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# Major Issues in Business Process Management: An Australian Perspective

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## Major Issues in Business Process Management: An Australian Perspective

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### Abstract

*Business Process Management (BPM) is widely seen as the top priority in organizations wanting to survive competitive markets. However, the current academic research agenda does not seem to map with industry demands. In this paper, we address the need to identify the actual issues that organizations face in their efforts to manage business processes. To that end, we report a number of critical issues identified by industry in what we consider to be the first steps towards an industry-driven research agenda for the BPM area. The reported issues are derived from a series of focus groups conducted with Australian organizations. The findings point to, among others, a need for more consolidated efforts in the areas of business process governance, systematic change management, developing BPM methodologies, and introducing appropriate performance measures.*

### Keywords

Business Process Management, Process Modelling, Modelling Issues, Focus Groups

### INTRODUCTION

Business Process Management (BPM) includes methods, techniques, and tools to support the design, enactment, management and analysis of business processes (van der Aalst *et al.*, 2003). It is widely acknowledged that process enforcement technologies hold the potential to provide the so-called “missing-middle” that can assist in overcoming the notorious business-IT divide (Davenport, 1993). Indeed, BPM is widely seen as the top priority in organizations wanting to survive the current competitive markets (Gartner Group 2006). However, BPM is viewed from highly diverse angles ranging from a management strategy to a software system, so much so, that there is still not a common consensus even about the definition of ‘Business Process Management’ itself (van der Aalst *et al.*, 2003). In spite of many success stories, the diverse points of view on BPM cause major roadblocks for organizations moving towards BPM solutions.

In addition to the problems rooted in the lack of a common view point on BPM and its potential advantages and pitfalls, organizations find that they face a wide range of other, often unexpected, challenges when embarking on BPM projects. While the benefit of uncovering such challenges is potentially high, at this point in time there is still a scarcity of empirical research that investigates BPM experiences of organizations (Radulescu, *et al.* 2006). We consider the current up-wave of BPM in Australian organizations to be an ideal time to conduct a study on the identification of issues emerging as a result of organizations considering or embarking on BPM projects. The identification of such issues will be of importance to organizations in terms of developing a realistic understanding of the problems they might face. It will also serve to inform academia of potential new research directions in the area of BPM and related topics.

Accordingly, the *aim* of this paper is to identify what major issues are encountered by Australian organizations in their efforts to capture and manage their business processes. Hence, our research question is as follows:

*What are the major issues and challenges related to the adoption of Business Process Management in Australian organizations?*

We address this question through a qualitative study involving focus groups with Australian organizations. Our study shows that, despite academic research being carried out in BPM related areas, Australian organizations struggle with many less technical issues – such as resistance to change, lack of top-management support, and process governance – as well as technical issues such as lack of standard modelling tools, difficulties in application mapping, etc. The identified issues can be roughly categorised as being strategic, tactical or operational in nature.

In order to introduce the outcomes of the study, the paper is structured as follows. The next section provides a brief overview of the BPM field and the research areas being actively worked on by academia. The third section introduces the research methodology. Section four reports the main issues identified through the focus groups. The paper concludes with a summary of findings, discussion of limitations, as well as a preview of future research.

## **BACKGROUND**

BPM approaches prescribe that the entire management of an organization - strategy, goal setting, controlling and planning - be based on its core processes. In definitional terms, a process is simply a structured, measured set of activities designed to produce a specific output for a particular customer or market (Green and Rosemann, 2000). 'Process management' in this relatively new light has revolutionized the way organizations conducted businesses. Just after the industrial revolution, with the influence of existing theories such as those of Henry Ford and Fredrick Taylor (i.e. Fordism and Taylorism), a 'function oriented' approach, where individuals concentrated only on one specific task, was used in the day-to-day activities of the organization (Hammer and Champy, 1993). However, as the business arena started to evolve dynamically, weaknesses of this perspective began to hinder the organization from acting competitively. In response to the pitfalls of functional over-specialization and lack of overall process control, Hammer and Champy (1993) proposed the 'Business Process Re-Engineering (BPR)' concept, which was further re-enforced by other contemporary practices such as Davenport's 'Process Innovation' (1993), Total Quality Management (TQM), Six Sigma, Lean Management, Time-based Management, and value-based performance measurements. The basis of these practices is having a 'process-oriented' vision, rather than a function oriented one.

This business demand was met with a suite of technologies, ranging from groupware and office automation, to workflow systems, and, more currently, BPM technologies. Although, workflow technology has delivered a great deal of productivity improvements, it has been used mainly for pre-defined static and repetitive business processes that required basic level of coordination between human performers and some application components. Recently, BPM has been used as a broader term to reflect the fact that a business process may or may not involve human participants and may also cross organizational boundaries.

While there have been significant advances in many BPM research areas, in particular on technology features that support process control and monitoring, and application integration (van der Aalst, 2003), the foremost factor in BPM success is achieving improvements in the business outcomes. Indeed, unless the efforts towards BPM can clearly produce business outcomes, advanced technology deployments will only generate disappointments (Davenport, 1993; Kettinger *et al.*, 1997; Grover *et al.*, 1998). For organizations to succeed in reaping the benefits of BPM, it is essential that they first outline the business drivers for BPM, articulate the targeted processes, and have a clear agenda on deployment strategies. For many organizations this initial requirement is a very significant challenge. (Radulescu, et al. 2006) reports on the issues identified within such large process modelling projects.

This study, however, has a more general focus that targets overall BPM efforts encompassing both definitional as well as deployment phases in organizations. It is in part motivated by the lack of empirical research in the field of BPM in Australia. We recognise that in order for Australian organizations to advance their maturity of BPM and for the Australian BPM research field to become more relevant to industry, there must be communication with Australian industry in the identification of critical BPM issues. The issues that emerged from our study re-enforce the perception that the Australian industry appears to be, in general, in the early stages of BPM adoption. In the following sections we present in detail the outcomes of this study as well as its broader objectives, which are intended to ultimately identify global issues of BPM adoption through a multi-phase and multi-method approach.

## **RESEARCH METHODOLOGY**

The research question and results presented in this paper form a part of a larger global study on the main issues in BPM (see Figure 1). The initial phase of the larger study is reported here, *viz.* focus groups with Australian user

organizations. The focus groups with organizations, together with interviews of domain experts as well as BPM vendors, will constitute the second phase that sets the groundwork for the identification of BPM issues on a global scale. Ultimately, the results from the current phase involving Australian organizations, together with the results obtained from interviews with international experts and vendors, will be utilised as input for instrument design of an online survey to be carried out at a later stage as a three-round Delphi study.

Through this multi-method approach, we will be able to identify four distinct sets of outcomes. First, as is the focus of this paper, we will be able to identify the BPM issues that are relevant to Australian organizations given their current level of BPM maturity. Second, the research design will also allow us to gain insight into the opinions of foremost technical and business oriented experts and analysts. Third, an understanding of organizations' misconceptions of BPM technologies, as confronted by BPM tool vendors will be obtained as well. Last, we will gain an understanding of BPM issues on a global scale, together with the apparent criticality of those matters of concern. This final outcome is a generalisation of the Australian study and an aim to inform practitioners and the research community world-wide on problems that are yet to be addressed in the related areas.

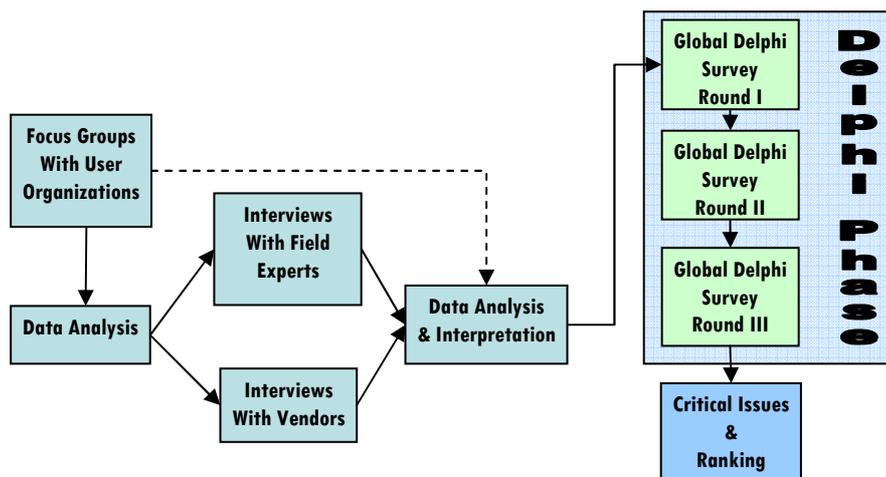


Figure 1: Multi-method research approach

### Focus Group Study

A focus group study is conducted when individuals are carefully selected and gathered by researchers to discuss and comment on, based on the participants' personal experience, the topic that is the subject of the study (Powell and Single, 1996). It is an effective approach of gathering the general opinion of the target audience as it allows clarification and justification of opinion. Focus groups are often used at the preliminary or exploratory stages of a study (Kreuger, 1988) and can form a good starting point for the further development of questionnaire/survey instruments (Morgan and Krueger, 1998), which can be used to establish generalisability of focus group results. Although focus groups are limited in their ability to generalise findings due to the small numbers of participants, they enable the researcher to gain a larger and richer amount of information in a shorter period of time, in comparison to interviews and observations. Furthermore, focus group studies are useful in situations where a certain level of data analysis is required from the participants – e.g. establishing the relative importance of topics raised. This study method is also particularly useful when one wants to explore the degree of consensus on a given topic (Morgan and Kreuger, 1993).

In this research, focus group studies are used to bring out the industry participants' beliefs of what BPM issues and challenges Australian organizations are facing. The interaction among focus group participants brings out differing perspectives through the language that is used. The participants can also be led to reveal more than they would in a more formal interview setting.

In order to obtain a representative data set, multiple focus groups were arranged with organizations in different states. The sessions lasted for approximately two hours and were held in neutral locations, such as universities, as such locations can be helpful for avoiding either negative or positive associations with a particular site or building (Powell and Single, 1996). A selection of participants from cross-industry sectors was carried out in order to achieve good representation from both the public and private sector. Care was taken to achieve a diversity of private sector organizations from the resource, insurance, banking and finance, consultancy and utilities sectors. The focus group participants were selected only on the basis that the targeted organization has significant amount of exposure to BPM. Examples of such selected individuals' roles identified in this study include project managers, process owners, information architects, business process architects, and BPM consultants. These participants were also purposefully selected from various levels of the organizational hierarchy, as well as

different functional areas (e.g. Finance, IT, Logistics, Marketing, Administration, Business Planning, or Production) in order to further improve the quality and reliability of the gathered data.

Four focus group studies were conducted between late 2005 and early 2006 – two in Perth, one in Brisbane, and one in Sydney. A total of 21 organizations, represented by 27 target respondents, participated in this study. The demographics of the focus group participants from different states and sectors are illustrated in Table 1.

Industry Sector	Perth	Brisbane	Sydney	Totals
Government	0	1	0	1
Finance, Banking & Insurance	1	1	1	3
Resource	4	1	0	5
Utilities	0	2	1	3
Consulting	3	1	2	6
Other (e.g. ICT)	3	0	0	3
<b>Totals</b>	<b>11</b>	<b>6</b>	<b>4</b>	<b>21</b>

Table 1: Participating organization demographics

### Focus Group Study Procedure and Data Analysis Approach

In order to increase the reliability and ensure consistency during data collection from different focus group studies, an interview protocol was developed prior to the sessions. A semi-structured protocol was devised and employed that guided the research team during the focus groups and allowed the researchers to follow the same structure and format for each focus group study. A summary of the protocol used (breaks excluded) is replicated in Table 2. The protocol dictated that each focus group commenced by having a member of the research team introduce the motivation for the study and explain the assumed definition of BPM in order to reduce any gaps in the understanding of BPM influenced by the wide-ranging backgrounds and foci on the part of the participants.

Agenda Item	Allocated time (minutes)
Welcome and Introductions	05
Motivation and Importance of the Study	10
Brief Presentation on BPM	10
Data Collection Session	
Q1. What is the role of BPM in your organization?	10
Q2. What are the main BPM issues you face?	30
Issues Categorization	15
Q3. Which of the issues are the most critical?	30
Wrap up	10
TOTAL Time	2 hours

Table 2: Focus group protocol

Once the focus group participants were satisfied with all relevant BPM issues that had been raised, the focus group facilitator (a fellow member of the research team) would commence the process of categorising of the listed issues into more prominent and generalisable terms. This process occurred within the focus group (see focus group protocol in Table 2) and with full participation of the attendees. An Excel spreadsheet with the listed issues was presented on the screen in order to prompt spontaneous yet collective responses on each identified item in the relevant categories. Active discussion took place during this process in order to eliminate any conflicting opinions. Once consensus was reached on the category of issues, the process moved on to that of identifying the main BPM issues. Each participant was requested to rank the top three issues from the categorised list pertaining to the experiences of his or her own organization. These rankings were then recorded in the spreadsheet for further analysis and were used in the identification of the issues which are considered to be of higher importance to Australian industry. The results of each focus group were not released to following focus groups until the ranking of issues was completed. The participants were then informed of the main issues in the previous focus group(s). The issues from the four focus groups were then consolidated and overlaps were removed. It is these main issues that are being reported on in this paper.

## RESEARCH FINDINGS

We present the focus group findings of the main BPM issues perceived by Australian organizations against the typical organizational levels. The findings are thus grouped into three categories, *viz.*, strategic level issues, tactical level issues, and operational/technical level issues (as illustrated in Figure 2). This is consistent with the framework developed by Irani, Sharif and Love (2001) on the analysis of manufacturing information systems, where failure within the implementation process was identified by categorising the evaluation into strategic,

tactical and operational factors. We use this approach here, in order to specify the context of the identified issues, as well as to better structure the discussion.

From the BPM perspective, the strategic level relates to top management support, business and IT alignment, process organization and governance issues. The tactical level encompasses challenges in efforts such as process modelling, process performance measurement and BPM methodologies. The operational level relates to technological issues in BPM adoption such as technology capability, SOA (Service Oriented Architectures) maturity in technology landscape, use of XML standards and so on.

Strategic	Tactical	Operational
Change management Lack of governance Lack of top management support Lack of support for process owners	Lack of expertise Lack of measurable returns Lack of coordination Lack of standardisation Lack of BPM understanding Lack of visibility Lack of performance measures Lack of progress in process maturity Lack of clear starting point Lack of linkage with external business partners	Lack of tools for holistic BPM Lack of technology capability Lack of process monitoring Lack of integration

Figure 2: Major Issues in BPM at Different Organizational Levels

### Issues at the Strategic Level

#### *Change management*

Change management in organizations relates to devising a plan for introducing change in the organization such that the benefits to be obtained from the change can be maximised. According to the focus group participants, changing the way employees and top management executives think about business processes is one of the core issues faced by organizations when attempting BPM – i.e. changing from function-oriented thinking to process-oriented thinking. Organizations as a whole also appear to struggle with moving from functional alignment to process alignment. This situation includes difficulties associated with redefinition of roles and responsibilities, as well as redesign of reward mechanisms (Hammer and Champy, 1993). In general, there is also some resistance to change and a lack of understanding of why the change is necessary. Some employees are unable to understand the relevant concepts of BPM as well as the potential advantages (Davenport, 1993; Hammer and Champy, 1993). In some cases, this has been reported to lead to the lack of action – for example, when an employee is resisting the change brought on by BPM he or she chooses not to speak up about it. Instead he/she merely avoids or refuses to act out a particular requested task, which is much harder for a change manager to detect and harder to consequently address the resistance towards the system. Another problem identified within this domain is the fear of change by management due to the common assumption that changes may be drastic (e.g. “*once the organization starts to bring in BPM, everything starts to change*”) and may potentially escalate beyond the realm of their control.

#### *Lack of governance*

Lack of governance is another frequently quoted issue relating to an organization’s BPM efforts. Governance, in general, refers to the use of some form of authority in order to control and coordinate the different facets of operation. More succinctly, “*corporate governance is the system by which companies are directed and managed. It influences how the objectives of the company are set and achieved, how risk is monitored and assessed, and how performance is optimized*” (ASX Corporate Governance Council, 2003). From the perspective of BPM, a recurring issue is the ownership and control of processes across organizational units. Issues identified by focus group participants relating to process ownership are the question of: who has influence over the solution and how to best implement it, and who will provide required services. Also, fitting into this umbrella of issues is the management of the complexity of business logic.

#### *Lack of top management support*

According to the focus group participants, introducing the somewhat dramatic changes that can be associated with BPM initiatives requires strong support from executive and upper management. The extensive literature in the areas of management and project failure tells us that this is not a surprising finding. For example, top management support has been shown to be a critical success factor for process modelling (Radulescu, *et al.*, 2006) as well as one of the top five determining factors for continued use of a new technology in firms (Davies *et al.*, 2006). The lack of such support has also been strongly linked to project failure (Ewusi-Mensah and Przasnyski, 1994). In general, the lack of top management support can be evidenced through lack of funding for

BPM initiatives as well as lack of a common understanding of BPM in the organization. Evidently, lack of top management support clearly makes change management significantly more difficult. The issue is also related to that of 'lack of expertise', as agreed on by a number of focus group participants. One participant pointed out that "*the managers that get promoted to the higher levels tend to be 'fire-fighters'*" – i.e. they are very good at making tactical fixes. However, they may not have an understanding or appreciation of BPM, and may still be legacy functionally-oriented thinkers.

#### *Lack of support for process owners*

Process owners, generally, do not have direct control over people in an organization, hence, they rely on influence and persuasion. They do so, however, in organizations that typically have a "*command and control*" culture. One of the main issues that was identified in relation to this point is the difficulty in "*maintaining the motivation or satisfaction*" of process owners in an environment where "*if you don't own somebody, you can't get them to do anything*". Focus group participants also identified the need for nurturing process owners so that there is a level of cultural alignment within the organization – i.e. where there is alignment and good communication between people responsible for determining the goals required for the organization to be successful, and people who can deliver on those goals. Related to this point, one participant also highlighted the need for training people to think about "*why we do what we do?*" rather than just thinking about "*how do we do it better?*".

### **Issues at the Tactical Level**

#### Lack of expertise

Issues related to the lack of skills and expertise came up across all levels of the organization. First and foremost, lack of skills was identified in top level managers. As discussed under the *lack of top management support* category of issues, some managers simply do not have the necessary training and exposure to possess the thinking of process. Most of these managers operate and think at the functional level. One participant has put this issue down to inadequate management education, stating that "*management education over the last decade or two has not equipped us well with people who are capable of thinking in terms of process design and maintaining processes and working collaboratively across end to end processes.*" Another participant noted that "*even fresh graduates require a span of six months to a year before they become productive*", hence "*to implement BPM and to hopefully witness its impact on the organization may be a bit too optimistic*". This issue is further exacerbated by the technical complication of combining BPM and IT, which makes implementation more difficult.

Lack of expertise is also considered to be a roadblock from a technical perspective, with participants considering a lack of 'technical know-how' to lead to the lack of skills to implement BPM within the organization. Finally, a number of participants have agreed that there is also a lack of *awareness* of BPM skills and knowledge shortage within organizations. Hence, some organizations live with the false sense of security believing that they have all the required resources in order to embark on their BPM initiative, when in fact, they do not possess the adequate expertise for a successful implementation.

#### *Lack of measurable returns*

The inability to estimate the financial benefit of BPM and the intangible nature of BPM appear to be significant issues in Australian organizations. One of the main issues relates to that of obtaining top management support, and hence financial support, for the BPM initiative. This is mainly because BPM may not produce immediate results and the potential costs savings are difficult to estimate, which makes BPM hard to promote to senior management. Many organizations seem to be too cost-focused in the short term and would invest in IT instead of BPM because the former is more tangible and accountable with executives. There also appears to be evidence that some organizations feel that the business case for BPM is not strong enough when the company is profitable. This issue appears to be linked with a *lack of BPM understanding*.

Furthermore, one focus group participant also raised the issue of lack of agreement on sources of funding as a barrier to BPM. Since business processes are likely to span different departments, it is difficult to gain agreement on how much financial support is contributed from each of the departments towards the BPM efforts and difficult to estimate how each department will benefit. This is further exasperated when various departments are in competition for funding.

#### *Lack of coordination*

The raised issue of lack of coordination refers to, specifically, lack of inter-departmental coordination within organizations. The success of any cross-departmental BPM initiative depends on communication and alignment between the involved departments. This coordination, however, appears to be difficult to achieve. For example, the IT team may exist as a separate entity and may not be sufficiently integrated with business departments –

resulting in a lack of inclusion of the IT team in the very beginning of strategic BPM plans made by top management. One participant also voiced the observation that in their organization the IT department tends to take the blame for any failures instead of management taking the blame where they are at fault.

#### *Lack of standardisation*

Lack of standardization of modelling approaches results in difficulties in correlating the processes across functional areas and across the enterprise. Various departments within one organization may be using different process modelling techniques - for example, flow charting, activity diagrams, and so on. One participant recalled a survey he/she did within their organization and stated that they "...have about half a dozen different modelling techniques [you might say are] being used across even just three of four thousand people" in their organization. There is no semantic or syntactical correlation across these approaches, therefore, it is difficult to consistently interpret the different models in an attempt to correlate similar processes across the organization. A participant also noted the role of the Business Process Modelling Notation (BPMN), which is a potential new process modelling standard, as that of helping with the problem - "now you've got BPMN, which is a standard modelling notation, which can hopefully help".

#### *Lack of BPM understanding*

Lack of BPM understanding, in particular *shared* BPM understanding, was repeatedly raised as a major issue in the Australian focus groups. This issue also encompasses problems related to the lack of understanding of BPM benefits, lack of credibility of departments that propose BPM initiatives, as well as the large gaps in understanding of BPM between the employee and the executives at management levels.

Related to the main issue of the *lack of BPM understanding*, is the lack of understanding of organizational processes and employees' roles within these processes. Often, employees are not well versed in the actual process and, subsequently, the final results may vary. This situation can be further exacerbated by breakdowns in communication channels - e.g. miscommunication of objectives and expectations.

Furthermore, according to the focus group participants, organizations and employees alike have difficulties in identifying what the actual problems are, hence they are not able to estimate how effective BPM will be at fixing those problems. There are also different foci between the top level management perspective and IT perspective on BPM. The business motivation for BPM in general is to manage the core business processes from a manager's perspective, not from an IT perspective. However, from an IT manager's perspective, the focus lies in standards and process improvement. This problem is further worsened by the issue of lack of *shared understanding* as well as just the lack of *general understanding* of BPM - as an example, a focus group participant noted that in their organization "*BPM and Six-Sigma are sometimes viewed as the same*" by some employees, another noted that their management consider having ARIS (a business process platform and application tool) as having BPM in the organization.

#### *Lack of visibility*

The lack of visibility of BPM within an organization appears to be a factor for the lack of shared understanding of BPM and the lack of understanding of potential benefits. The lack of visibility is particularly observed in organizations where BPM is driven by IT rather than by business. It also seems to be connected to the lack of a designated 'BPM champion' within an organization. In general, one would expect that organizations with low BPM visibility experience a whole range of issues related to difficulties in persuading management about BPM benefits, as well as difficulties in changing the organizational culture.

#### *Lack of performance measures*

Lack of appropriate performance measures, for both processes as well as executives and staff members, and a lack of linkage to organizational strategy are seen as a big issue for organizations wanting to engage in BPM initiatives. According to one participant, this issue stems from the organization's unwillingness to change and lack of understanding of the importance of updating their performance measures and linking them with executive and staff KRIs and KPIs. This is consistent with Hammer and Champy's (1993) argument that paying employees based on their position is inconsistent with the principles of process improvement. They must be paid based on their performance and ability. Bashein, Markus and Riley (1994) further suggest that sound financial condition needs to be in place in order to acquire appropriate human resource specialists involved in business process projects.

#### *Lack of progress in process maturity*

While there has recently been some significant *research* interest in business process management maturity models (e.g. Rosemann & de Bruin, 2005), Australian industry, as represented by the focus group participants, indicates that it struggles with increasing their levels of BPM maturity. Hence, we see a need for more defined guidelines and procedures for increasing BPM maturity levels in organisations. To some extent this is met with

the current efforts on defining BPM maturity models, however these models need to be empirically tested, shown to be accurate, and, finally, need to be communicated to industry.

#### *Lack of clear starting point*

An issue that perhaps displays Australian industry's relative immaturity in the context of BPM is the lack of understanding of where to start and what to do first in a BPM initiative. For example, should the organization focus on integrating all their business strategies first or should they implement a BPM tool first? Should they, perhaps, start by looking at what their process measures are before performing any other tasks?

Furthermore, even though there are a large number of BPM methodologies available, these seem to exist in isolation and there is no one guiding methodology on how to conduct holistic BPM in the organization. At a level down, there is also a lack of structured approach for BPM deployment in organizations. As a result, these tend to be ad-hoc and consequently may not produce the best results.

#### *Lack of linkage with external business partners*

Balancing the 'inside-out' view of process management within an organization, together with an 'outside-in' view is considered to be an important, yet risky activity. Essentially, the customer-driven view of process management should be balanced with the "*business, financial, cost reduction*" inside-out approach to process improvement. This issue highlights that optimisation of processes purely based on financial incentives may not be the best option for an organization. Other goals, for example increasing customer satisfaction, which may not necessarily be tied with cost reduction, are also an important aspect that should be considered and one that is sometimes forgotten by organizations due to their narrow focus on cutting costs.

### **Issues at the Operational Level**

#### *Lack of tools for holistic BPM*

Focus group participants have identified the lack of end-to-end tools to manage business process management itself as being a major issue faced by organizations. While a number of good business process modelling tools exist "*there aren't any tools, or methods, or structures in place to do end-to-end business process management*". It is, however, a well accepted fact that BPM, in order to be successful, requires a holistic approach (Burlton, 2001). Without the access to a pool of tools that support BPM, organizations are facing an up-hill battle. This issue, in terms of lack of methods, also relates to the lack of methodologies or guidance for holistic BPM in organizations, i.e. methodologies that effectively allow organizations to move between strategic, design, execution, and monitoring aspects of BPM.

#### *Lack of technology capability*

Although, many Australian organizations are still struggling with achieving a BPM mindset and articulating key process models, an underlying goal of the definitional phase of BPM is to eventually provide process control and monitoring through the organization's technology infrastructure. The issue of technology capability relates mainly to the existence in organizations of legacy systems that need to be incorporated in the BPM initiative. As one participant explained, "*one of the promises of BPM comes from the technology, but a lot of the frustration around implementation comes from the inability of legacy technology investments to support a true process-based view of the organization*". There is evidence of success in this regard from investments in web services technologies. In particular aiming towards a service-oriented architecture (SOA) to achieve loose coupling between enterprise applications and thereby providing a conducive technology landscape for connecting activities that constitute business processes. BPM solutions must provide plug and play functionality for both legacy as well as service enabled applications if organizations are to reap the true benefits of BPM.

#### *Lack of process monitoring*

Process monitoring, or rather lack of, was identified as a serious issue by focus group participants. Benefits ensuing from a large and often costly move towards BPM must be clear and evident. However, a lack of process monitoring capability will dampen such benefits and threatens to compromise strategic initiatives towards process orientation. This issue is closely tied up with technology capability to provide process enforcement at the operational level. An essential pre-requisite to process monitoring is the introduction of technological support for process control, so that processes designed at the strategic/tactical levels are aligned with the processes actually enacted at the operational level. A focus group participant rightly identified the presence of system work-around in the absence of appropriate control and monitoring functionality as: "*keeping process in front of the 'process-or' so that they stay on track*".

An additional, and often non-obvious, need for process monitoring is to empower the process users to respond in real-time to changing conditions, in other words, "*monitoring activity so that people know and can keep up with*

*changes as they go through the system*". Business intelligence and advanced analytics have come to play a central role in enterprise operations, where process logs and monitoring tools are an essential ingredient.

#### *Lack of integration*

Lack of integration was considered to be one of the more critical issues in Australian organizations. It encompasses problems with breaking system and departmental silos, a lack of multiplicity of views of processes within the organization, and lack of linkages to other processes.

The participants' raising of the issue of breaking silos is not surprising in the context of integration, as silos by their very nature are an obstacle to a holistic view of the organization, and hence to holistic BPM. The existence of silos is also related to the raised issue of lack of multiplicity of views in that employees within a given department do not have access to the various perspectives of the process, as seen by the different involved departments. This situation also contributes to a lack of integration of various processes across the organization, for example, financial and cost management processes.

At the technical level, lack on integration manifests itself through the difficulty in interoperation between enterprise applications. This difficulty may arise due to structural differences (e.g. J2EE/.NET/legacy), as well as semantic differences (e.g. different terminology, use of different standards). In both cases, the process layer can play a positive role in overcoming integration problems. However, organizations must overcome differences at the organizational level first before process technologies can be utilized to overcome technical integration problems.

## **CONTRIBUTIONS AND LIMITATIONS**

This paper provided a targeted discussion on the main issues and challenges related to Business Process Management adoption in Australian organizations. This is seen as a significant step towards alignment of BPM research with industry needs as there is a scarcity of empirical evidence of BPM issues experienced by Australian industry. In order to identify the main issues, a rigorous research approach was used, employing focus groups with twenty seven participants across twenty one organizations within three Australian states. The resulting issues were classified across the strategic, tactical and operational dimensions, and were discussed in detail with anecdotal evidence from research data and literature. Lack of BPM methodologies, lack of performance measures, lack of process monitoring, were among some of the main issues identified.

The study's findings are expected to be of benefit to both the BPM research and practicing communities, in terms of guidance for positioning their current research and targeting future research on BPM topics identified by industry as areas that need attention. The uptake of such topics may foster a stronger relationship between industry and academia through joint projects - until now there has been very limited information available to the research community on the exact issues that industry is experiencing, hence impacting opportunities for collaboration. In turn, industry can potentially benefit from the partnership in terms of guidance and possible solutions to the major BPM issues currently faced. Australian industry in particular is expected to benefit from this study through better preparedness and better planning facilitated by learning what main issues that are experienced in *other* Australian organizations, before embarking on their own BPM projects.

The study is not without its limitations. The data collected at this stage of the study was limited to the Australian context, hence the study's findings can only be generalised towards the Australian region at the current point in time. While inherent weaknesses of the focus group data collection approach were mitigated as much as possible with a coherent focus group protocol, the process is relatively subjective in nature and research bias may have occurred when identifying focus group members and during the facilitation of the focus group studies.

The results reported in this paper are the first step towards deriving a global industry based research agenda for the BPM context. Extensions of the presented work are planned, and have commenced, in order to generalise these findings across different regions and different perspectives (as depicted in Figure 1). While this paper reported on issues pertaining to BPM users, the identification of issues as observed by global BPM experts (practitioners and academics widely cited and experienced in BPM) and BPM-related technology and consulting vendors, are also underway. This method of triangulation will enable a rich cross-perspective analysis of BPM issues across different crucial stakeholders of BPM. A global survey to collect data and identify issues from BPM users in other regions (namely North America, Asia and Europe) is also planned in order to extend the findings reported herein.

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