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Implications for theory and practice

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ABSTRACT

This paper presents an empirically validated conceptual model of Business Process Management (BPM) to enable the pursuit of BPM theory. Phase One of the research focussed on the development of an initial model of BPM, derived from a synthesis of current literature. This model consists of five key themes, subsequently categorised as 'application components' of BPM. The empirical validation of the model was approached in two further phases. Phase Two involved the application and initial assessment of the model within fifteen Financial Services companies. Phase Three of the research involved case-based research in the company emerging as the most 'process mature' during the initial assessment. The results suggest that, in addition to confirming the five 'application components' of the initial model, three additional 'conceptual components' are important. These concepts differentiate BPM from other process management activities, and inform a fundamental mindset for the conscious and sustained management of end-to-end processes.

Keywords:

Conceptual Model, Business Process Management (BPM), Business Process Re-engineering (BPR), Financial Services, Service Operations Management

INTRODUCTION

Process management has become widespread within the business community, impacting, to varying degrees, upon both organisational practice and organisational language (Armistead *et al* 1999). The concept of 'process' has repeatedly emerged in many of the prominent thematic initiatives in the post-reengineering era. Customer Relationship Management (CRM), Enterprise Resource Planning (ERP), Six Sigma, and more recently Business Process Management (BPM), for example, all utilise the concept of 'process'. In addition to transcending these initiatives

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'process' can also be found in multiple sectors, and as key elements of performance improvement frameworks (e.g. EFQM). However, while the take-up of process-based management, particularly Business Process Management (BPM), has been extensive, there is also a substantial amount of variety in the semantics attributed to this management theme (Al Mashari, 2002). The confusion surrounding BPM may be located in the relative paucity of conceptual analysis and rigorous empirical research. Melao and Pidd (2000), for example, in an exploration of business process modelling, note that 'there are few significant attempts to develop theoretical positions on possible approaches to BPM, possibly because the development of BPM has been driven by practitioners rather than academics'. This does not however preclude BPM from theoretical development. As exemplified by Schmenner and Swink (1998), the challenge for academics within the Operations Management (OM) discipline is to pursue the construction of productive theory. Furthermore, an additional challenge, noted by Slack *et al* (2004), is for OM to expand its horizons and embrace a wider Service Operations context for its research.

In pusuit of these goals, fuelled by the extent of BPM practice and lack of theoretical foundation, the paper describes the derivation of a conceptual model for BPM. The model, derived from a systematic review and synthesis of current literature, and validated in empirical data from the Service Sector, provides a common foundation for future academic debate for the derivation of BPM theory.

RESEARCH METHOD

The research was structured into three main phases. Phase One was concerned with the development of an initial conceptual model which reflected current BPM thinking. Models,

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concepts and approaches, found within the literature, were synthesised into five key themes. To provide a focus for further exploratory research the following research question was formulated: to what extent do the five themes emerging from existing literature adequately conceptualise BPM?

Phase Two: to provide some insight into the appropriateness of the initial model a workshop was held with 15 Financial Services companies to assess their relative maturity within each of the five dimensions of the model. The companies were also encouraged to challenge the dimensions of the model. The service sector, in particular Financial Services, was recognised as one of the most active proponents of process management.

Phase Three of the work was based on in-depth case research. Case based methods are widely recognised as an effective means for unpacking complex concepts en route to the development of explanatory theory (Meredith, 1998). The advantages of case research include: studying the phenomenon in its natural setting and hence generating theory from actual practice; the ability to ask the *why* questions rather than just the *what* and *how*; the ability to uncover variables which may be misunderstood or unknown (Benbasat *et al*, 1987). Voss et al (2002) represent the views of a growing number of researchers when they argue that 'case research has consistently been one of the most powerful research methods, particularly in the development of new theory.' However, proponents of the case methodology emphasise the rigour which must be applied. Effective case selection, underpinned by a structured research protocol, has been identified as critical in ensuring such rigour (Stuart *et al*, 2002; Voss *et al*, 2002).

Case selection for this project was informed through the initial 'process maturity' analysis. The company emerging as the most 'process mature' from this group was identified as an appropriate case company for the more in-depth research. The company, a large UK bank, was an early adopter of BPR. The Bank had experienced a wave of mergers and acquisitions in the late 90's, which culminated in the closure of it's BPR programme. More recently, however, the Bank had re-visited process management through the introduction of a Process Design Authority, charged with understanding, controlling and improving processes. The Bank is a complex organisation, with a number of subsidiary companies, offering a wide range of financial products through diverse business processes.

Data was collected through semi-structured interviews with seven experienced senior managers who were recognised as process experts and had a range of process management responsibilities. The interviews focused on two key areas: the development of process management over time and an exploration of practitioners' understanding of the meaning, scope, significance and value of process management. Interviewees were encouraged to drive the discussion and consequently, responses varied considerably in form and sequence.

To support the interviews, and to triangulate the responses, an extensive range of secondary data was collected and analysed, including: project documentation; examples of process management outputs (including process models and measurement data); central and local process communications; minutes; and terms of reference. This data was analysed, initially, using the thematic coding approach proposed by Flick (1998), to identify the existence of the five theoretical BPM themes in the empirical data.

LITERATURE SURVEY

A plethora of research streams exist which are closely related to the concept of 'process'. Rust and Zahorik (1995), for example, outline an approach for assessing the financial return on investments which seek to enhance the service experience. They argue strongly that data must be collected against business processes: 'The idea is that business processes … are how the business is organized'. Beretta (2002) meanwhile, explores the recent boom in Enterprise Resource Planning (ERP) systems. He suggests that the impact of their implementation on the operating performance of a company can be best appreciated by focusing measurement on the improvements that they produce in the performance of business processes. Voss and Huxham (2004) use *process* as the exemplar in their analysis of the absorption of new ideas into day-to-day operations: 'Successful practices become embedded in the organisation **…** An excellent example of this is Business Process Re-engineering (BPR), which was used by many organisations in the 1990's**.** Today it is hard to find an organisation that is explicitly trying to re-engineer its processes. On the other hand it is also hard to find a large organisation that does not pay explicit attention to the design and management of its processes'.

Critical to an understanding of BPM is the disentangling of process from its re-engineering origins. The emphasis has switched from *re-engineering* to *process*: 'I no longer see myself as a radical person; instead I have become a process person' (Hammer, 2001). The following sections attempt this disentanglement. It is our view that much of the current confusion surrounding Business Process Management is a legacy of its antecedents in Business Process Re-engineering.

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Business Process Re-engineering

In 1990, Michael Hammer introduced the concept of business re-engineering, with his plea for companies to: 'Obliterate; don't automate' (Hammer, 1990). The impact on the business community was profound, with surveys suggesting adoption rates for re-engineering across the business community as high as 75% (Al-Mashari and Zairi, 2000). The impact on management research was equally dramatic. One investigation into academic research found that over 700 articles linked to re-engineering were published in 1994 alone (Case, 1999).

The research generally focused on two main issues: the extent to which BPR was successful; the factors related to successful implementation. A growing consensus emerged that BPR rarely delivered the targeted benefits. By the end of the 90s, the business community was deemed to be *moving on* to other issues such as CRM and ERP. BPR was regarded by many as simply another 'management fad' with little to merit such high levels of research attention (Grint and Case 1998).

Nevertheless, a number of publications continue to report BPR activity. MacIntosh (2003), for example, declares that BPR is 'alive and well' in his study of process activity within the public service sector. Similarly, a number of authors have reported ongoing BPR activity from economies outside Western Europe, (Khong and Richardson, 2003; Terziovski *et al*, 2003; Yung and Chan 2003,). Other researchers are investigating more detailed aspects of BPR: quantifying risk (Crowe *et al*, 2002); flexibility (Fitzgerald and Siddiqui, 2002); BPR and strategic alignment (Sarkis and Talluri, 2002); BPR and Information Technology (Attaran, 2003).

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The relationship between BPR and other improvement interventions, most notably Total Quality Management, also continues to capture research attention. Williams *et al* (2003) focus on this relationship within SMEs. Samson and Chalice (2002) explore the shared 'pre-conditions' that determine success in process based interventions. Carpinetti *et al* (2003) develop a framework and reference model for improvement activity incorporating BPR and continuous improvement methods.

There has been considerable interest in the opportunities to automate business processes. This encompasses both the development of executable process management technology, as well as tools for modelling and designing processes. There is a rich literature on modelling tools themselves (Bal, 2002; Gingele *et al*, 2002; Gunasekeran and Kobu, 2002; Lin *et al*, 2002). Such research often categorises this activity under the heading Business Process Management. IT vendors, in particular, recognise this term and use it as a vehicle to develop and promote their products. However, perspectives are starting to emerge which emphasis a broader context: (BPM)…'has to be capable of modelling a process, brokering that process, delivering it with straight through processing (STP), and then managing it, all within a single environment. Because of its far reaching implications for the ability of enterprises to adapt, it is much more than a technology fad but a management issue that needs to be on senior management's agenda, driving the IT support of the business.' (BPMi.org)

In summary, BPR, itself, is no longer a significant phenomenon. A limited amount of specialist BPR research continues to be reported, together with analyses of late adopters. Business process automation, often labelled BPM, is a growing activity, albeit one which tends towards a narrower, IT-centric, context. Process based interventions, in particular, Six Sigma, are in vogue, although doubts remain as to the durability of such interventions in the absence of a process

management framework (Hammer, 2002). Nevertheless, as noted earlier, process management continues to engage many businesses, particularly within the services sector. The apparent contradiction between the demise of BPR and the re-emergence of a focus on process management has been examined by a number of researchers. However, although there is some commonality of thought on the nature of the re-birth of 'Process' there is currently much confusion and a lack of consensus.

Business Process Management

Processes are considered: 'a generic factor in all organisations. They are the way things get done' (Armistead *et al*, 1999). Processes are also viewed as 'strategic assets', which require companies to 'take a business process orientation' (McCormack and Johnson, 2001). Process is not simply the *management fad* of re-engineering, but a more pervasive issue, requiring serious attention. 'Process thinking has become mainstream' (Grover *et al*, 2000). BPM in this context considers process as both a business imperative and a means of understanding and explaining business activities - the way customer requirements get transformed into actual goods and services.

A number of studies have raised our awareness of BPM, and begun the process of characterisation (Armistead, 1996; Lee and Dale, 1998; Zairi, 1997). However, there is no current consensus on the *principles* or *key characteristics* of BPM found within the literature. We believe, that the derivation of a common model, a platform on which to engage in debate, will provide significant opportunities for both academic and practitioner communities. The initial model presented here is the result of a systematic review and synthesis of the current

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literature. This has facilitated the identification of five key themes of BPM: Process Strategy, Process Architecture, Process Ownership, Process Measurement, Process Improvement.

Process Strategy

Process Strategy addresses the linkages between the articulation of strategic intent and the intended actions in the deployment and on-going management of a process infrastructure. The linkage between strategic intent and deployment within BPM has been explicitly highlighted by Prichard and Armistead (1999). These authors introduce the concept of an 'integrator' which links strategic level planning with task level deployment. The articulation of a strategic intent to focus on processes has been identified by a number of authors (for example, Bateman and Rich, 2003; Burlton, 2001; Grover *et al*, 2000; Lee and Dale, 1998; Meadows and Merali 2003; Silvestro and Westley, 2000). While there is a consensus that BPM requires the articulation of strategy, there is some debate regarding the strategic performance achievable through BPM deployment. Silvestro and Westley (2002), for example, discuss the appropriateness of BPM for strategic differentiation, but challenge the appropriateness of BPM for a cost leadership position. This contrasts with the findings of Armistead and Machin (1997) which suggest significant opportunities for the attainment of a cost reduction strategy, in addition to increased delivery reliability, speed of new product introduction, increased flexibility and consistent product quality.

This articulation of business strategy and the identification of possible dimensions of enhanced competitiveness depend on the strategic approaches adopted. Armistead *et al* (1999) draws on the broader literature in strategic management and suggests the categorisation of: prescriptive vs emergent, hard goals vs stakeholder aspirations, and strategic content vs strategic process when

considering the strategic approaches adopted by companies undertaking BPM. The findings from their work indicate that a blend of 'prescriptive' and 'stakeholder aspirations' approaches are dominant, driven by the use of the EFQM model for achieving organisational effectiveness. This is consistent with analyses of the external market value chain and the identification of key business processes to compete in the identified market (Prichard and Armistead, 1999).

Increasing attention is however being given to the possible strategic leverage provided by understanding and capitalising on distinct capabilities attainable through specific resource configurations. A key aspect of BPM is the articulation of process capability which includes an understanding of resource capability. As companies become more process mature it is possible that strategic differentiation will be based more on a capability-centric approach. However, capability driven strategy formulation, while receiving significant attention (Lewis, 2003), has still not realised the paradigmatic neatness identified by Teece *et al* (1997). It is possible, however, to envisage a business process-based strategic capability which synthesises process capability and market-led strategies (Acur and Bititci, 2004). Business process capabilities provide significant strategic opportunities (Roth and Jackson, 1995) and the processes themselves may be viewed as strategic assets (McCormack and Johnson, 2001).

While it is possible to draw from the broader Strategic Management literature to discuss the relative merits of strategic approaches, the key issue here is the effective deployment of an intended strategy through an infrastructure which is process-centric. Armistead and Machin (1997) provided some examples where companies have linked their long term plans with annual plans for key business processes. It is possible to suggest that BPM itself represents this deployment – a strategy in action. Process Management is more than a way to improve individual processes – it is a way to operate and manage a business (Hammer, 2002). Xerox, for

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example, was driven to adopt BPM by the need to improve strategy implementation (Prichard and Armistead 1999). As these authors point out, the key is to 'link strategy with day to day operations' this inevitably invokes discussions regarding policy deployment. Our view is that this deployment is achievable through the consistent pattern of decisions (Mintzberg and Quinn, 1996) made in each of the four other themes described below. Effective communication of these decisions is paramount for success (Davenport, 2004; Meadows and Merali, 2003). As Prichard and Armistead (1999) suggest: the inability of an organisation to determine and communicate its view of process can create cynicism among its members which may be difficult to overcome by the time they are asked to implement the strategy. Deployment of the strategy through BPM is therefore based on the consistency of decisions and the cohesiveness between the decisions in each of the following areas: the architecture of processes, process ownership and organisational design, process measurement and associated award structure, and the continuous pursuit of process improvement.

Process Architecture

A process architecture is constructed as a means for understanding the organisation (Prichard and Armistead 1999) from a business process perspective. A business process as a unit of analysis and improvement was a central theme in previous literature relating to BPR (for example, Davenport 1993, Harrington 1992, Rummler and Brache 1990). To avoid the reiteration of the numerous definitions of 'Process' which emerged during this time we suggest the following points for clarification. Processes are the conceptual notation of what organisations do. They may be described as transformations which are cross functional in nature and are customer facing. 'One property associated with business processes is their end-to-end nature' (Armistead and Machin, 1997).

Although various taxonomies of processes have been previously described (Childe *et al*, 1994), there is growing consensus on the categorisation of processes in terms of 'Manage', 'Operate', and 'Support' (AMICE, 1989). We acknowledge however some deviation from this categorisation, for example, the separation of 'Direction Setting' processes from 'Manage' (Armistead and Machin, 1997). The emphasis of the Process Architecture theme of BPM, must however, also include the linkages between processes (Zairi, 1997). Our experience concurs, in part, with the anecdotal evidence from the judges of the European quality award (described in Amistead, 1996), which indicates that many organisations focus on a discrete process and fail to look at an integrated set of processes. Our experience is that many organisations construct high level frameworks consisting of multiple processes, but fail to identify the physical and information flows which integrate the processes. This can result in the construction of horizontal silos which are no more effective that the functional silos they have replaced (Armistead, 1996). Hammer (2002) emphasises the terms 'organised' and 'together' in describing the integration of activities within a business process. We extend this thinking to emphasise integration at a process level – both the *intra* and *inter* connectedness of 'manage', 'operate', and 'support' processes. The purpose of the architecture is to provide a top level hierarchical model which integrates the flows within the business. This provides a co-ordinating mechanism for improvement and change. Silvestro and Westley (2002) deviate from the notion of *common process* and describe the implementation of a product-based process structure based on market segmentation. While this is an interesting structure which may be linked to process design utilising the concepts of 'runners, repeaters, and strangers' (Parnaby, 1988), there is little evidence of success. This is perhaps one of the reasons why the authors report difficulties in their case companies' attaining a cost leadership position.

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Previous work has indicated that processes are analogous to 'systems' (Smart et al 1999). Process Architectures reflect the principle of *systemicity* drawn from this discipline. This argument suggests the inclusion of both technical and non-technical resources responsible for the transformation of input to output, and the identification of control structures which constrain these transformations. In addition, it is important to identify the conditions which trigger transformational activities (Ould, 2003). 'The process paradigm provides an approach for coordination across the *whole* organisation' (Armistead and Machin, 1997). An additional *systems principle* of importance to the process architecture theme is *hierarchy*. Processes are often decomposed into greater levels of granularity which provides greater detail on the constituent parts of the integrated process. This has been observed by Armistead and Machin (1997) among others.

Hammer (2002) also notes the requirement to consistently review and update relevant models. We extend this to include a review and update of the process architecture. In our experience this is achieved through a central repository of models often accessed through a corporate intranet. This is one aspect of the discipline required to successfully implement BPM. It (BPM) relies on systems and documented procedures to ensure discipline, consistency, and repeatability (Zairi, 1997).

Process Ownership

The identification of Process Owners and their allocation to core business processes has been identified by a number of authors as a key element of BPM (Armistead *et al*, 1999; Lee and Dale, 1998). Process Owners are seen as *champions* of the process who have responsibility for process performance (Armistead, 1996; Prichard and Armistead, 1999). This is also of particular

importance in meeting the responsibility-accountability requirements of Sarbanes Oxley. Prichard and Armistead (1999) suggest that process mature organisations exhibit a higher proportion of senior managers as process owners. Armistead (1996) also indicates that a key role for process owners is to work at the interfaces with other key processes. This mitigates against the creation of *horizontal silos*, and reinforces the underlying principle of *systemicity* described earlier.

An additional element of this theme of BPM, evident in the literature, is the switch in emphasis to process-based teams (Armistead, 1996; Armistead et al, 1999; Prichard and Armistead, 1999). These teams may be considered as networks of 'process operatives' (Armistead and Machin, 1997) who work together to deliver process performance. Samson and Challis (2002) note: 'leading companies have broadened the scope and span of all employees' mindsets and their cycle of objectives, performance and responsibility. Functional barriers and parochial mindsets (the 'silo' mentality) have been largely overcome and replaced by a unity of purpose and spirit of co-operation'.

This requirement for a switch to team based structure necessitates the implementation of alternative reward and recognition structures (Hammer, 2002; Prichard and Armistead, 1999). Hammer (2002), in forging strong links between Six Sigma and BPM, introduces the notion of two additional types of team: Project Teams, and Process Design Teams. Project Teams are deployed within a process to identify and rectify the causes of poor process performance – processes are a framework for a problem-solving regimen. Process Design Teams challenge the nature of a process and seek to reconfigure processes to minimise the amount of non-value adding activities. The process owner obtains the resource that is required and manages the performance of the process, often irrespective of formal organisational structure. The process

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owner therefore needs to ensure that the people performing the process understand it, are trained in it (Hammer, 2002), and receive the necessary reward and recognition for success.

This gives rise to potential conflict in the organisational design. The ambiguity which arises between process owners and their teams and the ongoing functional management may be a source of conflict. However, research by Llewellyn and Armistead (2000) suggests that the value added from the end to end perspective supports front line staff in, for example, the resolution of 'problem jobs or situations'. They develop the concept of 'social capital' to describe this phenomenon arguing that: 'Social capital operates at a process level with social credits being traded across functional boundaries'.

Prichard and Armistead (1999) point out that well progressed organisations have experienced structural changes as a result of BPM. This necessitates a discussion of trade-offs between functional and process-based organisational structures. There is evidence that companies adopting BPM do not dismantle the established functional groups. A number of trade-offs which emerge, as described by Armistead (1996), include: the potential loss of a critical mass of experts with specialist knowledge vs greater process understanding and customer centricity; the clarity of a well understood functional structure vs a 'fuzzy' network-type structure where individuals are allocated across more than one process; the establishment of empowered teams which foster innovation vs the formalised control of performance. The tendency for organisations to preserve functional structure has led to the adoption of matrix-based organisational structures (Sivestro and Westly, 2002). In their description of the adoption of a product-based process structure in their case companies, these authors note a marked shift in power from both function to product categories, or from function to customer business units (CBUs). While neither of these cases exhibited an overlay of a process structure upon a

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traditional functional structure, functional optimisation was less in evidence due to the reduction in size of the organisational units. Three options for organisational structure are presented by Armistead *et al* (1999): a predominant focus on process lines with functions providing a centre of expertise to support the processes; the co-existence of function and process as a matrix (although the authors point out that this needs a sophisticated approach to management, as illustrated by Hewlett Packard); 'Profunction – (*which)* 'displays all the characteristic of a function and is embedded in a larger business process'. In our view this latter structure appears to be in direct conflict with the notion of processes being cross functional in nature.

Process Measurement

Process measurement is an integral part of BPM (Armistead *et al*, 1999; Melan, 1989,) which seeks to optimise process performance against both customer requirements and economic targets. As Armistead *et al* (1999) also point out, single measures of performance can be dangerous. Simmons (2000) notes that performance measurement is very much influenced by financial reporting which 'does not reflect the need for customer-focused, process-oriented learning organisations'. However, there is potential to integrate the work which has been undertaken into the design of performance measurement systems from the broader literature (for example, Kaplan and Norton, 1992; Kaplan and Norton 1996; Lynch and Cross, 1991; Neely, 1999; Neely *et al*, 1995). These systems exhibit a number of key characteristics: they are balanced; drive organisational improvement; and link strategy to operations. It is, important to note that strategic performance measurement systems have a role to play in both the articulation of business strategy and in the deployment of strategy through a BPM approach. For example, there is discussion in the literature regarding the merits of the use of the Balanced Scorecard in conjunction with goal based (Cameron, 1986) quality frameworks such as the EFQM (Armistead *et al*, 1999) for BPM deployment. Armistead and Machin (1997) identify particular difficulties

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in managing process performance with a large number of detailed measures which are not positioned into a higher level strategic measure. This reinforces the need for a performance measurement architecture which links strategic and operational targets.

Our intention is not to delve into the intricacies of debate concerning these measurement systems, but to recognise that, in addition to economic-based assessments, a key aspect of process performance is the extent to which processes fulfil customer requirements. Importance is given to customer satisfaction and customer loyalty in addition to measures of efficiency (Armistead and Machin, 1997). This service measurement perspective has received much attention in the literature with the growing popularity of the Service Profit Chain (Heskett *et al*, 1994); however there is little evidence of a link to cross functional process architectures. The adoption of a process-based approach necessitates a re-appraisal of the operational definitions of key performance metrics. This linking of process-based measurement with existing measurement systems can be complex and demanding (Prichard and Armistead, 1999). While there is an ensuing debate on appropriate dimensions of performance (for example, Zairi (1997) identifies cycle time, quality and cost dimensions), there is a growing recognition that a key factor of measurement is the variation of output from customer expectation. This measure, borrowed from the Six Sigma domain (Breyfogle, 2003; Linderman *et al*, 2003) and derived through a comparison of process output against Critical-To-Quality (CTQ) parameters identified by the customer, facilitates the monitoring of process effectiveness. These effectiveness measures, combined with more common efficiency measures, provide a good basis for engaging in process improvement activity. Armistead (1996) extends this thinking and suggests that there is also a requirement to articulate volume, variety and variation in demand – the 3Vs. Our experience is that in situations where each of the 3Vs is 'high' there is a need to assess the dynamic behaviour of processes – a move beyond static model and measurement. However, the

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fundamental issue within this theme is that the monitoring of performance against appropriate targets provides a mechanism for the prioritisation of corrective action.

Process Improvement

Improvement activity is central to realising the benefits of BPM. The ability to overcome problems in the 'white space' (Rummler and Brache, 1995) remains the core source of value for improvement activity. This is based on having a structured, consistent approach to process improvement (Armistead and Machin, 1997; Lee and Dale 1996) that delivers on continuous and radical improvements (Hammer, 2002; Armistead *et al*, 1999; Pritchard and Armistead, 1999). Reporting on the approach adopted by Texas Instruments, Armistead *et al* (1999) describe a three level approach to obtaining process control: Stabilisation, which involves the deployment of Statistical Process Control (a view supported by Love et al 1998) and Taguchi methods; Continuous Improvement using the 7 Quality Control Tools; Radical Change involving BPR-type projects. They also suggest the use of the Hoshin Kanri methodology as a more rigorous approach.

Organisations face the problem of selecting from a large stock of improvement methodologies and tools – ranging from the pure qualitative such as removal of duplicate activities or re-sequencing of activity (Reijers and Mansar, 2004) to systematic approaches for process optimisation using factorial design (Braefoggle, 2003).

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RESULTS

Validating the five themes

The initial validation of the five-themed model, described above, was undertaken with fifteen companies from the financial services sector. This involved disseminating the theoretical framework, encouraging companies to challenge the framework, and facilitating a self assessment using the framework. General consensus was reached on the model, although a number of companies requested additional information to clarify the detail of each theme – resulting in a change to the descriptors of each theme. The profiling undertaken provided an indicator of the most process mature company within the group to extend the empirical work. The ensuing case-based research, in a large UK bank, involved evaluating the five themes of the model against the experiences of seven senior managers who were regarded by the bank as process experts.

Table I is a summary of the frequency of the coded data (main paragraphs of text from the interviews) related to each theme discussed by each of the seven participants (A…G). Each interviewee covered all of the issues, except the two interviewees that ignored the strategic dimension, which tended to reflect their job role. In addition, some interviewees spent considerable time on a specific issue. For example, interviewee D spent a lot of time discussing the topic of measurement.

	A	B	C	D	E	F	G	
Strategy			2	2	1	1	1	7
Architecture	1	2	2	2	4	3	2	16
Ownership	1	1	2	3	1	3	1	12
Measurement	1	1	3	6	4	1	1	17
Improvement	1	3	2	5	1	1	1	14
								66

Table I - Five BPM themes

Secondary data through an analysis of emails, PowerPoint presentations, project files, and minutes of meetings reinforced the relevance of the themes and provided specific detailed evidence for each dimension. The specific activities undertaken by the company in respect of the five themes are described below.

Process Strategy

In 2000, the Director of Group Operations had sought and obtained board level approval for the creation of a Process Design Authority (PDA). The Director had previously been involved in encouraging and managing process activity across the organisation and was a recognised 'process champion'. One of the first actions of the PDA was to develop a process strategy which would enable the organisation to 'understand, control and improve its processes.' An extensive communications programme was established including the creation of an intranet site and a Group Process Forum in which representatives from all Business Units explored process concepts and initiatives. Process was included in both executive messages and as a part of local team briefings.

A key aspect of the strategy was the development and deployment of a process infrastructure based upon: the creation of a Group Wide process architecture; the introduction of dedicated Process Owner Teams; the creation of 'process dashboards' providing ongoing process measurement; setting and monitoring performance improvement targets for processes and the systematic delivery of process improvements.

Process Architecture

An Enterprise wide Process Framework had been developed which identified the key processes within the Bank (Figure I below)
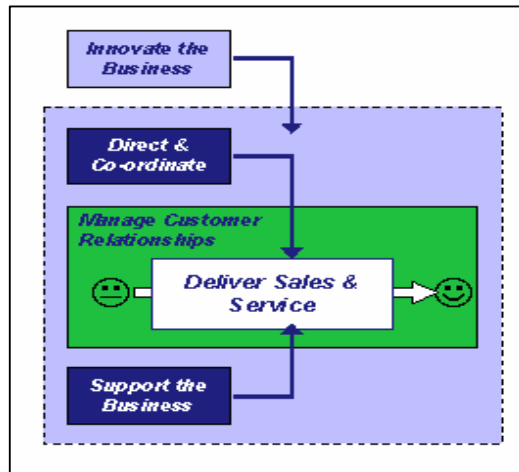
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Figure I - The Enterprise Process Framework

The Framework focussed on the Sales and Service processes through which a range of products and service are provided to customers: opening a cheque account, selling a mortgage, issuing a statement, making a claim, enquiries and concerns.

These routine transactional processes operated within the context of processes which dealt with the overall customer relationship. These processes focussed upon both the articulation of customer requirements for different segments (understanding customer groups) to assessing the extent to which customers were treated differently.

The effective delivery of services to customers was enabled by a set of Support processes such as staff recruitment and systems management. Meanwhile, overall strategy and direction was defined and delivered through the 'Direct and Control' processes. Finally, 'Innovate the Business' embraced those processes which enabled the company to react rapidly to changing customer and market demands, a strategic imperative brought on by the 'dot.com revolution'.

Each of the 'Enterprise Processes' was decomposed into five 'Generic Processes'. For example, 'Deliver Sales and Service' was broken down into: manage sales; deliver transactions; change service; manage information and control borrowing. These in turn were decomposed one further level to define around 100 Operational Business Processes such as 'process claims and maturities and 'provide a statement'.

To facilitate a deeper understanding of the process Framework, 'Delivering Sales and Service' processes were represented in a 'Process Cube' (Figure II).
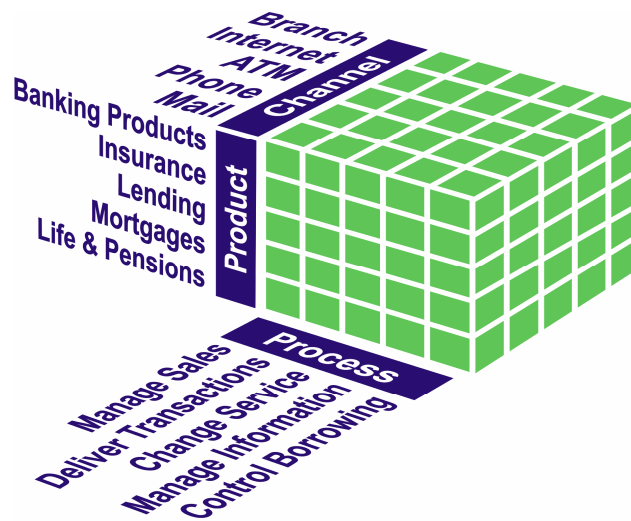

Figure II - Sales and Service Processes (The 'Process Cube')

The 'Cube' highlighted the need to understand and manage processes from a number of different perspectives. Most staff were familiar with product groupings; few had thought in terms of generic processes running across different products and channels. Over time, the cube became well recognised in many areas of the Bank, eventually becoming part of the organisational folklore as the 'Rubik's Cube'.

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Having established a common high-level process framework, an extensive mapping programme was launched to understand processes at the operational level. Before the deployment of the Group Framework, process definitions had often varied across, and sometimes within, Business Units. For example, the terms *managing out of order accounts* and *referred payments* were used in different Business Units to describe exactly the same process. Similarly, a *sales process* in one Business Unit would include lead generation, quote, and fulfilment. For another Business Unit the process would both start and end with the customer interview (i.e. dramatically narrower in scope).

To overcome this, processes were mapped using $IDEF_0$ (FIPS, 1993), a hierarchical modelling method which uses a 'top down' approach for the creation of process hierarchies. The method also enforces the consistent integration of processes through information and physical flows at these levels. In addition, a process dictionary was developed which ensured consistent language and semantics within the maps.

As-is customer facing processes were captured in a central repository, organised around the Framework, to three levels of decomposition. A change management system was then put in place to support process governance and maintain an ongoing representation of processes across the Group.

Process Ownership

Initially, five high level Process Owner Teams (POTs) were introduced organised around the main product groups (for example, Banking, Insurance). It soon became apparent that process management in Retail Banking demanded more detailed attention. Customer satisfaction was falling, following difficulties with the implementation of a new integrated banking system. To

address these problems, fourteen lower level POTs were established to provide more 'hands on' management of key banking processes such as *payments* and *enquiries*. Their priority was to improve customer service. Dedicated resource was allocated to enable this, and six sigma performance improvement targets were set for each team. By 2002, POTs had identified and prioritised over 145 process improvements, including reducing Lending complaints by 38% and improving the turnaround times for replacement cards and cheque books, which were previously the most significant sources of customer complaints. Whilst the focus was on improving customer service, cost savings of £300,000 pa were also reported. Interestingly, in reporting the success of process ownership, emphasis was placed on their role in laying foundations for long term benefit: *'The POTs' tangible benefits are the outward signs of success, but the hidden achievements provide the foundations for long term ongoing benefits'*. The need to fully integrate process ownership within the Bank was also recognised: *'The POTs have made a real difference in the drive to make process ownership an integral part of the Group culture. In an organisation of this size, however, this is still only the start, because the enthusiasm to drive this forward needs to be in step with the readiness of the organisation to accept cultural change'*.

Process Measurement

The 'Six Sigma' methodology, pioneered by Motorola in the 1980's and championed by GE in the 1990's, was chosen as the method for measuring and systematically improving processes in the Bank. It focuses on what is critical to the customer and seeks to eliminate any defects which may arise in meeting customer requirements.

Introducing six sigma measurement involved the development of *Process Dashboards* for all key processes. The Dashboards contained a statement of customer needs and provided a simple representation of the process flow, linking customer requirements to delivery. Operational

measures were identified regarding the accuracy and timeliness of each process against customer requirements. Numbers of defects were also identified and reported on a monthly basis. Whilst other measures, such as cost, productivity, system availability and complaints, were scheduled for future development, an understanding of customer service performance across all key processes was considered the priority. The ambition was to have 80% of 'customer touches' in the Retail Bank under sigma measurement by the end of 2003. In addition stretch improvement targets were set for individual process performance.

Process Improvement

The Six Sigma improvement methodology, known as DMAIC, was also introduced to systematically identify and deliver process improvements. DMAIC represents the five stages of the improvement cycle: define, measure, analyse, improve and maintain. Training followed the GE model, where over 200 staff were trained in six sigma improvement techniques, led by twelve Six Sigma *Black Belts*. In addition, a dedicated process simulation team was established to support large scale change projects. The decision to introduce a consistent, best practice approach to process improvement reflected concerns that previous *ad hoc* improvement efforts had resulted in duplication and wasted effort. As part of the attempt to fully align systems and processes a revised change management system was introduced in which the process implications of all change projects were highlighted and evaluated prior to investment decisions.

Identification of additional core concepts

While the case findings aligned closely with the five themes synthesised from the literature, the initial five-themed model failed to fully account for the case data. A simple content analysis of the coded texts we concluded that 49% (63/129) of the interviews were not explicitly related to the themes.

	A	B	C	D	E	F	G	Total
Conscious	6	2	4	1	3	3	2	21
Macro	1	4	5	2	1	4	6	23
Centrality		3	1	2	4	3	6	19
								63

Table II - Additional BPM Concepts

For example, the process architecture was considered both necessary and successful in helping to create an overall process infrastructure. The Framework informed the design of Process Owner Teams; the repository provided a physical control of operational business processes. However, interviewees emphasised that the most significant contribution of the architecture was to introduce a process language and key process concepts such as 'end to end' thinking and customer focus. This customer-centric view of the Process Framework encouraged staff to relate their day-to-day activities to specific customer requirements - an 'outside in' view of the organisation. In addition, the 'Rubiks cube' focused attention on the 'end to end' delivery of customer requirements across different business units, products and channels.

Further analysis of this data identified three additional concepts which, we believe, are critical to a full understanding of BPM.

Conscious process management

Whilst there is considerable confusion surrounding the meaning of such terms as BPR and BPM there is some consensus about the nature of a business process itself (Davenport and Short, 1990; Hammer and Champy, 1993). Zairi (1997), for example, reports the definition of a business process used by Post Office Counters: 'A related series of actions, directed to the achievement of a goal, that transforms a set of inputs into desired outputs, by adding value'. In

our own research, process experts in the Bank defined a business process as 'a set of related activities that create value for customers'.

The implications of this definition are significant. Businesses provide goods and services to customers; if processes are the means through which those goods and services are delivered, then all business have processes. The universal nature of business processes emerged as a strong theme during interviews with Bank staff. *'There is a given that says all organisations whether it be the corner shop or the multi national plc, yes we've all got processes, we must have'.*

Given the universal nature of processes, process management, in some form, is not optional. What is optional, is the extent to which process management is pursued as a conscious activity, rather than simply happening by default. Again, the significance of conscious process management was emphasised by Bank staff. *'Processes exist in all organisations, as ways in which customers ask for something and eventually it gets fulfilled, it's how consciously you manage those processes that's important. It's like golf or snooker, some do it by touch or feel, they don't particularly know how they're doing it, they just do it and it comes out well. So those lucky enough to do that have got a gift. For most people it's harder than that, you have to train and practice more and more. Conscious process management is when you have to think about it more, you have to know when you're doing it'*

Such thinking reflects the idea that processes are conceptual constructions. Processes have to be 'discovered' and managed as processes. This is particularly evident in service organisations where processes are less 'visible' than in a manufacturing environment.

Macro process management

Process is also a hierarchical concept. Processes have sub processes; sub processes have activities; activities have tasks and so on. Most companies establish, control and, potentially, try to improve, individual processes and sub processes. Such activity does not constitute BPM. It is simply an ongoing operational practice. Companies who are engaged in BPM seek to understand the totality of processes, their boundaries and interrelationships. '*By definition we're managing a number of processes at any one time and a lot of them may be inter dependable, but the net result is we have to succeed in the delivery of all of those processes*'.

Moreover, BPM requires the management of processes on an 'end to end' basis, from initial customer contact through to the fulfilment of the customer need. Few processes provide fulfilment at point of contact from a single engagement. Relatively simple customer requests, for example providing a credit card, may require input from a specialist risk assessment function and a card production unit. More complex products, such as mortgages, often demand input from several functions and fulfilment may extend over a number of weeks. Typically however, the 'end to end' process is not managed throughout its life cycle.

The centrality of process

Within BPM, the process concept is inextricably linked to the customer. Processes do not exist in isolation. They are discovered retrospectively from an understanding of customer needs. Processes are simply the means by which various customer needs are met: '*The whole reason we're in business is to make profit; you make profit by satisfying your customers. To the customer, we are as good as our processes. So if you're not bothered about your processes, in my mind, you're not bothered about your business.*'

From this perspective, BPM is not a 'one off' activity. It demands a sustained focus on processes as a means of creating ongoing value for the organisation. Companies engaging in change programmes, whether IT or Personnel focused, need to be addressed from the *process perspective*.

Achieving this sustained focus has profound implications for the nature of BPM implementation. In contrast with the 'short, sharp, fix' methods associated with previous Business Process Re-engineering initiatives, BPM is a 'process journey'. Introducing a process infrastructure, creating process models and measurement systems, can be actively managed and scheduled. It has a finite timetable. Permanently embedding the process concept, putting process at the centre of the organisation however, is an ongoing task.

BPM – An Integrated Model

The findings suggest that a robust theoretical BPM model needs to consider both the application of BPM and its conceptual underpinnings (Figure III).
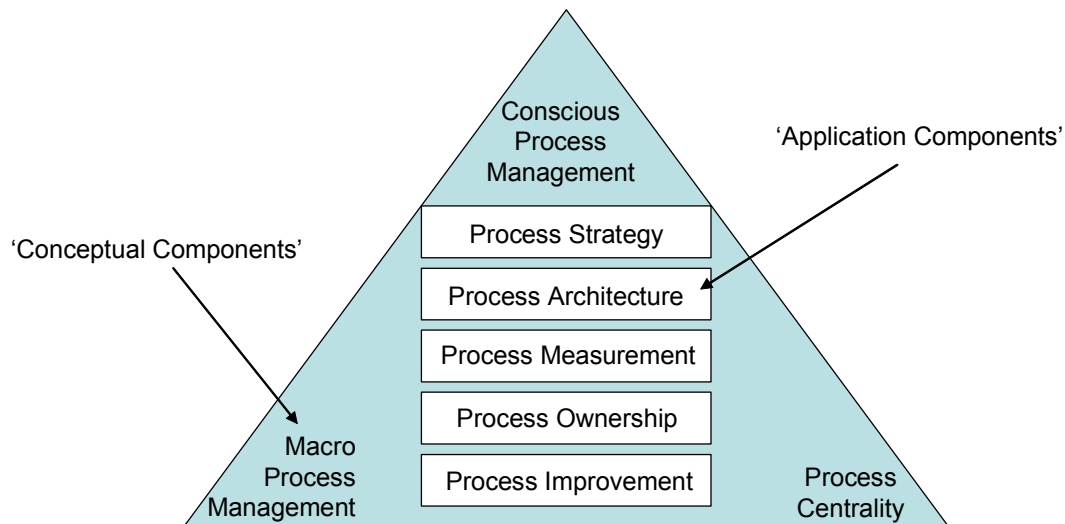
Figure III – An integrated model of BPM

Much of the existing literature addresses the application of the tangible aspects of BPM (as described in our five-themed model). Companies who embark on BPM must focus on identifying their processes, measuring them, establishing dedicated end to end process management, introducing a systematic process improvement programme, all within an overall process strategy. We have labelled these the *application components* of BPM.

The conceptual underpinnings of BPM are less visible. They address the fundamental nature and scope of BPM, and the thinking which informs business decisions to adopt and implement BPM. Findings from the case research lead us to characterise BPM as an optional management philosophy which seeks to create value from a sustained focus on business processes. It is predicated on the view that processes are the vehicle through which customer needs are satisfied. This view demands the conscious management of the totality of a company's 'end to end' business processes. As an optional management philosophy, it requires an initiating intervention. However, the realisation of the benefits offered by the philosophy can only be achieved through a process journey, rather than a one off intervention.

SUMMARY AND CONCLUSIONS

By examining the emergence of process management within the Service Sector, the paper supports the repeated calls for Operations Management research to extend the scope of its inquiries to embrace critical sectors and issues, and to provide insight and support to practitioners. The Service Sector has increasingly dominated the business landscape yet, in comparison to the Manufacturing Sector, it remains relatively unexplored by the Operations Management research community. Within this sector, process management attracts extensive practitioner attention, yet suffers from a lack of theoretical clarity.

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By disentangling the process concept from its BPR origins and a number of associated labels, the paper alerts the research community to the emergence of a coherent approach to the ongoing management of processes (evidenced by data from within UK Financial Services). Process Management is no longer simply a 'taken for granted' aspect of business activity, it is a phenomenon requiring dedicated analysis. Clarifying the various conflicting uses of the term process and establishing a common language is, of course, a necessary first step in understanding this phenomenon. It provides a common platform for future research.

The model itself provides empirical support to the existing BPM literature by reinforcing the importance of five key themes which practitioners must address in the application of BPM. Further analysis of these themes would provide practitioners with a valuable insight into the challenge of effective implementation.

More importantly, perhaps, the model provides a new insight into the nature of BPM. A crucial distinction is made between process as a universal activity, and the conscious and sustained management of end-to-end processes which characterises the BPM journey. These concepts serve not just to differentiate BPM from other process activity; they have important implications for practitioners. The findings suggest that these concepts inform a way of thinking about process which is necessary for the effective and sustained implementation of BPM. Developing and encouraging this mindset may however prove the most difficult challenge.

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