

## Association for Information Systems AIS Electronic Library (AISeL)

---

ACIS 2006 Proceedings

Australasian (ACIS)

---

2006

# Towards Understanding Strategic Alignment of Business Process Management

Tonia de Bruin

*Queensland University of Technology*, [t.debruin@qut.edu.au](mailto:t.debruin@qut.edu.au)

Michael Rosemann

*Queensland University of Technology*, [m.rosemann@qut.edu.au](mailto:m.rosemann@qut.edu.au)

Follow this and additional works at: <http://aisel.aisnet.org/acis2006>

---

### Recommended Citation

Bruin, Tonia de and Rosemann, Michael, "Towards Understanding Strategic Alignment of Business Process Management" (2006).  
*ACIS 2006 Proceedings*. 82.

<http://aisel.aisnet.org/acis2006/82>

This material is brought to you by the Australasian (ACIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ACIS 2006 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact [elibrary@aisnet.org](mailto:elibrary@aisnet.org).

## Towards Understanding Strategic Alignment of Business Process Management

Tonia de Bruin and Michael Rosemann  
Queensland University of Technology

Faculty of Information Technology  
Queensland University of Technology  
Brisbane, Queensland

Email: [t.debruin@qut.edu.au](mailto:t.debruin@qut.edu.au); [m.rosemann@qut.edu.au](mailto:m.rosemann@qut.edu.au)

### Abstract

*There is little doubt that strategic alignment has an important role to play in any organisation – as evidenced by the plethora of models available to assess alignment from various angles. Similarly the importance of Business Process Management (BPM) to organisations and organisational success continues to grow. However, little is known about what constitutes strategic alignment of BPM and how this might be measured. This paper addresses this gap by presenting the top 5 factors of strategic alignment of BPM (so called capability areas) as they have been identified during an international Delphi study. In addition, this paper reports on insights derived from existing literature and an in-depth case study undertaken to empirically explore these capability areas in more depth. The result is an operationalised view of the strategic alignment of BPM.*

### Keywords

Business process management, strategic alignment, case study, Delphi

### INTRODUCTION

The fast pace of organisational change in times of increasing globalisation has resulted in organisations striving to find alternative means of remaining competitive. Subsequently there has been resurgence in the strategic importance of BPM as a means of optimising business performance. At the same time, the need to continually align discrete areas of the business which are of strategic importance with strategy itself and the execution of such strategy remains (Hatten and Rosenthal, 1999). The need for comprehensive frameworks to assist in this endeavour is well evidenced in the Information Systems (IS) field where researchers have endeavoured to identify the aspects of organisational practice that contribute to the alignment of business and IT (Broadbent and Weill, 1993; Burn and Szeto, 1999; Henderson and Venkatraman, 1993). Henderson and Venkatraman argue that a lack of alignment has resulted in an inability for businesses to realise value from their IT investments (Henderson and Venkatraman, 1993: 4). Similarly, when investigating the alignment of BPM projects Box and Platts indicate that successful alignment assists in attaining desired outcomes and avoiding issues of misalignment such as a waste of time, money and opportunity, internal conflicts and power struggles, demotivated individuals and teams, confusion and ultimately failure (Box and Platts 2005: 371). The importance of strategic alignment to the management practice of BPM is evidenced by a number of researchers (Elzinga et al., 1995; Hung, 2006; Pritchard and Armistead, 1999; and Zairi, 1997). Furthermore, prior research indicates the focus should be, not on the development of the strategic plan but rather, on its deployment and execution (Zairi, 1997). Despite this wide-spread support, little is known about how the strategic alignment of BPM can be actually operationalised.

Thus, this paper is motivated by the *aim* to identify the set of so called *capability areas*, which are essential for the operational achievement and measurement of the strategic alignment of BPM (i.e. having a *process improvement plan*, linking *strategy and process capability*, maintaining an *Enterprise Process Architecture*, utilising effective *process measures* and consideration of *process customers and stakeholders*). The research captures such contemporary BPM issues through an innovative combination of research methods. First, this paper details how a group of international BPM thought-leaders were combined with the iterative nature of the Delphi study to identify the top 5 capability areas for factors critical to attaining BPM maturity. Then it explains how findings from the Delphi study were complemented by a second extensive literature review and exploratory case study. Next it shows how the application of these methods enabled the triangulation of key findings thus allowing a deeper understanding of the capability areas. For example, we show how the strategic alignment capability areas can be impacted during times of IT upgrades and implementations or when applying legislation such as Sarbanes Oxley. Next, this paper draws a number of conclusions including how evidence from the case study supports the relevance and comprehensiveness of the capability areas as a means of operationalising the strategic alignment of BPM. Finally, this paper concludes with a look at potential limitations of this research which largely arise from the single instance of the case study and how these contribute to avenues for future research.

## RELATED WORK

The concept of strategic alignment is not new being evidenced in the work of many researchers across a variety of domains. The concept of alignment was popularised by Henderson and Venkatraman (1993) who studied strategic alignment in information systems. Their 2x2 framework on business/IT alignment became a fundamental reference for a substantial body of related research. Kaplan and Norton's Balanced Scorecard and more recently their Strategy Maps (Kaplan and Norton, 2004) has continued this trend. Similarly, in a study of visionary and long-lasting companies Collins and Porras (2000) found that processes, practices and behaviours were both mutually supporting and aligned. Selected examples of alignment models are shown in Table 1.

Model	Domain	Developer / Key Reference	Dimensions
Universal Alignment Model	Organisational	Molden, D. and Symes, J. (1999)	Action Capabilities Attitudes
Strategic Alignment Model	Business/IT	Henderson, J. C. and Venkatraman, N. (1993)	Business strategy IT strategy Organisational infrastructure and processes I/S infrastructure and processes
Alignment Model	Business/IS	Broadbent, M. and Weill, P. (1993)	Organisational structure & accountabilities Firm-wide strategy-formation processes Technology strategy Information systems responsibilities & policies
Enterprise Model	Business/Process	Hatten, K. J. and Rosenthal, S. R. (1999)	Customers Functions Processes Capabilities Competencies
Project Alignment Model	BPM Projects	Box, S. and Platts, K. (2005)	Environment Leadership Management

Table 1: Examples of Alignment Models

## METHODOLOGY

The body of work presented in this paper is a part of a larger research project aimed at building a theory on BPM and ultimately enabling the assessment of maturity in BPM practices within organisations. Within the larger body of work, an initial literature review identified six factors critical to attaining BPM maturity. These included: Strategic Alignment, Governance, Methods, Information Technology, People and Culture. The larger research project then further investigated each of these six factors using a multi-method encompassing: the Delphi technique, literature review and exploratory case study. Whilst the multi-method detailed below was used for research into all six factors, due to editorial constraints, this paper reports exclusively on the findings arising with respect to the Strategic Alignment factor.

Whilst the existing BPM literature was useful for identifying the factors critical to BPM it provided little guidance on how these could be operationalised. Through our research in this area we had access to a pool of international BPM thought-leaders. We decided that the Delphi technique with its iterative nature and use of an expert panel could be combined with this pool of international thought-leaders to provide us with a unique opportunity for capturing contemporary BPM issues. To optimise the range of views captured in our Delphi study, we extended our initial pool of potential candidates in two ways. We asked invitees to nominate other potential experts that they knew and we added other individuals from the BPM field that were not in our initial pool. We aimed to have representation from a number of regions (America, Australasia and Europe) and from both academia and industry. Within academia, we selected individuals that had a related Doctorate and were highly regarded in the BPM domain. Within industry, we selected executives and senior management from a range of industries, together with consultants, analysts and authors from the BPM domain. We conducted a separate study for each of the six critical factors and asked the experts to nominate which study they agreed to participate in. In the first round of each study panel members were asked to provide their own definition of the *factor* and to provide a list of up to 7 items where measurement was seen to be representative of increasing BPM maturity within the factor i.e. the so-called *capability areas*. In subsequent rounds (herein called *rating rounds*) this input was used to derive a consolidated definition and list of capability areas that was returned to panel members to rate their satisfaction and provide further comments. Rounds continued until a number of conditions were met or a maximum of 4 rounds were completed. The conditions included: (1) average satisfaction of more than 7.5 based on a scale of 1 (Not Satisfied) – 10 (Very Satisfied), (2) no individual satisfaction rating less than 5 and (3) a standard deviation in responses of less than 1.5. In what was expected to be the final round of the

study, panel members were asked to allocate a total of 10 points between the capability areas on the basis of *perceived importance*. The more points allocated the higher the perceived importance. The Delphi study was useful for consolidating the list of capability areas however this research methodology could not provide comprehensive insights into the nature of these areas as we limited the collection of additional qualitative data. We recognised the potential weaknesses of the Delphi study (e.g. the high number of participants from USA) and wanted to mitigate these by utilising the strengths of other complementary research methods through a multi-method approach. Thus, a further literature review and in-depth, exploratory case study were conducted.

Whilst an in-depth literature review had been used to identify the initial BPMM model factors a second, more targeted literature review was undertaken to gain deeper insights into the capability areas identified during the Delphi study. This second literature review was used to identify potential questions for a survey instrument that was being developed to operationalise the assessment of the capability area maturity within organisations and to inform the case study protocol.

Finally, an exploratory case study was conducted to gain further insights into the identified factors and capability areas. As we were interested in the maturity and evolution of BPM with organisations the unit of analysis for this case study was an organisation that was *prima-facie* mature in its BPM practices. *Prima-facie* was evidenced by the level of involvement and interest in BPM seminars, workshops and conferences, the use of recognised BPM tools and techniques and the organisation's financial position and standing within the community and industry. Consideration was also given to organisational size, location and willingness to participate in the research project. The organisation selected for this case study was one of Australia's largest mining organisations. The organisation has been refining its BPM practices for more than 10 years with many of its methods and IT well-recognised as exemplars in the BPM domain. The case study included interviews with executives and senior management, a separate workshop for each of the six factors, completion of an embedded survey (i.e. a prototype of the capability area maturity instrument) and a review of relevant documentation. In total 7 interviews, ranging in time from 2 to 3 hours, were conducted with executives/senior management who had executive responsibility for recognised process roles. A case study protocol containing semi-structured questions segmented by factor was used to guide the interviews. The capability areas identified during the Delphi study were used to inform and identify the questions contained within the case study protocol. Each workshop lasted between 3 and 4 hours and included up to 5 key staff selected for their knowledge of BPM practices specific to the factor. Workshop participants also completed the survey instrument which, whilst being developed to assess the maturity of the capability areas, was used within the case study as a data collection mechanism. Survey questions were derived from literature where possible and were supplemented with questions that were of interest to the researchers. Results from the survey were triangulated with the qualitative data gathered during interviews and workshops and the review of documentation. All interviews and workshops were recorded and transcribed prior to analysis. N-Vivo was used in the analysis of all qualitative data.

## RESULTS

Our Delphi study into the strategic alignment of BPM consisted of 4 rounds and an expert panel that included 18 international BPM thought-leaders from America (14), Australasia (3) and Europe (1). The expert panel included representation from both academia (7) and industry (11). Whilst arguably the definition of strategic alignment derived from this study is contextual in this instance it is used to provide a common base for further research. The final definition derived is: *Strategic alignment of BPM is the continual tight linkage of organisational priorities and enterprise processes enabling the achievement of business goals*. The usefulness of the iterative nature of the Delphi study for improving results based on consensus is shown in Figure 1. This figure shows the changes in the average level of satisfaction of the expert panel together with the deviation within the responses over the three rating rounds of the study.

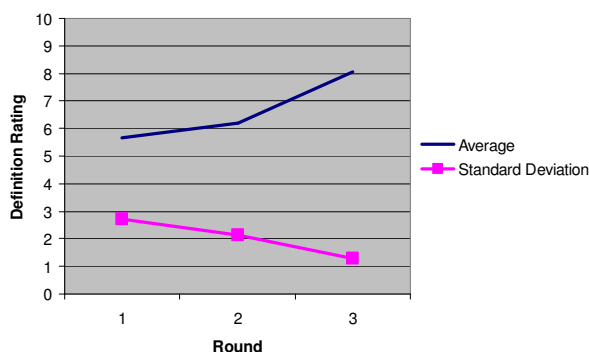


Figure 1: Results of Strategic Alignment definition

In the final round of the Delphi study panel members allocated a total of 10 points to the list of proposed capability areas on the basis of *perceived importance*. Table 2 shows the analysis and outcomes of this allocation.

Capability Area	Average	Standard Deviation	Highest Score	Number of 0's Scored
Process Improvement Plan	1.77	0.83	4	0
Strategy and Process Capability Linkage	1.77	1.17	4	2
Enterprise Process Architecture	1.69	1.03	4	2
Process Output Measurement	1.46	0.97	3	3
Process Customers and Other Stakeholders	1.30	1.18	4	3
Strategic Priorities	1.08	0.86	2	4
Operational Translation	0.92	0.86	2	4

Table 2: Strategic Alignment Capability Area Results: Perceived Importance Scores

As can be seen, a number of proposed capability areas were assigned a 0 score. We took this as an indication that seven capability areas potentially included an element of redundancy. This resulted in us revisiting the data and making a decision to limit the final list to only the *top 5*. When revisiting the data consideration was given to details from Table 2, comments received from the panel and a review of item descriptions collected and distributed during each round of the study. As a consequence, Strategic Priorities and Operational Translation were removed from the list making the final 5 capability areas for strategic alignment of BPM: (1) process improvement plan (2) strategy and process capability (3) enterprise process architecture (4) process output measurement and (5) process customers and other stakeholders.

The capability areas identified during the Delphi study were used to guide a second more targeted literature review. This review was used to inform the case study protocol including questions for proposed interviews, workshops and surveys. In total 7 interviews were conducted with executives and senior management that had process-related roles and responsibilities. Each interview had a set of questions directly related to the strategic alignment capability areas. The strategic alignment workshop went for 3 hours with a further half hour to complete and discuss the survey which focused on assessing the strategic alignment capability areas. In addition a number of strategy documents were reviewed including strategic maps, detailed strategic plans, vision and mission statements, newsletters and presentations. The outcomes relating to the strategic alignment of BPM that arose from the second literature review and the case study interviews, workshop and survey are reported in the following sections.

### Process Improvement Plan

Early approaches to selecting process improvement initiatives advocated a single process be selected for improvement in isolation of other processes (Elzinga et al. 1995). However, the need to adopt an integrated approach to the identification and management of process improvement initiatives has since been recognised as a vital aspect of a holistic approach to process management (Al-Mashari et al. 2001). This view is supported by Edwards et al. (2000) who indicate that a shared understanding of process improvement initiatives between managers is required to ensure they are in line with the requirements of internal stakeholders. Within the case organisation the identification of process improvement initiatives was often driven by a shortfall in process capability. In some instances this was the result of strategy being mandated by the parent organisation to optimise strategic outcomes across the broader organisation. For example, the desire of the parent company to access consistent and comparable data across all its entities resulted in a mandated process improvement initiative for the ERP system. For this initiative the case organisation was also the pilot site therefore scheduling and prioritisation of the process improvement initiative was also mandated. When process improvement initiatives are mandated but there is flexibility in scheduling and prioritisation the view within the case organisation is that two approaches can be taken. As one senior manager put it, '*on the one hand, you can wait until you are nudged or alternatively you could put your hand up*'. There were perceived advantages to both approaches. For example, by self-nominating possible scheduling conflicts could be limited by selecting a time that fits best with other existing initiatives thus allowing localised initiatives to be balanced with global initiatives. Alternatively, by waiting for an allocated time, there was the potential of accessing benefits from lessons learned on earlier implementations or for delaying a change from the status quo.

Following the identification and selection of process improvement initiatives it is not uncommon for difficulties to be encountered as process changes cross traditional functional work units (Grover et al. 1995). This can result in problems with the allocation and commitment of resources. Al-Mashari et al. (2001) indicate that to achieve success in initiatives of varying scopes and at different levels a synchronised strategy is required. Similarly, Hatten and Rosenthal (1999) suggest that decisions between processes need to be closely co-ordinated and sequenced. Pritchard and Armistead (1999) confirm the need to have an integrated approach and indicate that

isolated and uncoordinated process improvement initiatives will only provide short-term and unsustainable benefits. In the case study organisation there was the perception that at a high level prioritisation was more conceptual with improvement initiatives only defined in the broadest sense with little or no indication of *how* such initiatives might be achieved. At this level, the mere fact that something made it onto the list was seen to be evidence of prioritisation. At a lower level, prioritisation was more detailed as alternate solutions were developed in order to refine *how* to deliver the planned improvements. The strategic planning cycle was the time when further detail was developed with the process improvement plan being the vehicle for linking process improvement metrics and priorities and ensuring alignment with strategic goals and objectives. The role of negotiation during the prioritisation and co-ordination of improvement projects was highlighted with a strong informal negotiation process occurring throughout the strategic planning cycle. Perceived benefits of the negotiation process included faster approval and greater commitment to the final plan. The informal negotiation process complemented a formal process that governed the overall strategic alignment process.

The *identification, prioritisation and co-ordination* of process improvement initiatives are confirmed as fundamental to the strategic alignment of BPM. Key findings from the case study that add to existing research include:

- Organisational ownership structure (e.g. parent – subsidiary relationship) may result in process improvement initiatives being mandated. As a consequence they do not necessarily map to (local) organisational strategies.
- Negotiation is important to process improvement plans and can improve approval time and commitment.

### **Strategy and Process Capability**

Understanding an organisation's process capability allows informed decisions to be made on how this capability can best contribute to strategic goals and objectives. According to Davenport (1993) by focusing on a coherent process-to-strategy approach BPM can add value to the customer. Stalk et al. (1992) reflect on the importance of processes to strategy and suggest that capability-based businesses invest heavily in identifying and managing their processes looking for long-term paybacks. Schmidt and Treichler (1998) define the mutual relationship between strategy and process and recognise the bi-directional nature of this relationship using the terms 'process follows strategy' and 'strategy follows process'. This relationship is extended by Kiraka and Manning (2005) who suggest that a situation arises where either process drives strategy or where processes are driven by strategy. Within the case study a dominant direction of process capability following strategy was evidenced – a view held by all 7 interviewees and further supported by members of the workshop. This dominance was the perceived to be the result of an existing parent-subsidiary relationship with the case organisation a wholly owned subsidiary. A strong view was held that, while there were avenues for input into the strategy setting process, the existing process capability within the subsidiary company was not seen to play a major role in this. When strategy was devolved from the parent entity any subsequent constraints presented by existing process capabilities served to identify and prioritise future process improvement initiatives rather than act as a driver for a change in strategy.

A consequence of linking strategy and process capability is identified by Hatten and Rosenthal (1999) who argue that integrating functions and processes through enterprise strategy enables a firm's operating decisions to be linked to strategic direction and thus performance. For the attainment of longer-term strategy such a link should encompass existing and required process capability whilst also encapsulating more traditional functional requirements. The case study confirmed the notion of a bi-directional linkage between strategy and process capability as essential for integrating function and process. In this case gaps in day-to-day operations were created as employees were transferred from functionally based work units to process improvement projects which arose from the dominance of strategy over process capability. This resulted in a combination of resource strategies being used to fill both functional and process roles in an effort to maintain performance requirements. The strategy itself was seen to provide the timeframe and direction for the long-term development of required process capabilities with the resource impact being seen as a short-term issue. There was evidence to suggest that such an approach has the potential to create other issues as human resources are constantly stretched and challenged by on-going shortfalls in process capability.

Integrating strategy and process capability was found to be fundamental to the strategic alignment of BPM. Key findings from the case study that contribute to existing research include:

- Organisational ownership structure (e.g. parent – subsidiary relationship) may result in a dominant party within the bi-directional linkage between strategy and process capability.
- A shortfall in process capability can indicate potential areas for process improvement and act to ensure automatic alignment between new process improvement initiatives and strategy.

## Enterprise Process Architecture

The highest level abstraction of a hierarchy of value-driving and enabling business processes is referred to as an Enterprise Process Architecture (EPA). Biazzo and Bernardi (2003) indicate that an EPA's usefulness lies in its ability to provide a framework for understanding how processes enable the organisation to add customer value. Hammer (2001) extends this thinking by indicating that such a big-picture is readily comprehensible to individuals that may not possess high levels of process thinking. Despite the value in mapping processes, a number of authors indicate that defining processes is difficult (Davenport, 1993; Nickols, 1998). Furthermore, Armistead (1996) warns that developing a top-level process architecture such as an EPA is only a starting point. At a lower level, Kiraka and Manning (2005) caution against using process maps due to the speed with which they become dated. The case study identified a further issue in the identification and understanding of processes being the inconsistent use of terminology within the BPM domain. Terms commonly used in BPM literature such as core, enterprise, end-to-end, sub, supporting, administrative and similar resulted in confusion around which organisational processes were being discussed. For example, in the case study organisation what might be classified as sub, supporting or administrative processes (depending on which taxonomy was selected from the literature) were classified as *key* processes within the organisation. Similar confusion exists around the term *business process*. To some this meant only transactional, finance-type processes and did not include other processes referred to as manufacturing, technical or physical. To others a *business process* encompassed all processes that were identified within the organisation. Despite this confusion there was clear identification and documentation of seven *key* processes considered critical to the organisation. The identification and documentation of lower-level processes was ad-hoc with processes encompassed in, or connected with, the ERP system being more comprehensively documented. Other drivers for mapping processes within the organisation included legislative requirements such as health and safety requirements and Sarbanes-Oxley legislation.

In addition to improving the understanding of processes Rummler and Brache (1995) suggest processes may become lost "through the cracks" as they span functional boundaries. Similarly Armistead (1996) sees the identification of processes as a key enabler for changing the way in which managers set organisational direction and operationalise and support the provision of products and services. Armistead (1996) further advocates the importance of knowing processes, understanding the linkages of the processes and minimising the loss of the good aspects of functions. This includes understanding the information flows and common points where things may go wrong, managing the relationship of the processes with other areas and avoiding process silos which can be equally as disruptive as functional silos. Thus EPA's are seen to contribute to the sustainability of process thinking within (functionally-based) organisations. At a high-level this was evidenced in the case organisation. Kaplan and Norton's (2004) Strategy Maps were used for documenting high-level processes and for aligning these with strategy, process capability and performance. There was wide-spread understanding and acceptance of the Strategy Map which was highly visible throughout the organisation's premises. There was evidence that process maps at lower levels however were not as effective. At these levels value was perceived as being higher during the implementation of a process improvement project when process maps were used for things such as system configuration and training. This value was perceived to diminish after a project went live and people reverted to their functional roles where there was a tendency for the process maps to get 'lost in files'. Thus at lower levels process maps were not seen to contribute as much to the sustainability of process-thinking however the introduction of a new method for continual process improvement has resulted in a perceived increase in the visibility of lower-level processes.

The identification and documentation of processes in an EPA is perceived as useful for understanding processes and for sustaining process-thinking. Key findings from the case study that supplement existing research include:

- Inconsistency in the use of terminology within the BPM domain creates confusion in practice and may lead to issues with the comparability of data in BPM research.
- The decomposition of process architectures to lower levels is strengthened during major IT upgrade/implementations such as those involving ERP systems or by legislative requirements such as Sarbanes-Oxley but is not seen to contribute to sustainability in process thinking.

## Process Output Measurement

Defining and capturing process metrics is important to ensuring that process outcomes are in line with strategic goals. For example, Zairi (1997) perceives process performance as being integrally linked to the degree to which organisations can compete in a market-place by developing the required capabilities. The importance of aligning process output measurement with strategy is further highlighted by Hatten and Rosenthal (1999) who see the integrated management of business processes as an area for improvement. Similarly Zairi (1997) recognises that strategies often fail to deliver desired results because there is a difference in what is implemented and what is planned suggesting a problem in the alignment of process performance and strategy. In deriving measures, the case study organisation adopted a top-down approach with strategy as the driver of process measures. A

Balanced Scorecard approach was used to devolve measures throughout the organisation. An important aspect in aligning process performance was the ability to capture and compare the process measure using consistent data. This was evidenced by a strategic goal of the parent company being to have one rule and one consistent way of measuring performance for all processes captured within the ERP system. When deriving measures it was recognised that there was the need to measure on-going goal attainment as well as to measure ad-hoc issues that might impact goal attainment. For example, within the case study organisation a normal situation is to have stock-piles of product ready and available for distribution. Occasionally a situation arises where the stock-piles become depleted and production today has to meet tomorrow's delivery requirements. In this *situation*, measuring production becomes vital because of the consequence of non-performance. In normal circumstances such a measure is not *critical* due to the use of stock-piles. Similarly, the importance of considering both leading and lagging indicators when viewing trends in process performance data was noted. For example, in health and safety *leading* indicators were critical as the goal was to stop something from happening and not only to measure how often it happened.

An issue with process measurement is the tendency of organisation to over-measure. Lee and Dale (1998) indicate that measuring process output often falls short with organisations not being able to measure what is important as there is a tendency to measure nearly everything leading to an overload of often useless data whilst not capturing comparable and meaningful data. In attempting to find a balance between too much and not enough, Armistead (1996) suggests that key process measures are those that are required by the next stage in the process and those that contribute to customer measures. This leads to a key aspect of process outputs being the ability to capture the *value-add* generated by the enterprise process through establishing relevant KPIs. Such KPI's can include financial, non-financial, quantitative, qualitative or time-based metrics, and may be dependent upon the strategic drivers for the specific enterprise process. For example, Stalk et al. (1992) suggests the measures that will distinguish organisations are: speed, consistency, acuity, agility and innovativeness. There was clear evidence within the case organisation of a tendency to over-measure processes. For example, for one key process more than 450 metrics were collected. A review resulted in a more concise list with just 14 key metrics being identified. Whilst additional measures can be applied at lower levels they must be related back to one of the 14 key metrics to ensure consistency and alignment with strategy. This smaller number of more manageable metrics enables the process owner to more easily identify gaps between the current and desired position and to set meaningful benchmarks to guide improvement initiatives in line with strategy. A means of reducing metrics was to focus on identifying key enablers (i.e. success factors) for delivering outcomes and to then measure the enablers and not necessarily the outcomes. Other methods used to maintain a manageable set of process measures included: using a combination of financial and non-financial measures depending on the process e.g. non-financial measures were used for health and safety issues with less emphasis on financial measures; adjusting the timing of measures depending on the type and criticality of measure being applied; focusing on *exception and default* reporting and increasing the visibility of results.

Deriving a manageable set of appropriate process measures from strategy and ensuring these are manageable is critical to measuring how processes deliver strategic goals. Key findings from the case study include:

- Focus on measuring the key enablers for delivering outcomes and not the outcomes themselves and consider both *leading* and *lagging* indicators when evaluating trends.
- Recognise both *situational* and *critical* measures and widely communicate measurements using highly visible, exception and default reporting.

### **Process Customers and Other Stakeholders**

The importance of the customer in BPM is well recognised. For example, Zairi (1997) indicates that the need to clearly align processes with customer requirements is evident in the practices of world-class BPM organisations such as Rank Xerox Corp, British Telecom and SmithKline Beecham. Similarly, Labovitz and Rosansky (1997) suggest that the way an organisation thinks, works and is managed should be both guided and driven by the customer's voice. Hatten and Rosenthal (1999) indicate that by focusing on competitive advantage through the customer's eyes, managers are better placed to understand the organisation separate from the formal organisational structure as it helps to move out of the day-to-day issues created by internal operations. Within the case organisation there was a tendency to primarily consider the internal customer over the external customer. In some instances this was the result of the shared-service arrangement of the parent entity however there was also a view that the internal customer-contact provided the only view of the customer that was required. This attitude may have arisen due to the type of customer and market in which the organisation operated. For example, there were only a small number of well-known, long-term customers and the need for product variation was limited. This said there was a strong focus on research and development for long-term innovations and of collaboration with a customer when a variation in product was requested. The impact of fixed resource constraints on customer relationships was raised during the case study. An example was given where a mine has a fixed production capacity and there is no immediate strategic plan to either acquire a new mine or to acquire



alternate product sources. In this instance, despite knowing customer requirements, there was no attempt to meet these needs rather the course of action was to divest customers. This highlights the need to balance customer requirements with other strategic requirements and indicates that it is not always feasible or appropriate for value-add to the customer to be the sole centre of BPM.

The role of other BPM stakeholders has previously been recognised by a number of researchers. For example, Crowston (1997) argues that different process groups need to be aligned and co-ordinated for an organisation to function effectively. Ittner and Larcker (1997) highlight the value of involving suppliers in a range of process activities including process design and performance measurement. Similarly Armistead (1996) sees customer focus as a driver of BPM, but concedes that drivers such as responsiveness and an ability to reduce costs and lead times indicate that groups such as executives and shareholders are also important stakeholders. Braganza and Lambert (2000) contend that deriving business processes from stakeholder expectations aids in defining processes by ensuring that other activities are precluded from such a definition. They further make the point that such processes are self-renewing as they constantly change in line with stakeholder needs. In the case organisation process stakeholders (other than customers) played a major role during the strategy planning stage and when undertaking process improvement initiatives. For example, the community was perceived to be an influential stakeholder at the strategy planning stage due to land-rights and environmental issues. Similarly, when commencing process improvement initiatives there is an explicit requirement for consultation with all identified stakeholders as a part of standard change management requirements. The importance of the process workers as a stakeholder of BPM was also highlighted with a clear focus on improving the working conditions of process workers by providing them with the *right* tools and techniques to do their job.

Within the case organisation there were also situations whereby customer and supplier roles interchange during the course of an end-to-end process (e.g. shared services arrangement) and when external control of suppliers has an impact on the strategic alignment of BPM (e.g. parent-subsidiary relationships). For example, it was recognised that the parent-company control on an entity lead to a level of in-flexibility in the relationship that may not be evident in other external supplier / customer relationships. There were also times when optimising the strategic goals of the parent entity resulted in a less than optimal outcome for the case organisation. This situation is not dissimilar to the concept of optimising a process across a number of functional units within a single entity but serves to highlight the complexity of competing stakeholder agendas.

There was clear recognition that closer and more relevant relationships were formed with external suppliers and customers as BPM had progressed within the organisation. Key findings from the case study include:

- Organisational ownership structure (e.g. parent – subsidiary relationship) may lead to less flexible relationships in the event of external but related customers and suppliers.
- There are times when *optimising* process customer requirements in-line with strategy and process capability achieves more than *maximising* customer requirements through strategy and process capability.

## CONCLUSION

This research forms a part of a larger research study into assessing BPM maturity within organisations. Initial research identified six critical success factors for BPM being: Strategic Alignment, Governance, Methods, Information Technology, People and Culture. Further research utilising a multi-method (Delphi technique, literature review and exploratory case study) was undertaken to gain a deeper understanding of these factors. The results reported in this paper focus exclusively on the *strategic alignment* of BPM.

The Delphi study identified the top 5 capability areas for the strategic alignment of BPM as: developing a process improvement plan, linking strategy and process capability, developing an EPA, process measurement and integrating customer and other stakeholder views. An in-depth case study using data collection methods including interviews, workshop and document studies confirmed that these 5 capability areas were intuitive, relevant and comprehensive. *Intuitiveness* was reflected in the ability of respondents to provide in-depth responses relating to the capability areas that were largely consistent across all 7 interviews and the workshop. *Relevance* and *comprehensiveness* was assessed by asking all participants to indicate any areas in addition to those discussed that they believed were necessary for the strategic alignment of BPM. In all cases participants indicated that areas covered were comprehensive, encompassing what they believed to be the major areas relevant to the strategic alignment of BPM. Results from the interviews and workshops were supported by a review of documents including Strategy Maps and Plans, newsletters and presentations

This research shows that having an integrated and co-ordinated approach to the identification, prioritisation and management of process improvement initiatives is critical to the alignment of BPM. Negotiation during the identification process was found to improve subsequent buy-in and resource commitment. The existence of a parent-subsidiary relationship provided automatic prioritisation of initiatives and creates a high level of alignment between strategy and process improvement plans. Evidence supports a bi-directional relationship

between strategy and process capability but the parent-subsidiary relationship resulted in strategy being dominant with shortfalls in process capability being perceived as short-term and providing the impetus for process improvement initiatives. Such an approach was recognised as having the potential to create problems as staff members are continually confronted and challenged by the affects of process capability shortfalls and the possibility of divergence in local and global strategic priorities. Whilst high-level process maps were seen to contribute to the sustainability of process thinking this was not the case at lower levels. Major IT upgrades/implementations and legislation such as Sarbanes Oxley contribute to the development of lower level process maps and process improvement methods can improve visibility. Using strategy to derive process measures was found to be critical to developing appropriate measures with distinction between situational and critical measures and leading and lagging indicators improving manageability. Whilst customers were often perceived as central to BPM a balanced approach that considers all BPM stakeholders was found to be desirable.

## LIMITATIONS AND FUTURE RESEARCH

A recognised limitation with any exploratory research is the potential generalisability of the findings. In this instance, generalisability can be viewed in terms of the capability areas and also of the key findings arising from the case study. Generalisability can be improved by achieving high levels of reliability and validity within the data capture and analysis. We believe that the use of the Delphi technique in the identification of these has resulted in capability areas that can be generalised. The Delphi study included 18 international BPM thought-leaders representing both academia and industry. Panel members were from a range of industries and interests including telecommunications, government and consulting. Where possible consensus was determined by the establishment of minimum levels of: average satisfaction, standard deviation within the results and overall rating. Whilst the higher proportion of USA experts might pose a potential bias in data derived from the Delphi study we do not believe this is the case. We found wide-spread support for the capability areas both in existing literature and in feedback from industry presentations suggesting that they are both highly applicable and comprehensive across a range of industries and geographic regions. Similarly, we aimed to improve the generalisability of case study results in a number of ways. We selected a unit of analysis that was prima-facie mature in BPM practices. Questions from the case study and the proto-type survey instrument were derived from existing literature where possible. We used a case study protocol to ensure consistency in questions asked across interviews and workshops. All sessions were conducted by the same researcher with details recorded and transcribed prior to analysis. N-Vivo was used in the analysis of qualitative data.

Whilst the exploratory case study has contributed greatly to the development of a BPM theory we believe further work is required in this area in order to understand the relationships between the factors and capability areas. Our intention is conduct a multiple case studies using the BPMM model to investigate the evolution of BPM within organisations with a view to gaining deeper insights into these relationships. Similarly whilst the survey instrument was used in the case study as a means of standardising data collection further work is required in order to make this a validated instrument for assessing the maturity of the capability areas.

## REFERENCES

- Al-Mashari, M., Irani, Z. and Zairi, M. (2001). Business process re-engineering: a survey of international experience. *Business Process Management Journal*, 7 (5), 437-455.
- Armistead, C. (1996). Principles of business process management. *Managing Service Quality*, 6(4), 48-52.
- Biazzo, S. and Bernardi, G. (2003). Process management practices and quality systems standards: Risks and opportunities of the new ISO9001 certification. *Business Process Management Journal*, 9(2), 149-169.
- Box, S. and Platts, K. (2005) Business process management: establishing and maintaining project alignment. *Business Process Management Journal*, 11(4), 370-387.
- Braganza, A. and Lambert, R. (2000) Strategic Integration: Developing a Process-Governance Framework. *Knowledge and Process Management*, 7(3), 177-186.
- Broadbent, M. and Weill, P. (1993). Improving business and information strategy alignment: Learning from the banking industry. *IBM Systems Journal*, 32(1), 162-179.
- Burn, J. M. and Szeto, C. (2000). A comparison of the views of business and IT management on success factors for strategic alignment. *Information and Management*, 37, 197-216.
- Collins, J. C. and Porras, J. I. (2000). *Build to Last: Successful Habits of Visionary Companies*, Random House Business Books, London.
- Crowston, K. (1997). A co-ordination theory approach to organizational process design. *Organization Science*, 8 (2), 157-75.

- Davenport, T. H. (1993). Need radical innovation and continuous improvement? Integrate process reengineering and TQM, *Planning Review*, 21(3), 6-12.
- Edwards, C., Braganza, A. and Lambert, R. (2000). Understanding and Managing Process Initiatives: A Framework for Developing Consensus. *Knowledge and Process Management*, 7(1), 29-36.
- Elzinga, D. J., Horak, T. Lee, C-Y. & Bruner, C. (1995). Business Process Management: Survey and Methodology. *IEEE Transactions on Engineering Management*, 42(2), 119-128.
- Grover, V., Jeong, S. R., Kettinger, W. J. and Teng, J. T. C. (1995). The implementation of business process reengineering. *Journal of Management Information Systems*, 12, 109-144
- Hammer, M. (2001). *The Process Enterprise: An Executive Perspective* [Online]. Available: <http://www.hammerandco.com/publications.asp> [Accessed 01 March 2006].
- Hatten, K. J. and Rosenthal, S. R. (1999) Managing the process-centred Enterprise. *Long Range Planning*, 32(3), 293 – 310.
- Henderson, J. C. and Venkatraman, N. (1993) Strategic Alignment: Leveraging information technology for transforming organisations. *IBM Systems Journal*, 32(1), pp 4-16.
- Hung, R. Y. -Y. (2006). Business Process Management as Competitive Advantage: a review and empirical study. *Total Quality Management*, 17(1), 2-40.
- Ittner, C. D. and Larcker, D. F. (1997). The performance effects of process management techniques. *Management Science*, 43(4), 522-534.
- Kaplan, R. S., and Norton, D. P. (2004). *Strategy Maps*. Harvard Business School Publishing, Boston, Massachusetts
- Kiraka, R. N. and Manning, K. (2005). Managing Organisations Through a Process-Based Perspective: Its Challenges and Benefits. *Knowledge and Process Management*, 12(4), 288-298.
- Labovitz, G. and Rosansky, V. (1997). *The Power of Alignment*. Wiley, New York, NY.
- Lee, R. G. & Dale, B. G. (1998). Business process management: a review and evaluation. *Business Process Management Journal*, 4(3), 214-225.
- Molden, D. and Symes, J. (1999). *Realigning for Change*, Financial Times Professional Ltd, London.
- Nickols, F. (1998), The difficult process of identifying processes. *Knowledge and Process Management*, 5(1), 14-19.
- Pritchard, J.-P. & Armistead, C. (1999). Business process management - lessons from European business. *Business Process Management Journal*, 5(1), 10-32.
- Rummler, G. and Brache, A. (1995). *Improving Performance. How to Manage the White Space of the Organisational Chart*. Jossey-Bass Publishers, San Francisco, CA.
- Schmidt, S. L. and Treichler, C. (1998). A Process-based View and its Influence on Strategic Management. *Knowledge and Process Management*, 5(1), 58-63.
- Stalk, G., Evans, P. and Shulman, L. E. (1992). *Competing on Capabilities: The New Rules of Corporate Strategy*. Harvard Business Review, March-April.
- Zairi, M. (1997). Business process management: a boundaryless approach to modern competitiveness. *Business Process Management Journal*, 3(1), 64-80.

## ACKNOWLEDGEMENTS

The authors would like to acknowledge and thank participants of the Delphi study and case study for their insights and continued support.

## COPYRIGHT

de Bruin, T and Rosemann, M © 2006. The authors assign to ACIS and educational and non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The authors also grant a non-exclusive licence to ACIS to publish this document in full in the Conference Papers and Proceedings. Those documents may be published on the World Wide Web, CD-ROM, in printed form, and on mirror sites on the World Wide Web. Any other usage is prohibited without the express permission of the authors.