range		Standard deviation
Usually	Usually	Usually	Always to Sometimes		Usually

Q36. What methods do you use to determine your targets?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Incremental to previous year	14	100%	21%
Benchmarked against industry	12	86%	18%
Market share	4	29%	6%
Profitability	10	71%	15%
Customer retention	2	14%	3%
Turnover	4	29%	6%
Strategic Alignment	10	71%	15%
Agreed Budget/Strategic Plan	1	7%	1%

Q37. Which method do you consider the most important?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Incremental to previous year	2	14%	3%
Benchmarked against industry	4	29%	6%
Market share			
Profitability	4	29%	6%
Customer retention			
Turnover			
Strategic alignment	2	14%	3%
No single 'most important' as kpi's are diverse	2	14%	3%

Q38. Do you review your targets when your competitive environment changes?	Always	Usually	Sometimes	Seldom	Never
Number of Replies	6	8			
Percentage of Population Replies	43%	57%			
Percentage of Entire Population	9%	12%			

Mode	Median	Mean	Range		Standard deviation
Usually	Usually	Usually	Always to Usually		Usually

EXTENT-MEASURES AND EVALUATION

Q39. Do you measure performance against targets?	Always	Usually	Sometimes	Seldom	Never
Number of Replies	6	8			
Percentage of Population Replies	43%	57%			
Percentage of Entire Population	9%	12%			

Mode	Median	Mean	Range		Standard deviation
Usually	Usually	Usually	Always to Usually		Usually

Q40. Do you review your targets if they are not being achieved?	Always	Usually	Sometimes	Seldom	Never
Number of Replies	8	4	2		
Percentage of Population Replies	57%	29%	14%		
Percentage of Entire Population	12%	6%	3%		

Mode	Median	Mean	Range		Standard deviation
Always	Always	Usually	Always to Sometimes		Sometimes

Q41. Do you evaluate the reasons for not reaching those targets?	Always	Usually	Sometimes	Seldom	Never
Number of Replies	10	4			
Percentage of Population Replies	71%	29%			
Percentage of Entire Population	15%	6%			

Mode	Median	Mean	Range		Standard deviation
Always	Always	Always	Always to Usually		Usually

EXTENT-TAKING CORRECTIVE ACTION

Q42. Does your evaluation lead to strategic realignment (corrective action)?	Always	Usually	Sometimes	Seldom	Never
Number of Replies		10	4		
Percentage of Population Replies		71%	29%		
Percentage of Entire Population		15%	6%		

Mode	Median	Mean	Range		Standard deviation
Usually	Usually	Usually	Usually to Sometimes		Usually

Section D - This section explores the opinion of publicly listed companies in relation to the practice of key performance indicators (csfs) in performance management.

Q43. What is your opinion regarding the following statements referencing the benefits of using key performance indicators (csfs)?

Q43a. Kpi's (csfs) are successful at focusing information systems development on the collection of data relevant for strategic performance.	Strongly agree	Mildly agree	Neither agree or disagree	Mildly disagree	Strongly disagree
Number of Replies	6	6	2		
Percentage of Population Replies	43%	43%	14%		
Percentage of Entire Population	9%	9%	3%		

Mode	**Median**	**Mean**	**Range**		**Standard deviation**
Strongly agree/ Mildly agree	Mildly agree	Mildly agree	Strongly agree to Neither agree or disagree		Neither agree or disagree

Q43b. Kpi's (csfs) are successful at focusing manager's attention on those critical factors.	Strongly agree	Mildly agree	Neither agree or disagree	Mildly disagree	Strongly disagree
Number of Replies	6	8			
Percentage of Population Replies	43%	57%			
Percentage of Entire Population	9%	12%			

Mode	**Median**	**Mean**	**Range**		**Standard deviation**
Mildly agree	Mildly agree	Mildly agree	Strongly agree to Mildly agree		Mildly agree

Q43c. Kpi's (csfs) are easy to understand.	Strongly agree	Mildly agree	Neither agree or disagree	Mildly disagree	Strongly disagree
Number of Replies	2	10	2		
Percentage of Population Replies	14%	71%	14%		
Percentage of Entire Population	3%	15%	3%		

Mode	**Median**	**Mean**	**Range**		**Standard deviation**
Mildly agree	Mildly agree	Mildly agree	Strongly agree to Neither agree or disagree		Mildly agree

Q43d. Kpi's (csfs) are easy to use.	Strongly agree	Mildly agree	Neither agree or disagree	Mildly disagree	Strongly disagree
Number of Replies		8	4	2	
Percentage of Population Replies		57%	29%	14%	
Percentage of Entire Population		12%	6%	3%	

Mode	Median	Mean	Range	Standard deviation	
Mildly agree	Mildly agree	Neither agree or disagree	Mildly agree to Mildly disagree	Neither agree or disagree	

Q43e. Kpi's (csfs) are inexpensive to implement.	Strongly agree	Mildly agree	Neither agree or disagree	Mildly disagree	Strongly disagree
Number of Replies		6	2	4	2
Percentage of Population Replies		43%	14%	29%	14%
Percentage of Entire Population		9%	3%	6%	3%

Mode	Median	Mean	Range	Standard deviation	
Mildly agree	Neither agree or disagree	Neither agree or disagree	Mildly agree to Strongly disagree	Mildly disagree	

Q43f. Kpi's (csfs) are successful at supporting the achievement of strategic objectives.	Strongly agree	Mildly agree	Neither agree or disagree	Mildly disagree	Strongly disagree
Number of Replies	6	8			
Percentage of Population Replies	43%	57%			
Percentage of Entire Population	9%	12%			

Mode	Median	Mean	Range	Standard deviation	
Mildly agree	Mildly agree	Mildly agree	Strongly agree to Mildly agree	Mildly agree	

Q43g. The evaluation of kpi's (csfs) enables corrective action to be taken at the earliest possible time.	Strongly agree	Mildly agree	Neither agree or disagree	Mildly disagree	Strongly disagree
Number of Replies	4	6	4		
Percentage of Population Replies	29%	43%	29%		
Percentage of Entire Population	6%	9%	6%		

Mode	Median	Mean	Range	Standard deviation	
Mildly agree	Mildly agree	Mildly agree	Strongly agree to Neither agree or disagree	Neither agree or disagree	

Q43h. Kpi's (csfs) when assigned to managers are effective for performance appraisal.	Strongly agree	Mildly agree	Neither agree or disagree	Mildly disagree	Strongly disagree
Number of Replies	4	6	4		
Percentage of Population Replies	29%	43%	29%		
Percentage of Entire Population	6%	9%	6%		

Mode	Median	Mean	Range		Standard deviation
Mildly agree	Mildly agree	Mildly agree	Strongly agree to Neither agree or disagree		Neither agree or disagree

Q43i. Kpi's (csfs) are easy to change as the environment changes.	Strongly agree	Mildly agree	Neither agree or disagree	Mildly disagree	Strongly disagree
Number of Replies		6	4	2	2
Percentage of Population Replies		43%	29%	14%	14%
Percentage of Entire Population		9%	6%	3%	3%

Mode	Median	Mean	Range		Standard deviation
Mildly agree	Neither agree or disagree	Neither agree or disagree	Mildly agree to Strongly disagree		Mildly disagree

Q43j. Kpi's (csfs) use both financial and non-financial measures which support successful performance.	Strongly agree	Mildly agree	Neither agree or disagree	Mildly disagree	Strongly disagree
Number of Replies	8	4	2		
Percentage of Population Replies	57%	29%	14%		
Percentage of Entire Population	12%	6%	3%		

Mode	Median	Mean	Range		Standard deviation
Strongly agree	Strongly agree	Mildly agree	Strongly agree to Neither agree or disagree		Neither agree or disagree

Q43k. Kpi's (csfs) are a flexible process with no fixed framework.	Strongly agree	Mildly agree	Neither agree or disagree	Mildly disagree	Strongly disagree
Number of Replies	2	4	6	2	
Percentage of Population Replies	14%	29%	43%	14%	
Percentage of Entire Population	3%	6%	9%	3%	

Mode	Median	Mean	Range		Standard deviation
Neither agree or disagree	Neither agree or disagree	Neither agree or disagree	Strongly agree to Mildly disagree		Neither agree or disagree

Q44. What is your opinion regarding the following statements referencing the demerits of using key performance indicators (csfs)?

Q44a. Kpi's (csfs) are difficult to identify.	Strongly agree	Mildly agree	Neither agree or disagree	Mildly disagree	Strongly disagree
Number of Replies	4		2	8	
Percentage of Population Replies	29%		14%	57%	
Percentage of Entire Population	6%		3%	12%	
Mode	**Median**	**Mean**	**Range**	**Standard deviation**	
Mildly disagree	Mildly disagree	Neither agree or disagree	Strongly agree to Mildly disagree	Strongly disagree	

Q44b. The kpi's (csfs) cause and effect link can be difficult to understand.	Strongly agree	Mildly agree	Neither agree or disagree	Mildly disagree	Strongly disagree
Number of Replies	4		8	2	
Percentage of Population Replies	29%		57%	14%	
Percentage of Entire Population	6%		12%	3%	
Mode	**Median**	**Mean**	**Range**	**Standard deviation**	
Neither agree or disagree	Neither agree or disagree	Neither agree or disagree	Strongly agree to Mildly disagree	Mildly disagree	

Q44c. Wrongly designed kpi's (csfs) can lead to dysfunctional behaviour.	Strongly agree	Mildly agree	Neither agree or disagree	Mildly disagree	Strongly disagree
Number of Replies	6	6	2		
Percentage of Population Replies	43%	43%	14%		
Percentage of Entire Population	9%	9%	3%		
Mode	**Median**	**Mean**	**Range**	**Standard deviation**	
Strongly agree/ Mildly agree	Mildly agree	Mildly agree	Strongly agree to Neither agree or disagree	Neither agree or disagree	

Q44d. Excessive kpi's can prevent good performance against all measures.	Strongly agree	Mildly agree	Neither agree or disagree	Mildly disagree	Strongly disagree
Number of Replies	8	2	2	2	
Percentage of Population Replies	57%	14%	14%	14%	
Percentage of Entire Population	12%	3%	3%	3%	
Mode	**Median**	**Mean**	**Range**	**Standard deviation**	
Strongly agree	Strongly agree	Mildly agree	Strongly agree to Mildly disagree	Mildly disagree	

OPINION ON THE USE OF CSFS IN PERFORMANCE MANAGEMENT

Q45. What is your opinion in regard to the following statement?

Q45. Kpi's (csfs) contribute to successful performance management.	Strongly agree	Mildly agree	Neither agree or disagree	Mildly disagree	Strongly disagree
Number of Replies	4	10			
Percentage of Population Replies	29%	71%			
Percentage of Entire Population	6%	15%			

Mode	Median	Mean	Range		Standard deviation
Mildly agree	Mildly agree	Mildly agree	Strongly agree to Mildly agree		Mildly agree

Section E - MISCELANEOUS MATTERS

Q46. Would you like a copy of the findings of this research?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Yes	10	71%	15%
No	4	29%	6%

Q47. Do you see any merit in researching csfs (kpi's)?	Number of Replies	Percentage of Population Replies	Percentage of Entire Population
Yes	8	57%	12%
No	4	29%	6%
No Response	2	14%	3%

Q48. If yes, briefly state the merit of this research, in your opinion?
Useful in current management theory research
Kpi's are a useful tool. Therefore research on them has merit. However kpis are most useful when designed specifically for a business area. So there is a risk that research can be too theoretical and not directly transferable to a real business situation.

Appendix 3 - Tables of results

Table 1: Sources of csfs (percentages)

Sources of Csfs	1	2	3	4	5	No Reply
Those linked to strategic objectives	71%			14%	14%	
Those relative to your environment	14%	14%	29%	14%	29%	
Those relative to your industry		14%	29%	29%		29%
Those benchmarked against competitors		43%		14%	29%	14%
Those based on internal capabilities		29%	43%	14%	14%	

Table 2: Sources of csfs (mode, median, mean and range)

Sources of Csfs	Mode	Median	Mean	Range
Those linked to strategic objectives	1	1	2	1 to 5
Those relative to your environment	3	3	3	1 to 5
Those relative to your industry	3	3	3	2 to 4
Those benchmarked against competitors	2	3	3	2 to 5
Those based on internal capabilities	3	3	3	2 to 5

Table 3: Measuring performance/Evaluating performance/

Taking corrective action (mode, median, mean and range)

	Mode	**Median**	**Mean**	**Range**
Measure performance against targets	Usually	Usually	Usually	Usually To Always
Review targets if they are not being achieved	Always	Always	Usually	Always to Sometimes
Evaluate the reasons for not reaching targets	Always	Always	Always	Always to Usually
Does evaluation lead to strategic realignment	Usually	Usually	Usually	Usually to Sometimes

Table 4: Measuring performance/Evaluating performance/

Taking corrective action (percentages)

	Always	Usually	Some-times	Seldom	Never
Measure performance against targets	43%	57%			
Review targets if they are not being achieved	57%	29%	14%		
Evaluate the reasons for not reaching targets	71%	29%			
Does evaluation lead to strategic realignment		71%	29%		

Table 5: Opinions regarding the following statements referencing the benefits of using key performance indicators (mode, median, mean and range)

	Mode	**Median**	**Mean**	**Range**
Csfs are successful at focusing information systems development	Mildly agree/ Strongly agree	Mildly agree	Mildly agree	Strongly agree to neither agree or disagree
Csfs are successful at focusing manager's attention on those critical factors.	Mildly agree	Mildly agree	Mildly agree	Strongly agree to mildly agree
Csfs are easy to understand.	Mildly agree	Mildly agree	Mildly agree	Strongly agree to neither agree or disagree
Csfs are easy to use.	Mildly agree	Mildly agree	Neither agree or disagree	Mildly agree to mildly disagree
Csfs are inexpensive to implement.	Mildly agree	Neither agree or disagree	Neither agree or disagree	Mildly agree to Strongly disagree
Csfs are successful at supporting the achievement of strategic objectives.	Mildly agree	Mildly agree	Mildly agree	Strongly agree to mildly agree

The evaluation of csfs enables corrective action to be taken at the earliest possible time.	Mildly agree	Mildly agree	Mildly agree	Strongly agree to neither agree or disagree
Csfs when assigned to managers are effective for performance appraisal.	Mildly agree	Mildly agree	Mildly agree	Strongly agree to neither agree or disagree
Csfs are easy to change as the environment changes.	Mildly agree	Neither agree or disagree	Neither agree or disagree	Mildly agree to Strongly disagree
Csfs use both financial and non-financial measures, which support successful performance.	Strongly agree	Strongly agree	Mildly agree	Strongly agree to Neither agree or disagree
Csfs are a flexible process with no fixed framework.	Neither agree or disagree	Neither agree or disagree	Neither agree or disagree	Strongly agree to Mildly disagree

Table 6: Opinions regarding the following statements referencing the benefits of using key performance indicators (percentages)

	Strongly agree	Mildly agree	Neither agree or dis-agree	Mildly dis-agree	Strongly dis-agree
Csfs are successful at focusing information systems development	43%	43%	14%		
Csfs are successful at focusing manager's attention on those critical factors.	43%	57%			
Csfs are easy to understand.	14%	71%	14%		
Csfs are easy to use.		57%	29%	14%	
Csfs are inexpensive to implement.		43%	14%	29%	14%
Csfs are successful at supporting the achievement of strategic objectives.	43%	57%			
The evaluation of csfs enables corrective action to be taken at the earliest possible time.	29%	43%	29%		
Csfs when assigned to managers are effective for performance appraisal.	29%	43%	29%		

Csfs are easy to change as the environment changes.		43%	29%	14%	14%
Csfs use both financial and non-financial measures, which support successful performance.	57%	29%	14%		
Csfs are a flexible process with no fixed framework.	14%	29%	43%	14%	

Table 7: Opinions regarding the following statements referencing the demerits of using key performance indicators (mode, median, mean and range)

	Mode	Median	Mean	Range
Csfs are difficult to identify.	Mildly disagree	Mildly disagree	Neither agree or disagree	Strongly agree to Mildly disagree
The csfs cause and effect link can be difficult to understand.	Neither agree or disagree	Neither agree or disagree	Neither agree or disagree	Strongly agree to mildly disagree
Wrongly designed csfs can lead to dysfunctional behaviour.	Strongly agree/ Mildly agree	Mildly agree	Mildly agree	Strongly agree to Neither agree or disagree
Excessive kpi's can prevent good performance against all measures.	Strongly agree	Strongly agree	Mildly agree	Strongly agree to Mildly disagree

Table 8: Opinions regarding the following statements referencing the demerits of using key performance indicators (percentages)

	Strongly agree	Mildly agree	Neither agree or disagree	Mildly dis-agree	Strongly dis-agree
Csfs are difficult to identify.	29%		14%	57%	
The csfs cause and effect link can be difficult to understand.	29%		57%	14%	
Wrongly designed csfs can lead to dysfunctional behaviour.	43%	43%	14%		
Excessive kpi's can prevent good performance against all measures.	57%	14%	14%	14%	

Table 9: Opinions regarding the overall assessment of the contribution csfs make to performance management (percentages and mode, median, mean and range)

	Strongly agree	**Mildly agree**	**Neither agree or disagree**	**Mildly dis-agree**	**Strongly disagree**
Csfs contribute to successful performance management.	29%	71%			
		Mode	**Median**	**Mean**	**Range**
Csfs contribute to successful performance management.		Mildly agree	Mildly agree	Mildly agree	Strongly agree to Mildly agree

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