



The success and failure of performance measurement initiatives

Perceptions of participating managers

Mike Bourne and Andy Neely

*Centre for Business Performance, Cranfield School of Management,
Cranfield, UK, and*

Ken Platts and John Mills

*Centre for Strategy and Performance, Manufacturing Engineering,
University of Cambridge, Cambridge, UK*

Keywords Performance measurement, Management, Implementation

Abstract *This paper investigates the success and failure of performance measurement system design interventions in ten companies. In each case, the senior management team was facilitated through a management process to redesign their performance measurement systems. Analysis of the initial pilot case studies suggested three important differences between companies that proceeded to implement the measures agreed during the process and those that did not. Post intervention semi-structured interviews with the directors and managers directly involved revealed two main perceived drivers of implementation and four perceived factors that block implementation. The results are of specific interest for performance measurement system implementation but have wider implications for our view of management commitment in change management.*

Introduction

With the balanced scorecard being cited by *Harvard Business Review* as one of the most important management tools of the last 75 years, performance measurement is currently attracting a great deal of interest among both industrialists and academics alike. However, although there are numerous balanced performance measurement frameworks (Keegan *et al.*, 1989; Lynch and Cross, 1991; Fitzgerald *et al.*, 1991; Kaplan and Norton, 1992; Neely *et al.*, 2002) and management processes for the design of performance measurement systems (Bitton, 1990; Dixon *et al.*, 1991; Kaplan and Norton, 1993, 1996; Neely *et al.*, 1996; Bititci *et al.*, 1998; Krause and Mertins, 1999), there has been less research into the success and failure of performance measurement initiatives.

From industrial conferences (e.g. Business Intelligence, 2000), one may well come to the conclusion that there are few problems with implementing new performance measurement systems. There are certainly many success stories (e.g. Kaplan and Norton, 2000, the Mobile case), but there is now a growing literature addressing the difficulties of implementation and it is claimed by some that 70 per cent of performance measurement initiatives fail (McCunn, 1998).



Much of the existing literature is based on practitioner reflections and there have been few research studies of performance measurement implementation (Lewy and Du Mee, 1998; Bourne *et al.*, 1999; Hudson *et al.*, 2001 excepted). But drawing from this literature, and categorising them using Pettigrew *et al.*'s (1989) organisational context, development process and measurement content, the main reasons for success and failure are currently believed to be:

(1) Contextual issues:

- The need for a highly developed information system (Bierbusse and Siesfeld, 1997).
- Time and expense required (Bierbusse and Siesfeld 1997; McCunn, 1998).
- Lack of leadership and resistance to change (Hacker and Brotherton, 1998; Meekings, 1995).

(2) Processual issues:

- Vision and strategy were not actionable (Kaplan and Norton, 1996) as there were difficulties in evaluating the relative importance of measures and the problems of identifying true “drivers” (Bierbusse and Siesfeld, 1997; Schneiderman, 1999).
- Strategy was not linked to resource allocation (Kaplan and Norton, 1996; Meekings, 1995).
- Goals were negotiated rather than based on stakeholder requirements (Schneiderman, 1999).
- State of the art improvement methods were not used (Schneiderman, 1999).
- Striving for perfection undermined success (McCunn, 1998; Schneiderman, 1999).

(3) Content issues:

- Strategy was not linked to department, team and individual goals (Kaplan and Norton 1996; Bierbusse and Siesfeld, 1997; Schneiderman, 1999).
- Large number of measures diluted the overall impact (Bierbusse and Siesfeld, 1997).
- Metrics were too poorly defined (Schneiderman, 1999).
- The need to quantify results in areas that are more qualitative in nature (Bierbusse and Siesfeld, 1997).

If one reviews this list, the majority of the items are process and measurement content issues; the very issues the performance measurement design processes referenced above are specifically developed to address. This leaves the classic change management issues of leadership and resistance to change with the

other contextual factors of time and expense and IT systems. Given that much is based on practitioners' reflections, further research is required.

The change management literature provides general advice about how change should be implemented (e.g. Pugh, 1978; Beer *et al.*, 1990; Duck, 1993, Eccles, 1994) and why change fails (e.g. Kotter, 1995) but there is a dearth of research based studies of performance measurement system implementations. As Frizelle's (1991) study of studies showed, there are company general attributes, project general attributes and project specific attributes. The company and project general attributes (such as top management commitment, a perceived need for change and involving the end users) are well known attributes promoted in the change management literature. However, the project specific attributes for performance measurement are not.

Therefore, this paper investigates the major factors that impact the success and failure of the implementation of a performance measurement system following action research interventions in ten manufacturing companies. All the interventions were undertaken using the same management process so that "process related factors" could be eliminated from the investigation. Although there was extensive case study data collected during six of the interventions, the results of the case and cross-case analysis raised more questions than they answered. Therefore, post intervention interviews were conducted with the 25 directors and managers who were directly involved in the performance measurement projects. The interviews focused on what the participating directors and managers perceived were the main reasons for success, the main reasons for failure and the difficulties encountered and overcome.

An analysis of the interviews revealed that the directors and managers perceived that there were six main factors that influenced success and failure. These split into two main drivers of success and four barriers. The barriers to implementation also split into two categories, those that were insurmountable, and those that nearly all companies met, but some overcame and others did not.

The paper will, therefore, make a contribution by giving us a better understanding of process success, clarifying and modifying our understanding of specific performance measurement project success factors and presenting one of the basic tenets of the change management literature in a new light. The paper will conclude by highlighting the insights and shortcomings of these findings and identifying the need for further research.

Background

All the companies involved in this research were medium sized (50-500 employees) manufacturing businesses, either privately-owned companies or subsidiaries of larger groups. The senior management team of each business (the managing director or general manager and his direct reports, see Table I) were facilitated through the same tried and tested performance measurement system design process (Neely *et al.*, 1996). Each application took between five and six workshops to complete. The intended outcome was an agreed top level balanced scorecard for the business and this was achieved in eight out of the ten applications. In two applications the management team failed to complete

	Company and given name				
	A	B	C	D	F
	Controls Ltd	Machine Shop	Components Plc	Instruments Ltd	Pumps Ltd
Ownership	Subsidiary of UK Plc	Subsidiary of large US corporation	Subsidiary of large Japanese corporation	Venture capital backed	Privately owned
Business	Control Instruments	Group central European machine shop	Components manufacturer and supplier	Manufacturers of leak detection equipment	Manufacturers of pumps and turbines
Senior team participating in process	MD, production director, commercial director and technical director, part 1 only	Group manufacturing manager, site general manager and six local managers	Managing director, two directors and four managers	Managing director and four managers	Managing Site director, four BU general managers, and 11 managers
<i>Progress</i>					
Part 1. Groups established	Yes	Yes	Yes	Yes	Yes
Part 2. Objectives agreed	Yes	Yes	Yes	Yes	Yes
Part 3. Measures designed	No	Yes	Yes	Yes	Yes
Part 4. Measures agreed	No	Yes	Yes	Yes	Yes
Part 5. Measures implemented	No	No	No	Yes	Yes

Performance measurement initiatives

Table I.
Summary of initial cases

the process. The study was deliberately limited to the implementation of the top level measures (between 7 and 17 across the cases) and excluded investigations of the further cascading of supporting measures (although there was evidence of this occurring in all successful companies).

Prior to the intervention, all the companies had been using financial performance measures as the basis of regular business level management reviews although some non-financial performance measures were in use in the main functions (e.g. sales, manufacturing). After the interventions, the eight companies completing the process populated all four of Kaplan and Norton's (1992) scorecard perspectives. None of the scorecards was unduly biased to any one perspective although the innovation and learning perspective was consistently the least measured.

The workshops were deliberately planned at three to four week intervals so that the development of the scorecard became part of every day business and not just a "weekend away" exercise. The teams completed most of the development during the workshops but the design of the measures (Neely *et al.*, 1997) was conducted outside the main workshops by members of the senior management team and their direct reports. The measures so developed were presented back to the senior team as a whole and reviewed at the following workshop. The whole design process took between 15 and 26 weeks with the subsequent implementation in successful companies (from the end of the workshops to measures being displayed around the business) a further nine to 13 months (Bourne *et al.*, 2000).

The main commitment the businesses made to the project was management time, initially in attending the workshops and developing the measures, but latterly in coordinating the implementation work of others. All implementations involved in-house IT personnel and although different approaches were used to extract the data, all used standard spread sheet technology to record and present the final measures. No external IT resources were used in any of the interventions.

Success in this research was defined as occurring when the management teams used the majority of the measures in the management of their business. The evidence to confirm this came from attending at least two board meetings, reviewing company reporting documentation and observing the measures being displayed around the business (in departments and in the canteen or other central meeting places). However, none of the companies who failed to progress their implementation denied the fact, so there was no dispute between the researchers and company personnel over whether the measures were implemented or not.

In the next section, the pilot cases are described with the interviews in the following section.

The pilot cases

Earlier research (Bourne *et al.*, 1999) investigated the success and failure of performance measurement interventions through action research case studies conducted in six manufacturing companies (hereafter referred to as the pilot cases).

During these interventions, the senior management team of the case study companies were facilitated through a performance measurement design process using a common tried and tested methodology (Neely *et al.*, 1996). Data were collected before, during and after the interventions using a detailed case study protocol (Bourne *et al.*, 1997) based on the prescriptions of Yin (1994) and Pettigrew *et al.*'s (1989) framework for research strategic change. Table I summarises the case companies involved and the progress towards implementation each achieved.

The detailed case and cross-case analysis revealed three factors in the pattern of the data that differentiated the companies that *successfully* implemented the performance measures from the companies that *did not*. These were:

- (1) *Purpose*. At the start of the project, the senior manager or director of unsuccessful companies tended to express his purpose for undertaking the project in terms of improving their companies' performance measures and performance measurement. The senior director of successful companies tended to express their purpose for undertaking the project in terms of managing the business better.
- (2) *Structure*. All the successful companies were privately owned. All the unsuccessful companies were part of larger publicly quoted groups.
- (3) *Culture*. All the successful companies had cultures that could be considered to be paternalistic. The culture of the unsuccessful companies was not described this way.

These factors are discussed in turn:

- (1) Probably the most compelling of the three factors identified above is "purpose". It could be argued that if companies clearly saw performance measurement as a technique for improving the management of the business and moving the business forward, they would be more likely to go on and implement the measures. Companies that did not have this clarity of vision would not go on to implement the measures.
- (2) The fact that privately-owned companies implemented the measures and subsidiaries of larger groups did not is an observation, not an explanation. An explanation of how the "structure" impacted implementation of the measures requires an understanding of the interactions between the parent company and its subsidiary. In particular, the interactions which negatively influenced the implementation of the performance measures need to be identified. Although there are some indications of how parent company initiatives had a negative impact on the performance measurement implementation, there is insufficient evidence from these cases to make a clear statement of how this worked in practice.
- (3) Finally, although all the successful companies had cultures which could be considered to be paternalistic, this was not measured scientifically. The attribution of "paternalistic" to the culture of the companies was made from direct observation of the strategy formulation process. The

attribution then appeared in the cross-case analysis. It can be argued that having a paternalistic culture could be beneficial for the implementation of performance measures. One would expect the fear of the consequences of measurement to be less, reducing the resistance to the implementation.

However, considering the substantial time and effort invested in conducting these six case studies, the results were disappointing. It was, therefore, decided to follow up the pilot case studies with a series of semi-structured interviews to try to obtain some greater insights into why the interventions succeeded in certain circumstances and did not in others.

The interview research

Interviews in the six pilot case companies were undertaken, as this allowed the results from the case studies to be analysed in parallel with the perceptions of the managers and directors who had directly participated in the process workshops. However, there was an opportunity to interview managers and directors of four other companies who had also undertaken the process in the 12 months preceding the pilot cases. These included three companies in which the process was facilitated by one of their own employees and one company in which the process had been facilitated by the one of the paper's authors as part of his training in using the process. These additional four companies were self-selecting as being the only other group of companies to whom the researcher had access and who had recently attempted to implement a performance measurement system using the Neely *et al.* (1996) process.

Given the small population of potential interviewee's and the dearth of our knowledge on performance measurement implementation problems, from evaluating the methodological options available (Mintzberg 1973) it was decided to adopt a grounded approach (Glaser and Straus, 1967) rather than use a formal questionnaire. Therefore, a semi-structured interview protocol was designed (and pre-tested) with the intention of gaining uninhibited responses to open ended questions concerning the reasons why implementation proceeded or not. However, there was also a concern that the interviewee may focus on one single factor and ignore other important factors. To avoid this problem and to provide some degree of consistency across interviews, a semi-structured approach was adopted, with the resulting interview format being as follows:

- each interview started with a short series of open ended questions;
- the responses to these open ended questions were probed to ensure that the interviewer understood the points being made and to gather specific examples;
- the open ended questions were followed by questions focused on a prompt list of possible factors;
- the responses to the prompt list were probed to ensure understanding.

The prompt list was developed from the original research design and so focused on Pettigrew *et al.*'s (1989) dimensions of organisational context, performance measurement content and the process of designing and

developing the measures. As can be seen from Table II, these prompts were tailored to elicit the main reasons for continuing to implement the performance measures and the main reasons for not continuing. Successful companies were also asked to identify problems they had encountered but overcome.

Data were collected during the interviews through the researcher making detailed notes as the interview was in progress. These notes were then written up within 24 hours of the interview and then later used as the basis for analysis. The analysis involved coding the responses given and using this summarised data to identify the main themes arising during the interviews.

Because the interviews were in a semi-structured format, the interviewer took advantage of the discretion this allowed to follow up the answers given to the original questions. In most of the interviews undertaken with the companies that did not proceed to implement their performance measures, detailed probing of the responses given led to far greater insights into why the initiatives failed than given in the initial bland responses. These responses were gained by asking oblique additional questions which reflected back what the interviewer had revealed but questioned the completeness of the initial response. In all cases this elicited information of a more confidential nature and as a direct result the description of the four additional cases has had to be heavily disguised.

The semi-structured interviews were conducted with directors and managers who had originally directly participated in the initial performance measurement design workshops. These interviews were conducted between nine and 18 months after the intervention so that it would be clear whether or not the measures designed and agreed during the process were implemented or not.

The results of the interviews are presented in two groups:

- (1) The participating managers in the companies who successfully implemented their performance measures (Leak Detection Ltd, Pumps Ltd and Seals: cases D, E and F from the pilot cases above).
- (2) The participating managers in the companies who did not implement their performance measures (Machine Shop, Controls Ltd and Components plc: cases A, B and C from the pilot cases above) and in four other companies who had previously attempted the process (Food, Consumer Consumables Ltd, Models Ltd and Specialist Engineering: cases G, H, I and J).

The successful companies

Leak Detection Ltd, Pumps Ltd and Seals all progressed to implement the performance measures designed and agreed during the performance measurement workshops. The next section focuses on the reasons for continuing and the following section discusses the difficulties overcome.

Table II.
Summary of prompted
interview responses

Reasons for continuing from list	Frequency of response	Reasons for not continuing from list	Frequency of response	Difficulties overcome from list	Frequency of response
This was exactly the kind of initiative we needed	6	This kind of initiative was never going to work here		Doing this kind of initiative was always going to be difficult in this company	3
People made time for the project	2	There was a lack of management time	2	There was a lack of management time	3
We got good early results	4	We had problems implementing the measures/action plans we designed	1	We had problems implementing the measures/action plans we designed	5
The key people pushed the project along	5	Key people left and the momentum was lost		Key people left and the momentum was lost	
The project was given priority	4	The project was overtaken by other events	3	The project was nearly overtaken by other events	2
Senior management were committed to doing this	8	Senior management commitment to the project waned	3	Senior management commitment to the project waned	
We had not got everything out of the project by then	5	We got what we wanted from the project and stopped	1	We got what we initially wanted from the project and there was pressure to stop	
The project was well managed and coordinated	2	The project was badly managed or coordinated	2	The project was badly managed or coordinated	1
The facilitation brought out the key issues	7	The facilitation didn't meet up to our requirements		The facilitation didn't meet up to our requirements	
The process focused us on key points	5	The process was too cumbersome	1	The process was difficult to use	1
There was enthusiasm to continue after the facilitator left	1	The facilitator left and the project petered out		The facilitator left and momentum was lost	
We were getting a lot out of the process for the time we took	6	We did not think the results were worth the effort we put into the project	1	Some did not think the results were worth the effort we put into the project	

The successful companies' reasons for continuing

Analysis of the semi-structured interview results revealed five main themes as to why these companies progressed to implement the performance measures. These five themes (in order of frequency of citation) were:

- (1) The benefits of performance measurement (coded as "benefits").
- (2) Continued top management commitment (coded as "TMC").
- (3) Time and effort required (coded as "worth effort").
- (4) As a consequence of the activities of the internal or external facilitator (coded as "facilitator").
- (5) The juxtaposition of the performance measurement intervention with other projects (coded as "other projects").

These themes are now addressed in turn.

Benefits. When asked why they had continued, every interviewee commented on the benefits they perceived arising from performance measurement. For example:

They are working, if we had not measured we wouldn't have seen the improvement in order quality and on-time delivery. The actions taken were a result of having the measures (Managing Director, Leak Detection Ltd).

Firstly, they [the measures] focused on issues which were important to the company and secondly they forced us to look at the measures and in particular the changes when they were not happening and being reflected in the measures (Managing Director, Pumps Ltd).

Without it we wouldn't be where we are and we've moved a hell of a long way (General Manager A, Seals Ltd).

From these responses, it appears that the managers involved believed that performance measurement was "a good thing" *per se* and that it was delivering business results. For example:

Because we believe in it . . . I believe in this more than a lot of other things (Works Director, Pumps Ltd).

There is a belief now in the management team . . . [and later] . . . it's bringing home the bacon (Personnel Manager, Seals).

"Benefits" was by far the most cited reason for continuing, being cited more times than all the other reasons summed together.

TMC. Top management commitment (TMC) to the project was cited in all the cases as a reason for continuing. Given the attention top management commitment receives in the change management literature (Kotter, 1996; Frizelle, 1991), this result is not unexpected. However, it is interesting that it is cited far less frequently than "benefits".

Worth effort. The time and effort required to design and implement the measures was raised in two companies (Pumps Ltd and Seals). Time and effort are usually reasons for not continuing (see difficulties overcome, below) but were raised here as the interviewees believed the results were worth the time and effort required. For example:

We're not just doing this for your benefit, Mike, we wouldn't be doing this if we didn't think it was worth it (Sales Director, Pumps Ltd).

[We continued] partly due to the process, which was tortuous but got buy in (Site Director, Seals).

Further, performance measurement had continued while other important projects had not continued because time and effort was not available:

People are exceptionally busy. The P&L [divisional profit and loss account project] has fallen by the wayside because of other pressures (General Manager B, Seals).

Minor themes. The role of the facilitator was cited in Leak Detection Ltd and Seals as were the influence of other projects in Seals, but because of their infrequency of citation, they have been included as minor themes.

The successful companies' difficulties overcome

In the second part of the semi-structured interviews, interviewees were asked to discuss some of the problems they faced when designing and implementing the performance measurement systems and in particular the difficulties they had overcome. Analysis of the semi-structured interview results revealed four main themes which were cited across all three case companies. These four themes (in order of citation) were:

- (1) Difficulties with data access and the information technology systems (coded as "IT").
- (2) The time and effort required (coded as "effort").
- (3) Difficulties concerned with developing appropriate measures (coded as "measuring").
- (4) The personal consequences of performance measurement (coded as "consequences").

In addition, interviewees in Seals also commented on the impact of the culture in different parts of the organisation (coded as "culture") and the political problems of dealing with head office as a supplier (coded as "politics").

IT. Data access was a recurring problem in two companies (Leak Detection Ltd and Pumps Ltd). Both had relatively new computer systems. The comments captured reflect difficulties in data accuracy, data access and the time and effort required for programming the data extraction reports required. Many of the problems at Leak Detection Ltd were overcome by manual collection of the data, but transaction volumes were too high for this to be done successfully at Pumps Ltd. Therefore, at Pumps Ltd, the implementation of the measures was totally dependent on the programming being completed.

Seals operated a much older computer system run on a main frame computer at their head office in the South of England. However, they had the advantage of being able to directly access the data they wanted and download it onto local PC-based spread sheets using a package called Power Play. IT was, therefore, a significantly smaller problem for Seals and was even cited as a reason for continuing by the site director.

Effort. Besides the time and effort required to access data from the IT systems, interviewees also commented on the time and effort required for performance measurement. Comments were made in general terms:

Finding the time, there is never quite enough (Operations Manager, Seals Ltd).

Time is a commodity which is incredibly precious, especially for something that is new and has not proved itself (General Manager A, Seals Ltd).

Also they were made in terms of setting up the system:

Initially it took time to set the data up. I had to dig out a year's worth of back data, a year's worth of warranty returns for example. I had to find half an hour here and half an hour there to do it. Now it takes no time at all (Quality Manager, Leak Detection Ltd).

In addition they were made in terms of using the implemented measures:

Now it takes time for the management meetings because I have to research the reasons for a good or bad performance and explain them (Works Director, Pumps Ltd).

Measuring. The difficulty of measuring was raised during interviews across all three cases:

There is a problem with re-quotes, when they go out of validity, without this it is not a sensible measure. The conversion rate is *key*, but we need to know the accuracy. Have we lost the order or re-quoted (Sales Manager, Leak Detection Ltd).

... had a great deal of difficulty with the measure of increasing the number of orders for special products (Sales Director, Pumps Ltd).

... the [problem of the] rigorousness of what gets included in the subjective measures (Site Director, Seals).

These comments appear to illustrate that the managers have understood the importance of the definitions of the individual measures and how they were struggling to overcome these difficulties through implementing meaningful measures.

Consequences. The personal consequences of being measured were occasionally raised during the interviews and are included as a theme as they were cited across all three cases. For example, consequences were cited by the site director at Seals:

It's perceived as a big stick, but that is their perception ... it should be a good way of managing.

They were seen as one of the reasons behind the slow implementation of the measures in Pumps Ltd:

... there was the problem ... a reluctance to implement the measures (Managing Director, Pumps Ltd).

Much more severe reactions to the personal consequences of the implementation of performance measurement systems are described in later interviews with managers of companies that did not progress to implementation. The type of personal consequence found in these cases is probably best illustrated by Leak Detection Ltd's sales manager in his comment:

Presenting it [the performance measure] to people, when you have a problem. What annoys me is the operations manager is saying why don't you do this and that. I don't want their input, what do they know about sales, I will ask if I want it. I sort of resent it, I *do* resent it.

Minor themes. Within one case, Seals, three minor themes were identified. Changing the culture was seen as one of the main benefits of implementing performance measurement (Thompson, 1997). The differences between the cultures of the business units and service departments was cited as a reason for the different rates of progress, with business units implementing the measures much more rapidly than the service functions. This could be interpreted as resistance to performance measurement because of the personal consequences of doing so, but it was never described as such.

"Politics" also appears in this case. The head office site was a major supplier of raw materials to Seals and believed to be one of their poorest performing suppliers. Two of the general managers wished to raise the issue with head office as result of the performance measurement project, but the site director prevented them from doing so.

Summary. From the initial analysis of the results of the semi-structured post process interviews in the successful companies, five reasons for continuing to implement the performance measures were identified and seven difficulties overcome. In the next section, the results from the unsuccessful companies are presented and discussed.

The unsuccessful companies

As previously described, the pilot case companies, Controls Ltd, Machine Shop and Components plc, all failed to implement the performance measures designed and agreed during the performance measurement workshops. In addition, access was available to four other companies who had previously attempted the process (Food, Consumer Consumables Ltd, Models Ltd and Special Engineering). All four of these companies had also failed to implement the performance measures.

Analysis of the semi-structured interview results revealed seven main themes as to why these companies did not implement the performance measures. These seven themes (in order of frequency of citation) were:

- (1) Time and effort required (coded as "effort").
- (2) The personal consequences of implementing the performance measures (coded as "consequences").
- (3) The perceived lack of benefit from proceeding with performance measurement (coded as "benefits").
- (4) Difficulties with data access and the information technology systems (coded as "IT").
- (5) Continued top management commitment (coded as "TMC").
- (6) The impact of parent company activities and initiatives (coded as "parent company").
- (7) Problems with applying the process (coded as "process").

These are now addressed in turn.

Effort. As found with the successful pilot company cases, finding the time and effort was a problem and it was the most frequently cited reason for not continuing in these seven cases. For example:

We are an under-resourced low volume company and there was permanently a lack of time and resource for doing things like this (Commercial Manager, Special Engineering).

Finding the people and the time to do it is the real problem (Director, Models Ltd).

But also finding the time and effort became linked to the perceived benefits of continuing with performance measurement. For example:

... we weren't sure what we were going to get out of it, time became a premium and we lost commitment (Operations Director, Controls Ltd).

There is a lack of confidence in the performance measures, if we go through the time and effort of producing the performance measures will it actually do anything different at the end of the day (Director, Models Ltd).

Consequences. Here the personal consequences are raised in two different situations.

First, there is the situation where the individual who has the authority to implement the performance measures takes a deliberate decision not to do so as he believes it will portray adverse performance of the business for which he has responsibility. For example:

The ones [performance measures] we had got are the ones the corporate wanted us to have and for which we get the stars (UK Manufacturing Manager, Machine Shop).

It is not just the problem of change, it's exposing yourself. All the worms are under the stones and the performance measurement system lifts the stones off (Director, Models Ltd).

Second, there is the situation where those being measured were in fear of performance measurement (in the same sense that Deming, 1986, writes about the fear and is similarly raised in the context of performance measurement by Meekings, 1995):

It is just a question of using the measures, we are not mature enough yet to talk about solving the problems, everybody sees the measures as a personal attack on themselves ... We are a two excuse company, the first excuse is the figures are bollocks, the second excuse is shoot the messenger (Commercial Manager, Special Engineering).

... maybe you ought to run the next project on how you stop the bully, especially when the bully is the boss (Internal Facilitator, Food).

In both instances, the consequences for the individual of performance measurement appeared to be a major factor in the measures not being implemented.

Benefits. The benefits from performance measurement were cited as a reason for continuing by every interviewee from the successful case companies. In this group of unsuccessful companies, lack of perceived benefit was cited three times (Controls Ltd, Machine Shop and Models Ltd).

IT. As with the successful companies, access to data was cited by three interviewees who reached the stage of agreeing their performance measures (Components Plc, Machine Shop and Models Ltd).

TMC. Top management commitment was seen to wane in a number of ways:

- as there was a lack of commitment to implement the action plan (Special Engineering);
- as benefits became unsure and time a premium (Controls Ltd);
- as everyone had their own agenda (Components Plc).

Parent company. The influence of the parent company on the implementation of the performance measurement system was very strong in four cases. First, at Components and Machine Shop, the parent company influenced what was reported:

For Ray, if that's his key performance measure [market share] then they [Japanese parent company] will measure him on that . . . Very heavily driven by the Japanese measures – they drive us (Operations Manager, Components Plc).

. . . the ones we had got are the ones the corporate wanted us to have . . . (UK Manufacturing Manger, Machine Shop).

Second, at Consumer Consumables Ltd and Components Plc, changes in strategy were decided at the level of the parent company and then imposed on the subsidiary. These changes in strategy by the parent company are changes which go to the heart of the rationale behind undertaking the performance measurement process and therefore it is probably not surprising that these companies did not succeed in implementing their measures.

Process. On two occasions, the application of the process was considered a factor. In the first instance (Food), this occurred when the process was applied in a research organisation and the facilitator found adapting the process difficult. In the second instance (Controls Ltd), the operations director considered that the process was inappropriate for the managing director.

The prompted responses

The result from the prompted responses (see Table II) highlighted the importance of senior management commitment to the project and the influence of other events already identified from the analysis of the open questions, but they also provide one further insight.

The responses from the successful companies to the “reasons for continuing” list and from the unsuccessful companies to the “reasons for not continuing” list were strikingly different. On the former, every reason for continuing was cited at least once. On the latter, with the exception of “senior management commitment to the project waned” and “the project was overtaken by other events” most other categories were not cited as reasons for the implementation not proceeding.

Interpretation of the interview results

Starting with the prompted responses, the difference between the reasons for continuing list and reasons for not continuing is interpreted in two ways. First, it provides strong evidence that the application of the process was not a major factor influencing success and failure as project management, facilitation and the process were not frequently cited reasons for failure. Second, the responses supported the unprompted interview results. As the prompt list was added to ensure that interviewees considered contextual, process and content factors, this gives some comfort that no major factors were overlooked.

With regards to the unprompted responses, Table III shows the coded results from both the successful and unsuccessful companies. Table III has been deliberately drawn to superimpose the reasons for continuing, cited by the successful companies, with the responses from the unsuccessful companies, where these reasons were lacking. Table III is interpreted below.

Reviewing Table III, there appear to be two types of factors identified here: those factors that compel progress and those factors that block progress. Taking the factors in turn and beginning with the factors that compel progress:

- *Top management commitment* to the project and the perceived benefits the project brought are cited as reasons for continuing by respondents in all the successful cases. In comparison, either lack of perceived benefit or senior management commitment waning were cited as reasons for not continuing in six other case companies. This suggests that these two factors are immensely important for success.
- *Worth the effort* is interpreted as being related to the benefits and effort involved and therefore should be seen under those two headings. It is included here as it suggests that management make a trade-off between effort and benefit.
- *Facilitation* relates to the comments about the support provided by both the internal and external facilitator. It can be interpreted as relating either to an example of action which demonstrated top management commitment, or to the need for the project to be properly managed. As these codes already exist, facilitation is not considered sufficiently important to be a separate factor and so is subsumed into TMC and process.
- *Other projects* was raised only once and therefore seen as an incidental contextual factor.

This suggests that the factors compelling progress can be reduced to two important factors, the benefit from undertaking the project and top management commitment. Some of the comments made suggest that the two are linked, but this needs further investigation.

Turning to the blocking factors:

- The *effort required* was cited as a reason for terminating the project in all but one of the unsuccessful companies but cited as a difficulty overcome in all the successful companies. This suggests that the effort required can be overcome under the right circumstances.

Table III.
Summary of
unprompted interview
responses

	Successful companies			Unsuccessful companies						
	D	E	F	A	B	C	G	H	I	J
<i>Reasons for continuing</i>										
Benefits	Yes	Yes	Yes	Lack of benefits	Lack of benefits				Lack of benefits	
TMC (top management commitment)	Yes	Yes	Yes	Lack of TMC		Lack of TMC				Lack of TMC
Worth effort		Yes	Yes							
Facilitator	Yes		Yes	Yes						
Other projects			Yes	Yes						
<i>Difficulties overcome</i>										
Effort	Yes	Yes	Yes	No	No		No	No	No	No
IT	Yes	Yes	Yes			No		No	No	No
Measuring	Yes	Yes	Yes							
Consequences	Yes	Yes	Yes	No	No		No	No	No	No
Process							No	No		
Parent company					No	No		No		

- *IT* had a similar pattern of responses to effort and is interpreted in the same manner.
- *Measurement* problems were cited only by the companies who had reached the stage of implementation. These companies were struggling to develop meaningful measures and the interpretation of the comments made is that they were trying to ensure that the results of implementing specific measures were worth the effort of measuring. This suggests that companies reaching this stage will find measuring a difficulty, but not be blocked from continuing to implement the measures.
- *Consequences* of measuring were raised in both the successful and unsuccessful responses.
- *Process* was raised in two companies as a reason for not continuing. When combined with the prompted response, this suggests that a satisfactory application of the process (the point of entry, procedure, project management and participation (Platts, 1994)) is a necessary but insufficient factor in determining the successful implementation of the performance measures.
- The disruption from other parent company initiatives was cited as a reason for not continuing in three cases and was unobserved in the successful cases. This suggests that the impact of *parent company* interventions requires further investigation.

In summary, there appear to be four main blocking factors to implementation of the measures:

- (1) the effort required;
- (2) the ease of data accessibility through the IT systems;
- (3) the consequences of measurement;
- (4) being overtaken by new parent company initiatives.

The problems of effort and IT systems have been demonstrably overcome in the successful cases and therefore are not considered fatal to projects if the right conditions exist (for example if there is sufficient senior management commitment). However, the consequences of measurement and parent company initiatives require further investigation.

Discussion

The conclusions from the six pilot research cases were that there were indications of three factors which differentiated between the successful and unsuccessful companies. These were:

- (1) purpose;
- (2) structure;
- (3) culture.

These factors could be related to three issues raised during the post process interviews – top management commitment, parent company intervention and consequences of measurement:

- (1) The fact that the senior directors of successful companies tended to express their purpose for undertaking the project in terms of managing the business better may well be an indication that at the outset there was a greater level of top management commitment, as “managing the business better” can be considered a higher goal than simply “improving the measurement system”.
- (2) The reason for structure being identified as a factor in the pilot cases was not understood. However, the interview results, which suggested that parent company interventions interrupted implementation, provide an explanation as to why structure appeared as an important factor.
- (3) At the end of the pilot cases it was argued that a paternalistic culture might well be beneficial for the implementation of performance measures as this would reduce the fear of measurement and therefore, the resistance to implementation. The fact that the consequence of measurement was raised as a major factor during the interviews strongly supports this argument.

Therefore, the semi-structured interviews provide some explanation of the results obtained from the cross-case analysis, and the results of the cross-case analysis provide evidence of the impact of three of the factors found from an analysis of the interviews.

In addition to the situation where the findings from case studies and interviews coincided, the semi-structured interviews highlighted three other main factors that influenced the success or failure of implementation. These are now discussed in turn:

- (1) The perceived benefit of performance measurement should have been identified during the post project interviews in the pilot cases, although these interviews focused more on objective rather than subjective factors that influenced implementation. This may explain why the benefits were missed, but this could also have resulted from the fact that the benefits did not occur until much later – when the measures had been fully implemented. The later explanation is the more plausible and this suggests that the post project interviews were conducted too early to capture the perceived benefits of the project.
- (2) The IT hurdle was observed in the pilot cases but not consistently enough to be cited as a major difference in the cross-case analysis. The interviews raised the importance of this factor.
- (3) The effort required largely went unobserved. From the nature of the interventions undertaken, it was mainly unobservable and, as it was not a factor identified in the academic frameworks used to create the case study protocol, data were not collected on the effort required.

The use of multiple methodologies in this research highlights some of the additional insights that can be gained. In particular it suggests that the benefits from implementing a performance measurement system occur very late in the process and highlights the “effort” required, a factor not previously identified as important.

Conclusions

There are many studies of implementation, but it is exceptionally rare for a study to research the implementation of the same artefact in multiple organisations using a common and moderated process approach. Although this approach is open to criticism, it does control for variables that are not controlled in other studies and so provides different insights.

This paper makes four contributions, as follows:

- (1) It qualifies Platts' (1994) findings on process success.
- (2) It demonstrates that by using a structured performance measurement design process approach many of the implementation problems highlighted in the literature can be overcome.
- (3) It identifies the major performance measurement project specific factors influencing implementation.
- (4) It suggests that top management commitment changes during the project, a factor implicit in, but ignored by, much of the change management literature.

These are now discussed in turn.

First, Platts (1994) in his research into the application of management processes for the development of manufacturing strategy identified four factors associated with the application of the process which appeared to be significant. These were: point of entry (how the introduction and launch was handled), participation (who was involved), project management and procedure (the tools used in the process itself).

This research supports his findings that these factors are necessary, but suggests that in themselves they may not be sufficient for successful implementation of performance measurement systems. Other non-process factors are also important.

Second, many of the factors causing problems for implementation highlighted in the introduction to this paper (e.g. strategy and vision not actionable and measures poorly defined) could be attributed to poor design process. The fact that none of these issues was raised as an impediment to implementation by this research suggests that a well designed and executed process can overcome these implementation issues.

Third, given that a suitable management process is correctly applied, the findings from this research proposes that there are four important performance measurement project specific implementation factors. These are:

- (1) The effort required for implementation.

- (2) The ease of data accessibility through the IT systems.
- (3) The consequences of performance measurement.
- (4) The project being overtaken by parent company initiatives.

The results also show that problems with the IT systems and the effort required can be overcome. This suggests that these two blockers are simply hurdles to implementation rather than factors which completely stop the project.

This work confirms three of the issues thought to be important from practitioners' reflections, but qualifies our understanding by differentiating between hurdles and substantial blockers. The impact of parent company initiatives is a significant factor not previously recognised in the literature.

Fourth, TMC is widely taken as a major factor influencing the success and failure of project implementations (Frizelle, 1991). In this study, the interview results identified top management commitment and the benefits from performance measurement as being perceived as the two main factors which drove implementation. But, it must be remembered that the interviews were all conducted some time after the process was completed. Many of the managers were therefore reflecting on the perceived benefits of the performance measures after they were implemented. This raises the question: "What was supporting the performance measurement initiative through to implementation before the benefits occurred?"

The results of this research suggest that management commitment could be influenced by the change in balance between the expected benefits of the intervention and the expected effort required to implement the performance measures. Therefore, management commitment may not be static, but change over time as the intervention unfolds. Careful reading of the change management literature alludes to this occurring (e.g. creating a guiding coalition (Beer *et al.*, 1990; Goss *et al.*, 1993; Kotter, 1996) and establishing the need for change (Pugh, 1978)) but even the processual approaches (Lewin, 1947; Dawson, 1996; Burnes, 1997) do not consider how TMC can be influenced over a project's life. If management commitment is dynamic and is a dependant not an independent variable, then change management should be looked at in a new light.

We would go further and suggest that the insights gained in this study would not have been raised by a "scientifically" designed questionnaire administered to a representative sample of managers. The semi-structured approach uncovered the "non-standard" responses as a direct result of probing and using knowledge from the original case studies. The conclusion that top management commitment is dynamic is not explicitly addressed in the change management literature and this may be the result of researchers restricting their methodologies.

This is now the subject of further research using longitudinal case studies and data collection methods designed to track changes in TMC and the factors that influence these changes.

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