3. Process Management in Business Networks

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The Role of BPM

The first vows sworn by two creatures of flesh and blood were made at the foot of a rock that was crumbling to dust; they called as witness to their constancy a heaven which never stays the same for one moment; everything within them and around them was changing…

Oeuvres Romanesques, Denis Diderot (1713–1784)

Much management thinking and writing is about entities – things – that are unmoving, unchanging and separate. The reality is that most of what you see around you, whether you can touch it or not, is part of some process or processes. It is on its way to being something else. As Diderot suggests, nothing in this world is unchanging.

The processes deployed in all organizations define the culture of that entity, they are what differentiate it from other, seemingly, similar entities – they define the corporate backbone and are, quite simply, the way things get done around here. Needless to say then, they are pretty important and need to be managed and exploited just like any other corporate asset.

The importance of managing business processes will only increase as we are entering the networked age. For organizations to be able to participate in networks it will be crucial that they have mastered their internal processes before they can start collaborating in networks and connecting business processes across the boundaries of their organization.

One of the most effective ways of exploiting these vital assets is to explore ways of managing them and this is where Business Process Management (BPM) comes into its own. But what exactly is BPM and is the technology hype or reality? A good deal of the technology that underpins Business Process Management concepts has its roots in the late 1980's and early 1990's and stems from the early efforts of the workflow community. So BPM is not new. Business software has long supported major business processes. What has changed is the realization that business managers need to understand and improve those processes. Getting a handle on the myriad processes that exists in all organizations is the easiest way to be more competitive, adaptable, responsive and manage costs.

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Using process-based software delivers an improved ability to respond to or anticipate changing business demands. Also, the organization saves money whenever it changes computerised working methods – usually an expensive and protracted rigmarole. As a bonus, the organization becomes better fitted to exploit future business and computing opportunities, including business process outsourcing (BPO) and Web services. One of the significant changes to the organizational aspects stems from the fact that the processes can extend beyond the "four walls" of the company. The net result is a network of processes that require process enabled "Smart Networks". As a result, the company can quickly change the players and the structure of the process without losing ownership or compromising the single view of the business.

This means that tasks that were under the direct control of the business are now dynamically outsourced to other actors in the network enabling the process owner to flex the business dynamics one second before the transaction occurs. The big question is what kind of technology is required to make this happen – the answer is The Business Operations platform. But before discussing the BOP, let's first look at the technology that leads us up to this new way of thinking (Fig. 3.1).

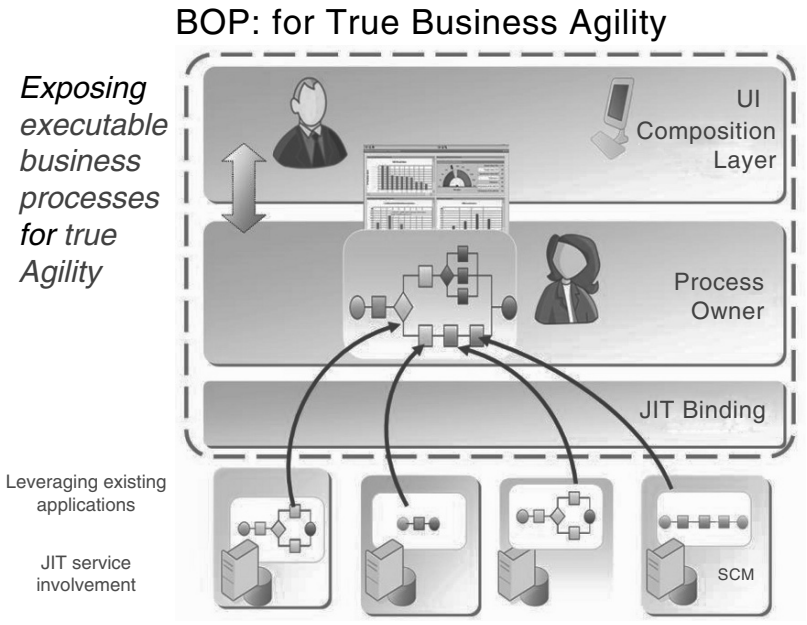

Fig. 3.1 The business operations platform as enabler for true agility

The History of BPM

BPM is not a new concept, and we're certainly not trying to solve any new problems with its introduction and use. However, we are solving them differently. The old way was to create isolated "stove pipe" solutions. These were rigid, difficult to maintain, costly to set up and, worst of all, obsolete by the time they arrived. We want to solve problems cheaply, quickly and effectively. How? By seeing those problems as a set of well-defined and integrated processes.

Carr (2003) argues that it is a mistake to assume that as IT's potency and ubiquity has increased, so too has its strategic value. What makes a resource truly strategic – what gives it the capacity to be the basis for a sustained competitive advantage – is not ubiquity but scarcity (Barney, 1991). You only gain an edge over rivals by having or doing something that they can't have or do. By now, the core functions of IT – data storage, data processing and data transport – have become available and affordable to all.

Carr's article spawned a "may-bug" industry of counter argument and rebuke – books were written, behemoths were angered – so this paper is not going to enter the fray except to say that what if Carr is right? Buying more IT simply keeps you in that game? What that means of course is that if an organization is only going to get to a "me too" position by spending vast sums on IT infrastructure then managers need to look at what it is that will give them the edge and apply technology to that aspect to gain a competitive advantage. The obvious candidate is business process – the way you do things – or the backbone of your organization.

Applying IT to process technology is going to give you that competitive advantage; it will show a return on the investment – it will keep you in front – and that is where the value will come from – and that is what I believe the Business Process Management revolution is all about. Setting all that aside for the moment let us briefly review the technologies and where better to start than at the core of it all, The Business Process Management System (BPMS). A well-defined BPMS has three major parts:

- An execution engine that executes process models;
- A series of tools that support the whole process life cycle (process specification, design and discovery tools, process configuration and deployment tools, process monitoring, analysis and optimization tools, as well as specific BPMS management tools); and
- Integration support that enable the BPMS to interact with the software programs required by the processes executed by the process engine.

In theory, a BPMS should act like a virtual machine that is executing process models rather than software code. Not all do, but despite what some purists might say, the majority of today's BPM products do work in this way. The best way to think of a BPMS is to draw an analogy with an application server or web server – a

machine within a machine if you will. Furthermore, in the context of smart networks a BPMS can, and does become part of the network operating system. But why would it need to? The process defines the who, what, where, when and why of the organisation. In most private sector organisations, they can be broken down into the following four basic steps:

- Take an order/sell a product
- Source the product (buy it, build it, find it, create it)
- Fulfil the order
- Get paid.

Sounds simple enough. But this simple vision soon begins to branch off and multiply into a complex myriad of sub-divisions when you look more closely at each of the steps. Take step 2 for example. In order to source the product, lots of things need to have happened or will need to happen, such as:

- Buying in the raw components
- Manufacturing certain elements
- Maintaining and managing stock levels
- Providing packaging.

All of the resultant sub-processes are designed and implemented to support the high level vision. This approach involves technology, but it is not technology-led. The business need drives the process; the process drives the technology need. The "where" aspect no longer matters. What matters is having the flexibility to change processes on demand to meet demand. Being able to flex the process one second before the transaction takes place means that the process is totally flexible, yet still enables the owner to have a single view of the truth – a single view of the business.

Process-based solutions provide information to a user at a given point in a business process – not the other way round. There is also a need to understand that business processes exist at two levels: the systems and the people. Business processes almost always include people and this means that the technologies you need will be, fundamentally, collaborative applications. So the answer is not to try and develop a set of tools to deal with every anticipated business outcome or rule, but to build in flexibility, partly through the use of open communications standards and intelligent networks.

Key to Business Process Management – Analytics to Manage the Process

There is one key aspect the BPM does provide that Workflow did not; analytics – the ability to truly manage processes. This is the second key area of BPM technology (see below). We have established that the term workflow adequately covers

the routing of work packets from one point in a process to another. The term may be "old-fashioned" but the technology, and tools that surround the technology, do a good job in enabling that to happen: But a lot more capability is needed to truly manage business processes – and unsurprisingly it's the market itself, what customers are buying, that is determining what BPM is. The key to delivering true Business Process Management, as opposed to services orchestration, process automation and workflow is the ability to get to the heart of the organization and extract the process analytics. This is what Gartner refer to as a Business Process Management Suite.

Analytics give business managers and executives the ability to track and measure performance based on real-time feedback of their processes giving them real insight into how the organization is operating. This enables end users to make informed decisions because they are presented with issues that need to be addressed so they can take the right action at the appropriate time. The solution being proposed by most process centric vendors is wrapped up in a technology labelled Business Activity Monitoring or BAM for short. The focus of most BAM tools is improving the efficacy of business decisions and facilitating fast and well-informed responses. The benefits derived are beneficial to all organizations regardless of industry. Despite offering myriad business benefits the majority of BAM solutions currently available do not go far enough.

Until now most BAM tools have been used by BPM solutions as simple reporting tools and feedback loops. What an organization needs is an offering that provides process simulation, real-time business intelligence and event monitoring of a BAM tool tightly coupled with a high performance BPM engine that is capable of process orchestration and sophisticated event handling and ad-hoc process management; in other words, business process optimization. Consider the following scenarios:

1. A process is contained in a number of applications and cannot be extracted from legacy applications without expensive re-write efforts.
2. A process can be easily defined, engineered and implemented as a BPM system – the environments where BPM comes into its own and provides fast development and implementation.
3. The combination of options one and two. Where neither approach will meet the customer need of a process centric solution based heavily on legacy environments – arguably most organizations operating today.

Scenario 1 – When the Process Cannot be Extracted

In this scenario the internal systems are part of a "business process" but they are silo legacy applications. Ordinarily, BPM vendors would argue that these

applications would be better served if they were controlled by an independent process layer – a good idea – but not always feasible. The answer to this problem is to let the optimization tool monitor and manage the interaction of these systems and trigger exceptions and pass the exception processing to the BPMS. Once the exception is "caught" it can be passed to BPM tool for processing.

Scenario 2 – When the Process can be Extracted

In this particular scenario BPM users have recognized the need to re-engineer their systems and take a more process centric approach to implementation. This is the natural BPM vendor sweet spot and where a process suite solution fits best. Where the key differentiator comes in now is that this solution would offer a "real time" option rather than a "near" real time solution provided by reporting tools. The advantages of this are numerous and include:

- Real time process monitoring and managing – allowing for automated solutions and dynamic rerouting of work
- Easier integration into systems management systems such as Tivoli
- Extending the monitoring to sub flows (those triggered by EAI demands of process orchestration (web services)).

Scenario 3 – The Combination of the Above – The Composite Processes

There are situations where parts of an enterprise can be re-engineered (scenario 2) and where there are certain silo applications that cannot be touched (scenario 1) but need to be part of an overall BPM strategy. For example, Complex Order Management in telecommunication organizations comprises many back office systems which are an important part of the provisioning process yet they cannot be fully integrated into the process for a host of reasons – complexity being one of the main ones. Yet despite them being outside of the managed process they do run "micro" (think of them as sub) processes which need to be monitored. If a delay occurs in one of these systems, the impact on the automated process could be very significant – so being able to monitor and manage the interactions between the "external" applications the main process can be modelled and controlled far more easily. Doubts exist as to whether this could be done in products as they exist today – yet the solution is relatively simple.

This is what true process management is all about – being able to manage and monitor processes of every shape and hue and adjust the operation of the business

accordingly. No single tool can achieve this in isolation – indeed a Business Process Management Suite includes tools to:

- Model the business process between workers, systems, and information to create shared understanding about how business results can be optimized. Also improve speed of deployment and reduce effort to change
- Simulate the business process to identify bottle necks, costs, areas for improvement
- Execute the business process; automate the execution of optimized processes providing consistency of execution. Use feedback loops and "round trip engineering to keep operations at their optimum.

Enter the World of the Business Operations Platform

So we see that Workflow and Business Activity Monitoring gives us the basic rudiments of first pass BPM. But there is a lot more needed to ensure that organizations can take full benefit of the technology and to do that we need a new way of thinking about processes and the shape of the technology needed to execute and support them.

This thinking is designed around the notion of the Business Operations Platform – a platform that supports the way business works, delivers shared services, flexible collaboration support, facilitates rapid innovation and change, and drives maximum value out of your existing IT investments. Enter the world of the Business Operations Platform (BOP) – A second-generation BPM technology that supports the demands of the globalization of business, an environment designed to deliver Total BPM. As mentioned previously, the importance of managing business processes will only increase as we are entering the networked age. For organizations to be able to participate in networks it will be crucial that they have mastered their internal processes before they can start collaborating in networks and connecting business processes across, and beyond, the boundaries of their organization.

The BOP provides a very different approach to managing the business operations and the delivery of shared services. What BOP delivers is very different from "traditional" BPM (and a million miles away from where all this started – workflow automation) since it is designed to ensure that the competitive organizations is more than just a performance centric entity – it is also able to see and manage value creation, provide process improvement and, more importantly, process innovation.

When coupled with a smart network, a network that is part of the operating system the BOP removes many of the issues normally associated with managing the typical supply chain. For example:

- Disparate applications with unique data formats and versions are readily accessible and normalized in a Just in Time environment.
- It enables the organization to work through the increasingly complex world of managing products and plants by ensuring that the process involves the right resources at the right time.
- Information and processes are instantly synchronized wherever they may be.
- Full process and functional interoperability are enabled right through the supply network.

As we have seen, BPM grew out of the world of workflow and became an amalgam of Workflow, Analytics and EAI. "Ok I got that, but what exactly is a Business Operations Platform and why is it different from the "traditional" way we view Process Management?" If we start from a business perspective we can see that the process is the point where the operations world meets the technology world. The process is where these two worlds collide, and is, therefore, where the two worlds can achieve the most in terms of collaborative development and common understanding.

The result is an improved ability to respond to, or anticipate, changing business demands. Also, the organization saves money whenever it changes computerised working methods – usually an expensive and protracted rigmarole. As a bonus, the business becomes better fitted to exploit future business and computing opportunities, including business process outsourcing (BPO) and Web services. The BOP goes a long way towards fixing the communications problem that has existed between the business and IT since computers were first deployed as business productivity tools. Now, if you imagine for a moment that an application is a process (or the process is an application, it doesn't make too much difference for this paper) then there is clear proposition that calls for developing applications from the business model up. The model driven organization, where what you model is what you execute. Some traditional BPM tools appear to do this but as you drill into them there are a lot of disconnects between the development of the process model and the deployment of the application.

One of the key aspects of the Business Operations Platform is that it is specifically designed to bridge the communications gap mentioned above. However, to date, most process modelling tools are often very far removed from the process implementation. Vendors either OEM or partner with modelling tool vendors and provide an import capability so that you can get the model in some form of "executable" mode. Others have very distinct products in their product portfolio which is almost as cumbersome as using a third party tool. So traditional BPM has not really delivered on its early promise and the issues are quite simple and straightforward:

When modelling business processes there is always a problem keeping the implementation model (the process definition) synchronized with the conceptual business models (what the business sees). This means that communication becomes a problem when the business user hands over his requirements to the

implementation staff. Now that may not be an insurmountable issue but it does create a "moment of truth (MOT)" (the point at which things can break) in the development life cycle. This gets further complicated when the implementation staff attempt to keep the composite application components like business rules, web services, application UI's etc. synchronized with business models; another potentially damaging MOT. Finally, there is a problem keeping developers synchronized with the user so that they can collaborate easily in the development cycle to deliver exactly what the business asks for. Without the collaboration capabilities offered by this new breed of BPM, the problems of the past will be perpetuated and the business will never drive maximum value from its existing IT estate nor will it be agile, innovative or responsive enough to thrive in the global economy.

At the technology level, The Business Operations Platform allows us to create a process layer, which provides a level of process abstraction, and removes the processes from the control of applications. We decouple the process from the legacy in much the same way that middleware provided a data abstraction layer, Business Operations Platform provides a "process abstraction" layer that delivers business services when and where they are needed.

With the Business Operations Platform, instead of having each application being in charge of a set of processes, and trying to subjugate adjacent applications, to drive its processes, we take the control of the process away from the individual applications, and make them equal peers, subjugated to the Business Operations Platform layer that controls the execution of the processes, the provision of services and delegates tasks or activities to the individual applications according to their strengths. In order to do this well, the Business Operations Platform must support all the attributes of a business process, which we described above. For example, it needs to be able to:

- Manage applications in parallel as well as series
- It needs to manage people-intensive applications
- It needs to totally decouple the process from the application
- Inside and outside the organization
- Continuous and discrete, and allow processes to change over time
- Put the process into the hands of the business user.

This is a tall order, the Business Operations Platform delivers these needs like nothing that's gone before, at long last there is a new way of delivering the agility and flexibility needed to support today's rapidly changing business environment and the threat posed by globalization. The key benefits derived from a BOP are:

- Provides a platform that is totally decoupled from the tasks, resources a data used within the business operations.
- Ensures minimum risk due to the modular solution which can be implemented in "bite sized services".

- Ensures maximum flexibility at the operations level – this flexibility includes roles and processes.
- Ensures a single view of the business with easily maintainable KPI parameters.

How does the Business Operations Platform Differ from the Past?

One of the easiest ways to understand what a technology is to understand its capabilities. The capabilities of the Business Operations Platform are currently associated with a number of other technologies, such as: Web-Services, SOA, ESB, CAF, MDM, BI. As well as having the process-centric controlling layer, the Business Operations Platform will need the data-centric connectivity capabilities of EAI, to support the application-to-application integration, and the document-centric capabilities of workflow, to support the person-to-person interaction.

However, a true Business Operations Platform will be more than simply the sum of these parts – a true Business Operations Platform also functions as the Enterprise dashboard providing the business user with a single view of the business.

The real strength of the BOP arises when consider it as a platform that enables the user to assemble business processes using Lego-like business services. These business services are not just simple "get data, put data" constructs, they are real business services including KPIs, User Interface, business rules, metadata etc. that can be used throughout the organization and, when necessary, beyond – they can be shared with business partners or bought and sold as commodities. From what we have discovered we can quickly see that the BOP is a key enabler of process enabled networks and that one of the main benefits from this approach is to be able to provide a platform that is totally decoupled from the tasks, resources a data used within the business operations. Figure 3.2 illustrates the Business Operations Platform (This is the strategic vision and not technically correct).

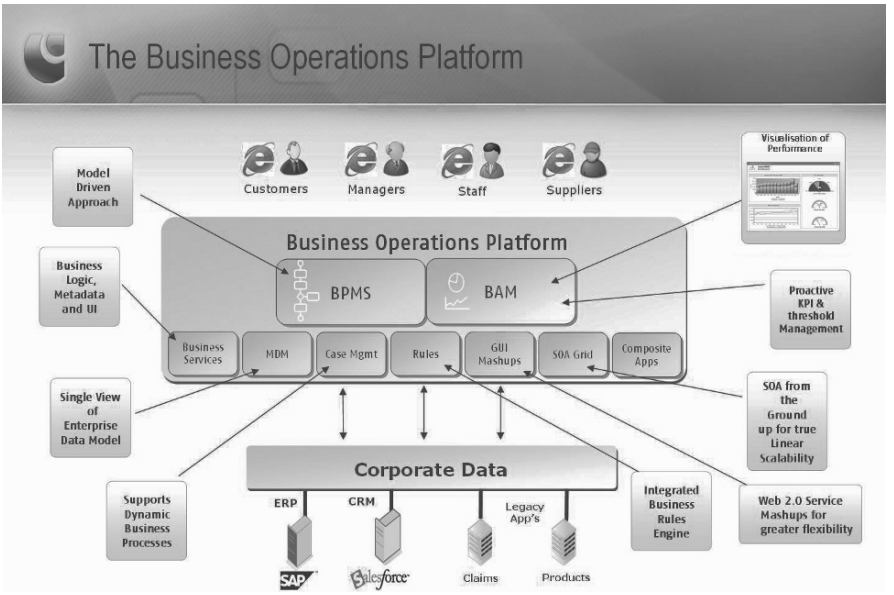

Fig. 3.2 The business operations platform

The impact this has on how processes are developed is quite profound. The fact that the key components of a process are totally de-coupled provides a high degree of flexibility, not only at design and development time, but at the point of execution. This means that the transaction can be changed one second before it is executed – so instead of building rigid inflexible solutions such as those found in ERP type solutions, we are able to deliver agile, dynamic solutions that can be flexed to support the changing needs of the business. The flexibility of this approach goes far beyond the ability to change transactions. Being able to use different actors in a network that execute different parts of a process and being able to optimize the process network using different parameters such as:

- Throughput time
- Margin
- Quality
- Occupancy rate.

Also changes the business dynamics in ways that were unimaginable until now. For example, one of the key objectives of BPM is to put existing and new processes under the direct control of business managers. While this notion has a lot of technology underpinning it, it's not a technology solution per se, and is far too an important concept to be left entirely in the hands of IT. The business need drives the process; the process drives the technology need. You need Process based IT solutions because you want to provide information to a user at a given point in a

business process – not the other way round. So how does this need for end-to-end control square up with the dynamics of the process outsourcing market (BPO). Clearly it doesn't since you have no control over the outsourced process.

By decoupling the process from the various technologies and resources the business is able to regain the upper hand and manage and monitor the processes as needed, ensuring that the proposed benefits from Process Outsourcing are achieved. This ability to decouple the resources, the data, the services and the business rules enable the BOP to radically change the way you execute your processes. As was said earlier, the importance of managing business processes will only increase as we are entering the networked age. For organizations to be able to participate in networks it will be crucial that they have mastered their internal processes before they can start collaborating in networks and connecting business processes across the boundaries of their organization.

The BOP enables you to radically rethink your operations. The ability to turn your business into a plug and play business is easier than reengineering (Merrifield, Calhoun, & Stevens, 2008) since it enables projects to be of much smaller scope, shorter duration and less risk, yet can be more challenging since it requires profound technology changes. The Business Operations Platform delivers the profound required to support the process enabled global economy and rethink the way you do business forever.

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