Insights from the Balanced Scorecard
Performance measurement systems: successes, failures and future – a review

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Summary

Purpose – *The purpose of this paper is to evaluate Balanced Scorecard by listing claims made by its authors and counterclaims made by other scholars/authors; to justify further research for answering the question ''how to measure'' in a broad manner; and to justify further research in ''dynamic performance measurement systems for global organisations''.*

Design/methodology/approach – *By referencing relevant literature, this paper first evaluates Balanced Scorecard. In its second part, the problems associated with designing and implementing performance measures are listed and lack of research in dynamic performance measurement systems for global organisations is brought to attention. The third part emphasises the need for further research to address the issues mentioned in part two.*

Findings – *The literature reveals that Balanced Scorecard still prevails as the dominant performance measurement system. Successful implementations, however, are much less prevalent and translating Balanced Scorecard to concrete action is still a problematic area.*

Research limitations/implications – *A vast, multidisciplinary volume of literature is available on performance measurement. This review has referenced mostly recent (2000-2005) literature.*

Practical implications – *This review provides a reference for academics/practitioners by listing and organising major claims made by authors of Balanced Scorecard and counterclaims made by other authors/scholars. This review also brings to notice the difficulties associated with designing and implementing measures, identifying opportunities for ongoing research.*

Originality/value – *This paper forms the basis for a new research direction that considers global organisations and explores the design of a dynamic performance measurement system that operates within an integrated framework of business processes.*

Keywords *Balanced scorecard, Performance measures, International organizations*

Paper type *Literature review*

Structure of this paper

This review is structured into three main parts: the first part discusses Balanced Scorecard as a popular performance measurement framework and later on, its strengths and weaknesses, as documented in relevant literature. The essence of this discussion is Table I, in which major claims made by the authors of Balanced Scorecard and counterclaims made by several other scholars are tabulated. The second part, while identifying the problems associated with designing and implementing performance measures points to a lack of dynamic performance measurement systems. It demonstrates the necessity for further research into ''the design of performance measures'' and ''dynamic performance measurement systems''. The third part of this review explores the idea of a performance measurement system as applicable to an integrated structure of processes, virtual or semi-virtual teams and individuals within global organisations operating in dynamic business environments.

Introduction

> The only man I know who behaves sensibly is my tailor; he takes my measurements anew each time he sees me. The rest go on with their old measurements and expect me to fit them (George Bernard Shaw).

Globalisation, constant innovations and well-informed customers have made modern business environments dynamic and complex. Organisations, with their ever-changing business models, are striving to improve the quality of their products and services. Congruently, several management theories have evolved. Total Quality Management (TQM), Just in Time (JIT), Benchmarking, Lean Management, Balanced Scorecard and Six Sigma are some of the more well known. Each movement with its own life span, its share of popularity and level of acceptance has the same basic goal – improvement in quality by measuring performance. Recent years have seen an upsurge in the approaches and contributions to the field of performance measurement:

> New reports and articles on the topic have been appearing at a rate of one every five hours every working day since 1994. A search of World Wide Web reveals over 12 million sites dedicated to it (performance measurement), up from under 200,000 in 1997 (Neely, 2002).

It is clear that business performance measurement has become a multi-million dollar industry (Neely, 2002). The traditional performance measurement systems based on financial metrics alone have been deemed inadequate and more attention is being paid to non-financial metrics. Several broader performance measurement systems have been designed, of which Balanced Scorecard (Kaplan and Norton, 1996) has been the least criticized and most widely accepted. A high rate of failure and many practical difficulties however, are associated with the implementation of BSC. There is further scope for research in ''design of performance measures'' as the problems faced in selection and operationalisation of performance measures are well documented in literature. Similarly, little research has been done on the performance measurement of virtual teams and individuals within global organisations operating in dynamic business environments. This literature review deals with two main issues: defining the traits of performance measures and designing a dynamic performance measurement system as applicable to global organisations.

Popular frameworks, Balanced Scorecard and its strengths and weaknesses

Popular frameworks

Neely *et al.* (2003) introduced a highly plausible concept of third generation performance measurement systems. As per their work, BSC (Kaplan and Norton, 1996), Skandia's Navigator (Edvinsson and Marlone, 1997) and the Performance Prism (Neely *et al.*, 2002) can be considered as the first generation performance measurement frameworks. The examples of second-generation frameworks are Strategy Maps (Kaplan and Norton, 2000), Success and Risk Maps (Neely *et al.*, 2002) and the IC-Navigator model developed by Goran Roos and collegues (Roos *et al.*, 1997; Chatzkel, 2002). The authors, in the same article specify that first generation frameworks supplement the traditional financial measures with non-financial measures, whereas the second-generation models allow visualisation of the linkage between intangible assets and business value. The authors further state that the challenge for third generation performance measurement approaches is to maintain the usefulness of the second-generation approaches while extending the measurement to flows of cash. Neely *et al.* emphasize that third generation frameworks must evolve with the change that takes place in organisations to maintain their relevancy.

Various journal articles and surveys confirm that of all the above-mentioned performance measurement systems, the BSC is the most popular, least criticized and widely implemented. ''The latest data from Gartner, the Connecticut-based research organisation, suggests that over 70 per cent of large US firms had adopted the balanced scorecard by the end of 2001'' (Neely, 2003). A recent Bain and Company survey of more

than 708 companies on five continents found that BSC was used by 62 per cent of responding organisations (Hendricks *et al.*, 2004).

Balanced Scorecard

Developed initially in 1992 by Robert Kaplan and David Norton, the Balanced Scorecard took an innovative approach to performance measurement, which appealed to many. The founders argued that financial measures tell the story of past events and hence are inadequate for information age companies. The Balanced Scorecard complements financial measures of past performance with measures of the drivers of future performance (Kaplan and Norton, 1996, pp. 7-8). BSC, as a strategic management system integrates financial and non-financial perspectives. In each perspective, strategy/vision is translated into specific objectives, goals and measures. The objectives and goals along with the designed performance measures are communicated throughout the organisation. Targets are planned and set to align with strategic initiatives and strategic feedback and learning is enhanced.

Evaluation of Balanced Scorecard

There are two broad streams in literature: one acknowledges and advocates BSC through success stories and the other stream seeks scientific evidence of whether balanced scorecard implementation is actually linked to improved organisational performance. (For a summary of major claims and counterclaims, see Table I.)

Kaplan and Norton have included some glowing success stories in their 1996 book, *Translating Strategy into Action – The Balanced Scorecard*. They describe BSC as ''balanced'', between objective outcome measures and subjective performance drivers of outcome measures. The authors also claim that BSC has a great impact when deployed to drive organisational change (Kaplan and Norton, 1996, p. 13). The authors further argue that the emphasis on ''cause and effect'' in constructing a scorecard introduces dynamic systems thinking (Kaplan and Norton, 1996, p. 15). A few uncritical proponents (Gumbus and Lyons, 2002; Latshaw and Choi, 2002; Berkman, 2002) agree that BSC is an effective performance measurement tool. Several others acknowledge that along with successful

Table I Major claims and counterclaims on Balanced Scorecard

No.	*Claims made by Kaplan and Norton, authors of BSC (1996)*	*Counterclaims made by other scholars/authors*	*Ref. no.*	*Comments*
1.	BSC includes people/employee perspective under learning and growth perspective (3: pp. 12, 34) and supplier should be incorporated within the internal process perspective (3: p. 35)	1. People, and suppliers, are excluded and regulators and competitors are ignored 2. The learning and growth perspective of a BSC has been considered its weakest aspect for a long time, a fact admitted by the authors themselves	a,b	In today's dynamic business environments, awareness about competitors and supplier relationship are vital to survival and success and, as such, need more focus
2.	No mathematical theorem exists that four perspectives are both necessary and sufficient (3:p 34)	1. Environmental and community or social issues/aspects are missing	a,b,c	Adding too many perspectives might lead to over quantification and increased computerization expenses
3.	Emphasis on ''cause and effect'' in constructing a scorecard introduces dynamic systems thinking (3: p. 15)	1. This causal relationship is criticized as overly simplified and challenged by academics and practitioners 2. BSC is static in nature	c,d,e	
4.	BSC has a great impact when deployed to drive organisational change (3: pp. 13, 15). The authors of BSC also imply that BSC usage leads to improvement in organisational performance	There is no empirical or scientific evidence that implementation of BSC leads to improved performance	f,g,h	

Notes: [a]Bourne (2002); [b]Marr and Adams (2004); [c]Brignall (2002); [d]Nürreklit (2003); [e]Neely *et al.* (2003); [f]Hendricks (2004); [g]Neely *et al.* (2004); [h]Merchant, while being interviewed by de Waal (2005)

implementations, there are many unsuccessful implementations (Venkatraman and Gering, 2000; Olve *et al.*, 2004; Pforsich, 2005; Dent, 2005). In these journal articles, the unsuccessful implementations are implied to be a result of one or more of these factors: selection of inappropriate or excessive measures, inefficient implementation by the management, delay in feedback or over-emphasis on financial measures. A survey conducted by the Hackett Group (2004) and an article published by *Logistics Today* (2005) conveys the same. Ho and Mckay (2002) examine the implementation of BSC within two organisations and find that one of them was extremely satisfied with BSC, while the other found BSC an ineffective management tool and discarded it. The authors imply that delay in feedback and an unmanageable number of parameters selected by the second organisation might have contributed to discarding BSC. In a review of BSC 12 years after its introduction, Olve *et al.* (2004) suggest that BSC is an effective tool for communication and leads to strategic alignment. By contrast, an empirical study conducted by Malina and Selto (2001) found that effective communication is neither associated with nor causes strategic alignment, effective motivation or positive outcomes. The same study finds that effective management control using the BSC appears to indirectly cause positive outcomes through strategic alignment. Bourne (2002) points out that BSC is designed to implement the chosen strategy, but fails to ask the question whether the chosen strategy is the right strategy for the business.

People, suppliers and regulators. Some of the criticisms directed at balanced scorecard are that people and suppliers are excluded and regulators and competitors are ignored (Bourne, 2002), or that environmental and community or social issues/aspects are missing (Bourne, 2002; Brignall, 2002; Marr and Adams, 2004). Kaplan and Norton include the term ''people'' under learning and growth perspective (Kaplan and Norton, 1996, pp. 12, 127). They further highlight that the ''employee perspective is certainly incorporated within the learning and growth perspective'' (Kaplan and Norton, 1996, pp. 34-5). The learning and growth perspective of a BSC has been considered its weakest aspect for a long time, a fact admitted by the authors themselves (Marr and Adams, 2004). Kaplan and Norton (1996) argue that the supplier should be incorporated within the internal process perspective. But, in today's business environment, awareness about suppliers and competitors is vital to survival and their mere incorporation within internal process perspective might not be sufficient.

Environmental and social aspects. On including environmental and social aspects, Kaplan and Norton explicitly specify that ''(n)o mathematical theorem exists that four perspectives are both necessary and sufficient'' (Kaplan and Norton, 1996, p. 34). This clearly means that more perspectives can be added as per requirements. Adding more perspectives however will merely lead to more measures and increased complexity, which invariably impacts on the cost of implementation. In this regard, automation of BSC cannot be overlooked – ''The reporting software package prices vary enormously from a few thousand dollars to far over a million dollars, with typical spends and investments in the region of $200,000 for reasonable sized organisations'' (Marr and Neely, 2003). Plus there are costs associated with measuring[1].

Static or dynamic? One of the other criticisms is that BSC is static in nature (Neely *et al.*, 2003), despite Kaplan and Norton's claim that the emphasis on ''cause and effect'' in constructing a scorecard introduces dynamic systems thinking (Kaplan and Norton, 1996, p. 15). This causal relationship however, is criticized as overly simplified and challenged by academics and practitioners (Brignall, 2002; Nürreklit, 2003). Merchant, while being interviewed by de Waal (2005) and Hendricks *et al.* (2004), as well as Neely *et al.* (2004), point out the most important criticism – there is no empirical or scientific evidence that implementation of balanced scorecard leads to improved performance.

This debate is fuelling considerable research. Neely *et al.* (2004) carried out an empirical investigation to explore the performance impact of BSC by employing a quasi-experimental design methodology. They found that while analyzing the data from a business that implemented BSC, it appeared that implementation might have had a positive impact on sales, gross profit and net profit; but while comparing the business's performance with its sister company (which did not implement BSC) these findings could be questioned. The

researchers conclude that further analysis needs to be carried out on these data and these studies need to be replicated in other settings. Merchant, in an interview conducted by de Waal (2005) points out that ''Normative statements are made, such as that the BSC is suitable for every company in every situation and will have positive effects, and there is very little scientific evidence to back up these statements''. Hoque and James(2000) examine the relationship between organisation size, product life-cycle stage, market position, balanced scorecard usage and organisational performance. Based on a survey of 66 Australian manufacturing companies, the study indicates that larger firms make more use of a BSC. It also suggests that greater BSC usage is associated with improved performance, but this relationship is largely independent of organization size, product life cycle or market position. Irrespective of detractors and debate over its ''success'', BSC still prevails as an influential and widely accepted framework for performance measurement and whether implementation of BSC leads to improved and sustained performance needs to be explored further.

Design of performance measures

In the literature, there are enough guidelines for selection and design of performance measures. Despite that, in practice there are many problems associated with selecting and designing performance measures. The high rate of failure of BSC implementation, which still remains a major issue of concern, is shown to be partly associated with metrics mismanagement. According to the Hackett Group's survey (2004), less than 20 per cent of companies who invested in BSC have mature balanced scorecard implementations that are generating value. The survey argues that most companies rely on too many metrics and heavily weighted internal finance data, making the scorecards unbalanced. Pforsich (2005) echoes this, claiming that there is a high rate of failure when it comes to BSC implementations, and points out along with Chow (1998) that when it comes to implementation of BSC, translating general concepts into concrete action and operationalisation of measures is challenging. Neely (2003) emphatically states that today's management crisis is ''drowning in data'', owing to too much being measured. No doubt, the kernel of a performance measurement framework is its measures.

Bourne[2] states rightfully ''designing performance measurement systems is all about deciding which measures to select and just as importantly, which measures to ignore.'' There are enough guidelines in literature on designing effective performance measures. Neely *et al.* (1997) explore what constitutes a well-designed performance measure and provide a good framework which can be used to design and audit performance measures. Some journal articles narrate obstacles and mistakes commonly made while designing performance measures (Manoochehri, 1999; Neely and Bourne, 2000; Dalton, 2004). All of these however specify ''what'' to measure and not ''how'' to measure, which is an equally important part of a performance measurement system. Ironically, Robert Kaplan in an interview conducted by De Waal (2003) acknowledged this flaw – ''It is interesting to notice that neither David Norton nor I is an expert in measurement techniques. David says: 'We are experts in what to measure, not in how to measure."' An anonymous article in the *Management Accounting Review* (1994) tries to define attributes of good performance measures, highlighting 24 attributes that can be used as a guideline for designing metrics. More recently, Tangen (2005) has tried to answer ''how to measure'' by forming/selecting a formula that fulfills the purpose of a measure and defining 15 parameters that fully specify a measure. In practice however, ''how to measure'' is complicated and cannot be addressed by a simple formula. Tangen, in the same article accepts that the usefulness of such formulas is rather limited and it is not possible to create a perfect measure. This justifies further research in designing performance measures.

Dynamic performance measurement systems

Neely *et al.* (2003) state that first generation performance measurement systems are static. There is significant literature on designing Performance Measurement Systems (PMS) with many providing a good set of directions (Neely *et al.*, 2000; Bourne *et al.*, 2000). The performance measurement systems however, keep evolving. To date, very few people have explored how this evolution can be managed, a fact confirmed by Neely (1999). Waggoner

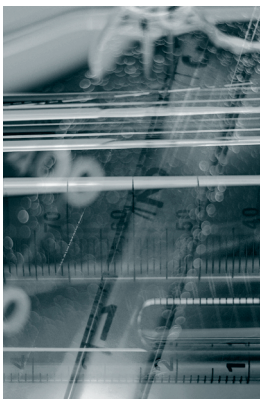
et al. (1999) identify and outline several forces, which shape the evolution and change of organisational performance measurement systems. Kennerly and Neely (2003), actively explore the evolution of performance measurement systems further. By reviewing the relevant literature, the authors accentuate the importance of managing the evolution of performance measurement systems to make sure that they remain dynamic, reflecting the changing business environment. Next, drivers of and barriers to evolution are investigated. Research carried out by them provides an understanding of the factors that facilitate and inhibit the introduction of new measures, the modification of existing measures and deletion of obsolete measures. Two articles (Kennerley and Neely, 2003; Kennerley *et al.*, 2003) provide guidelines to maintain the relevancy of the performance measurement systems. Little work has been done however, on dynamic performance measurement systems as applicable to global organisations operating in changing business environments.

Areas for research

''How to measure''

Neely, in a conversation with Powell (2004) and Bourne[2] specifies four fundamental processes of performance measurement: measurement system design; implementation; managing through measurement; and updating/''refreshing'' the measurement system. The aspect within all of these processes that ultimately underpins the success of a PMS is: How will we measure? This question is rather broad and involves three interdependent issues – how to design the measures so that they:

1. accurately reflect the performance of the process and its people;
2. are easily (and transparently) translated into business processes for implementation; and
3. are dynamically maintained and revised in response to today's ever-changing business environments.



In practice, ''how to measure'' is an area in which organisations face numerous difficulties. This starts at the critical first decision about an appropriate selection of measures. An early issue is getting agreement among the many points of view in the hierarchy of management. When the BSC elevated performance assessment from a review of financial outcomes to a more complete look at the organization from four perspectives it created a clearer picture but much greater scope for debate over what measures should be included. Moreover, a rigid application of BSC often leads to over quantification and inappropriate measures. For example, in an effort to ensure there is a financial perspective to the assessment of staff who work in a service division checking-in over-the-counter customer products, these staff are being measured against the financial turnover of the division – something they have no control over. Customer service aspects and the accuracy of their book-in processes are the keys to their work, and while these will impact the overall financial performance of the division, they cannot be directly assessed in monetary terms.

The problem of ''how to measure'' surfaces again in the implementation stage, where translating concepts into reality becomes difficult. Often, an overabundance of measures – in the name of diligence – becomes operationally hard, unmanageable and expensive. Excessive measures can lead to contradictions of intent or over-constraint that ensures an inability to perform well against all measures. Wrongly designed, inappropriate measures drive unintended behaviors that can have harmful performance consequences. For example, in a 12-month study of office-equipment service technicians who were endeavouring to perform well against a KPI that looked for a long Mean-Time-Between-Failures, it was found that their pre-emptive replacement of parts (to avoid unexpected failures) was creating a financial burden for the company.

Keeping the 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. This issue of relevancy is an on-going dilemma for performance measurement systems that operate externally of the operational system

they are evaluating. Maintaining the mapping of operations and their assessment must be a continuous component of a PMS that runs alongside the workings of an organisation. In research that has continued from this initial analysis of the field, a process-driven PMS model has been developed to overcome this mismatch in terms of currency between the process (including its participants) and its evaluation. The rationale for this approach is that an embedded PMS will automatically update as processes change in response to changes in stakeholders' needs and organisational strategies.

It has been proposed here that answering the question of ''how to measure'' is rather broad with several related issues to be addressed. A pragmatic approach that takes a whole-system view in addressing these different aspects needs to be researched to answer the question of ''how to measure''. For this, a framework which allows selection of necessary, specific and relevant measures at the design stage needs to be sought, thus avoiding over quantification and inappropriate measures – the problem of ''drowning in data'' (Neely, 2003). Clear guidelines need to be established on designing measures and desired traits of measures. Further, more research needs to be done in relation to the practicalities of PMS implementation, including the factors or mechanisms that will facilitate dynamism.

Dynamic PMS for global organisations

The merging of technologies like digital technology, enhanced connectivity through internet and mobile networks as well as extinction of middle management layers have resulted in organisations that are futuristic and lean. It is common for multinationals like Microsoft, Nokia and others to have corporate offices in one part of the world, product development and testing in a different part of the world and marketing in yet another, making the management style virtual or semi-virtual. For most global organisations, geographical boundaries and different time zones are no longer considered as obstructions but are utilised for their potential advantage, leading to more productivity. Business is transacted through global virtual or semi-virtual teams, which employ the best skills and operate in real-time. Virtual teams are comprised of heterogeneous persons with varying levels of expertise, different cultures and social and educational backgrounds. The traditional team development concept of norming, forming, storming and performing as well as other metrics, which are applicable to face-to-face teams, cannot be applied to virtual teams. Virtual teams are often short-lived; there is very little or no time for interaction and building mutual trust and timely performance is of the utmost importance.

For a world-class performance it is important that the global processes, virtual teams and individuals within the teams in these multinationals, work in a smooth and integrated manner. Performance can be greatly enhanced if there is timely (often real-time) reporting, instant feedback, quick decisions and immediate actions. These radically different, ever changing process-team-individual structures have created a new and growing field of study, but there is currently very little in the literature on performance measurement in relation to global organisations. ''While rigorous research has been conducted in relation to performance evaluation systems, little research has been done regarding the implications of the emerging measurement paradigm for multinational corporations operating in a global environment'' (Yeniyurt, 2003). To address this gap, a performance measurement framework, which is responsive to the ever-changing business environment within which the global organisations operate, needs to be designed. While the primary design focus for such a framework needs to be being adaptive, a secondary goal should be addressing the changing structure of global business, operating within an integrated framework of business processes teams and individuals within global organisations.

Conclusion and implications for practitioners

Literature and surveys suggest that Balanced Scorecard prevails as the most influential and widely accepted performance measurement system. The implementation of Balanced Scorecard however is operationally difficult, constraining and there is no concrete evidence that it leads to improved performance. ''How to measure'' is still a rather broad and problematic area for many organisations and involves three aspects: how to select and design the measures; how to implement the measures in practice; and how to maintain and

keep them relevant to organisational changes. As such, an integrated solution addressing these three aspects needs to be found. Design of dynamic performance measurement systems for global organisations is a little researched area in a rapidly growing field. A performance measurement framework, with the primary focus of being adaptive and the secondary focus of operating within a process-driven framework, which acknowledges the team and individual structures of global organisations, needs to be designed.

This review has several implications for practitioners as well as academics. In highlighting areas of immediate research need, it also offers tacit advice to practitioners:

- blindly accepting the BSC's four perspectives and constraining the local PMSs to comply, can lead to excessive, redundant or flawed measures that drive inappropriate behaviours; and
- adding new measures to an outdated and ill-managed PMS simply compounds the confusion and inaccuracy of the system and adds to the cost of performance measurement.

These issues are ones that can be directly investigated and addressed at the operational level by practitioners. The difficulty will remain of ensuring corporate-wide fairness and transparency around such measures . . . but interim solutions must be found until research in the field is able to establish clear guidelines on the design and implementation of dynamic measures that include a pragmatic determination of ''how to measure''.

Note:

Kaplan and Norton first developed Balanced Scorecard in 1992. After that, there have been several additions and extensions to the Balanced Scorecard. Evolution of Balanced Scorecard (Cobbold and Lawrie, 2002) is a topic for yet another research paper. For this literature review, their 1996 book, *The Balanced Scorecard* is referred to.

Literature reviewed

There is a vast amount of multidisciplinary literature available on performance measurement. Harvard University Press, Cambridge University Press, MIT Sloan and *Ivey Business Journal* have published several articles on performance measurement and scholarly journals dedicated to the subject are being published regularly. It is a field of continuous endeavor to academics and business managers alike.

For this literature review, mostly recent (2000-2005) peer reviewed, scholarly and relevant literature was referred. Center for Business Performance within Cranfield School of management is a valuable source of literature for this review. With several scholarly authorities in the field of performance measurement as the faculties, the web site offers a cornucopia of journal articles, conference and white papers, surveys and research which is both wide and deep.

To pinpoint the scholarly authorities and important publications prevailing in this field, a citation analysis by Marr and Schiuma (2003) was referred to. As per the citation analysis, Robert Kaplan, David Norton and Andy Neely are the most frequently cited authors, in that order. The most frequently cited journals are *Harvard Business Review*, *International Journal of Operations & Production Management* and *Journal of Marketing* in that order. Amongst books, Robert Kaplan and David Norton's 1996 book *The Balanced Scorecard* is cited the most. In this literature review, an effort has been made to include empirical or quantitative research literature and interviews of three prominent authors.

Notes

1. Gray, D., in a white paper titled ''Cost of measuring'', published on the web site of Cranfield School of Management, available at: www.som.cranfield.ac.uk/som/research/centres/cbp/downloads/Cost%20of%20measuring%20-%20BI.pdf (accessed 7 November 2005).
2. Bourne, M., in a white paper titled ''Key performance measurement processes'', published on the web site of Cranfield School of Management, available at: www.som.cranfield.ac.uk/som/research/centres/cbp/downloads/4processes.pdf (accessed 7 November 2005).

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