

# A Point of View on Business Case Justification for the Service-Oriented Enterprise

**A Discussion Document**



# 1 Introduction

Ask any executive or manager to describe the services that their business provides and they will quickly tell you how they support their customers. Press for more details and a stream of language about competitive differentiation, business efficiency, and the operational organization will flow, along with many other ideas uniquely important to their business.

Ask about their use of the Internet and the Web at home and a similar flow of thoughts about how the Web has changed their fact-finding, decision-making, and purchasing habits as well as a great deal more. How strange, then, that these two thought flows intersect so rarely in modern business discourse. What ought to bring them together in a way that makes sense is the revolutionary notion of Service-Oriented Architecture (SOA).

Early adopters of SOA were driven by enthusiasm for building either technology solutions or business solutions that employ various forms of standardized service definitions that enabled interaction with trading partners. But as these adopters start to converge in the overall Enterprise the need for rethinking how, where, and why to use SOA—more broadly referred to as Services—becomes ever more important.

## **The debate about the benefits of Services**

A great deal has already been written about the how and the where of Services, mostly from technology vendors driven by the need to get their products into use; very little has been written about the why—and if it has, it is based on technology choices, too. Put simply the technology argument for Services is based on cost reduction and flexibility, an appealing proposition for the CFO and the CIO with hard-pressed budgets. But what is the value of Services beyond cost reduction?

Capgemini has been actively leading the debate on why from a business perspective, starting with its briefing paper for CxO level executives *Service-Oriented Enterprise: How to Make Your Business Fast, Flexible and Responsive*. Now it is adding discussion documents on various aspects. The debate has produced insights that have led to a wider understanding of the beneficial use of Services to business—and, just as importantly, answering the questions “Who is the sponsor and why?”.

Three distinct groups of business people can gain from Services: The CEO and COO who are seeking to find differentiation and growth through strategic advantage in respect of their marketplaces; the COO and business managers who need defined abilities to be more operationally effective in their departments; and the CFO and CIO who need to contain or even reduce costs of provisioning traditional IT applications.

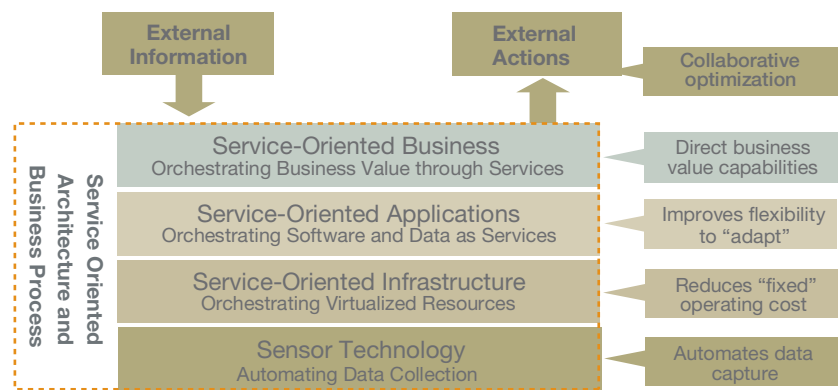
Is it really possible to have answers for all three groups? Twenty years ago, the introduction of networked PCs certainly reached all three groups and offered unique solutions to each with differing benefits. Those who really understand the SOA revolution believe it to be of the same scale and impact, with the potential to be as far-reaching.

### The elements and layers of Services

This document is intended to help establish such an understanding at a business level. It assumes the reader has read the Capgemini briefing paper for CxO level executives *Service-Oriented Enterprise: How to Make Your Business Fast, Flexible and Responsive*, and only repeats the diagram below, which is fundamental to the discussion about Services.

Figure 1 was first published by Intel as a model for understanding the technology elements and standards required in Services. However, it also helps to clarify business elements and roles, and so is increasingly adopted as a classification for both technology and business.

**Figure 1 Defining the elements of a Service-Oriented Enterprise (SOE)**



A Service-Oriented Business is organized around distinctive layers, each with a clear functionality, different owners, and therefore specific requirements and justifications. This horizontal layering distinguishes the Services model from the traditional model based on vertical applications. The latter is often referred to as a silo model because each application is separate so that to connect functions together to make efficient processes becomes time-consuming and expensive.

If it is difficult to achieve integration internally in a wholly owned and managed environment, then externally it is almost impossible without recourse to expensive techniques such as Electronic Data Interchange (EDI). Therefore, application-centric IT has never been able to achieve much to help business connect to, and trade with, customers and suppliers, other than in automating the internal elements of the processes.

The Services model is very different and is based on extending the Internet model of global connectivity and the Web content model of simple standards into a business transactional model. The building blocks are therefore in place, the architecture is understood and technology products exist. It is now the time for business management to grasp the opportunities.

How to do this, and where to look for the business cases, are the issues this document looks to address. It is based on understanding the practical observations and experiences of the early adopters of SOA.

## 2 What is a Business Service?

At present, all the ways for describing a Service appear to be technology based. However, they all agree that the biggest benefits of Services will be found in changing the business process. Consequently, business managers should be the ones who define the requirements for Services. This is not easy to do if you don't know what Services should be providing for your business. Capgemini uses a simple analogy around a familiar success story to describe the way Services can not only benefit a business, but can also change an industry.

### **The low-cost carrier revolution**

Consider the impact of the low-cost airlines on traditional airlines, the travel industry as a whole, associated businesses and people's leisure plans. Don't think about the entire business model of the low-cost carrier; just concentrate on the interaction with the customer and the way it differs from the traditional carriers of say, some three or more years ago. Why then and not now? Because the traditional airlines are adopting the customer-facing elements of the low-cost model as fast as they can, aiming to reduce the differences as fast as possible. It's been an industry-changing impact.

The low-cost carriers might be termed Internet airlines. Ignore the notorious hype models of the year 2000, but think instead of the Services they use to connect to their customers and their trading partners, such as airports and airline agents. There is no hard divide between the external and internal functions: every stage uses the connectivity of the Internet and the standardization of the Web in one flow process, from buying the seat, printing the boarding pass, and presenting the pass at the airport and the gate. The architecture of the business is a connected, horizontal process that encompasses people and companies. It uses Services, not a series of internal silo applications based on historic departmental boundaries connected via data transfers that attempt to bridge the divided functions.

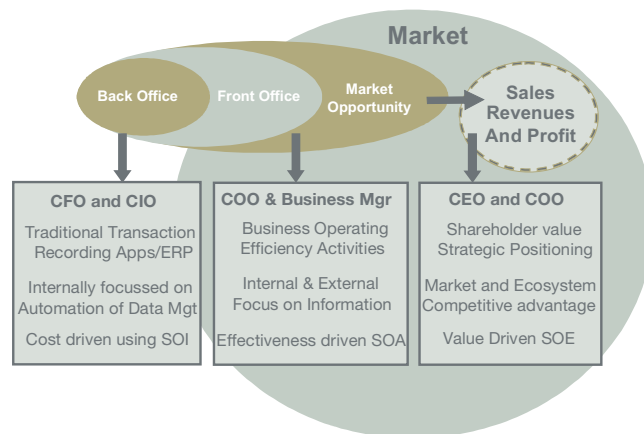
The Services process is interactive and dynamic, too: the ability to optimize the date and cost of travel suits both buyer and supplier, by using the law of supply and demand to mutual advantage. It reduces complexity and time for all involved in the airport check-in and boarding processes. When the low-cost carriers set up their businesses in response to air travel deregulation, the ability to use the Internet and Web to buy tickets from traditional airlines already existed, but the result was no different to buying the ticket in a travel shop. The delivery channel had changed, but not the process. The new start-up carriers realized they could avoid the cost and time required to set up conventional IT systems and so open up their business to a wider community on the Web at a lower operating cost.

Today, the traditional airlines are copying the Internet model. Wherever possible, they are introducing elements to improve the processing of customers in bookings, checking in, etc. However, it's difficult to really change to being an external, market-responsive Services-Oriented Enterprise (SOE) without adopting Services internally, too. Plenty of companies use the Web as an additional channel, but without achieving the benefits of the entire customer experience, as envisaged by the low-cost carrier revolution. But who in the business should be making the first moves, and for what reasons?

### 3 CEO, COO, CIO, or Business Manager

Services are about connected, seamless, process flows, both externally and internally, for improved effectiveness right across the business. They can be broadly classified around three business areas. Each offers a particular type of benefit, relating to a particular set of issues, and is of value to a particular business owner. Figure 2 sets this out with links to the three Services classifications: Service-Oriented Enterprise (SOE), Service-Oriented Architecture (SOA), and Service-Oriented Infrastructure (SOI).

**Figure 2 Defining the elements of a Service-Oriented Enterprise (SOE)**



The business drivers, the business justifications, and the responsibilities, of different managers within the business are not new. However, the Internet and Web-via email, browsers, and Web servers-have been changing external behaviour and, through the use of Services, are now starting to have internal effects. All the indications are that the impact of Services will be of the same order of magnitude as networked PCs, which led to client-server systems and ERP, and brought massive changes in business methods as well as the ability to provide genuine competitive advantage. Business users saw the immediate benefits of networked PCs in relation to their business tasks and pushed for adoption. Services are also likely to make a really significant difference in the market-facing and value-creating areas of the business.

What of the other areas such as strategic differentiation? After some years of cost management, the need to grow back revenues and shareholder value has again become important, but strategic differentiation is not likely to be the immediate starting point for introducing Services. On the other hand, the use of Services to deliver reductions in costs and project risks for the benefit of the CFO and the CIO is a quiet technology revolution that has been under way for some years. Driven by the extreme pressure on budgets CIOs have widely adopted various forms of common, shared infrastructure, although they use different terms such as

on demand (IBM), utility computing (HP), grid engine (Sun), or perhaps server virtualization tools. It's the same story with storage and other operating areas where managing resources as shared horizontal Services rather than as vertically isolated, attributed, silo resources has paid off. Service-Oriented Infrastructure (SOI) already has a proven, cost-based, business case for underpinning the delivery of the existing back-office applications such as ERP systems.

A similar story is starting to unfold with the adoption of Service-Oriented Architecture (SOA) as a method to deliver new functionality requirements. Major technology vendors are encouraging this adoption by shifting their product sets, such as SAP NetWeaver, while Web services are developing a better way to design and build solutions.

### **Optimizing collaborative processes**

So if SOI and SOA are becoming established facts, why is there a business need to look beyond the delivery of cost savings to the CFO and the CIO? The answer is because these “new” business requirements are still being defined around the “old” silo model with separated functionalities, not around a flow process comprised of defined tasks.

This introduces the crucial starting point for real business value, working with the COO and line of business managers to extend buying and selling activities into end-to-end flow processes that link both suppliers and customers. Put simply, business is three major activities: Buying, adding value, and selling. Already there has been a significant rise in the use of email and all forms of messaging to improve the relationships with suppliers and customers. So much so that auditors are increasingly aware of the risk of commercial transactions occurring outside the applications that generate the paperwork for these activities. It's the crucial difference between back-office systems, which are largely based on the capture of data for internal management, and front-office systems, which are focused around working activities.

In a world where business is moving faster and virtualization of the enterprise builds new external dependencies and lengthening supply chains, there is a need to change the automation. The way that existing departmental functions are provided to ensure that they are able to both provide flexibility for collaboration yet still support the capture of crucial data for core financial and management systems.

The need is for an improved communication system that uses a variety of formats collectively called messaging to share contextually relevant business information in order to optimize interaction. This system would also have the ability to perform a binding transaction within a set of managed rules. A complex blend of user empowerment and enterprise rules is the true definition of collaboration. The difference between the fixed procedure of applications integrated through data and the ability to interact in an optimized manner through collaborative processes underlines the need for business managers to think differently about their requirements in their use of IT and the role that Services should be playing in their business.

Departmental, or line of business, managers are increasingly critical of the role that centralized IT is playing because it is trying to help them improve their performance, as opposed to supporting the automation of their departmental functions. Email is taking too much of this load today-everyone knows that-but it does answer the pressing requirement for non-procedural interactions. It also uses a Services model to ensure that it is ubiquitous-anyone in any enterprise can be reached, which is something that the applications model cannot do.

### **A new generation of market-valuable interactions**

So if email is working and uses a Services model why do we need more Services?

The simple answer is that the Web, and its use of Service-Oriented Architecture (SOA), is people-centric. Therefore, email is redirecting people's time back into work that should be largely automated. The challenge for the business adoption of Services is to redefine the new generation of market-valuable interactions and so distinguish between processes that can be automated by computers to regain expensive human time and those tasks that can truly benefit from attention by the human mind. In a sense, this represents the next generation of the automated tasks that PC-based applications provided in the 1990s. The requirement now is to automate a new set of tasks that are externally focused around open standards, but instead of being internally focused using proprietary applications.

Industry Trade Associations have recognized that this redefinition will become a crucial part in setting standards by which enterprises can interchange information along extended processes. Sometimes the driver for this is extremely basic, as in the case of Meat Packers & Poultry eXtensible Markup Language (MPML). The law in many countries requires traceability of a product at every stage from the farm to the store. Therefore the driver for using Services to identify interactions along the entire process is, for the front-office line of business managers, a simple, basic legal requirement. At the same time, there are good opportunities for using Services to give added value to the external business operation of the supply chain by linking it internally to store merchandising.

This requires an approach that is broader than an individual manager's area of responsibility. The COO, or an equivalent, may need to sponsor the new horizontal processes that deliver improvement across the business. There is a parallel with networked PCs in the early 1990s when matrix working and other changes required the sponsorship of the CEO in order to create market value or, at least, substantive differentiation.

The question is not whether to change, as a mixture of legislation, business operational requirements, and new challengers for competitive leadership have already created visible change in every major industry market where it is brought on by. The real questions are: How much to change and for what benefit?

Overall, the move to business Services brings benefits from direct introduction of external business effectiveness as opposed to internal cost reduction through using applications for operational automation. Capgemini recognizes this in its business transformation model, which groups business opportunities in four basic areas (see Figure 3).

**Figure 3 The Business Transformation Opportunities**





## 4 The Business Case for Services

A more simple and direct approach is to use the experiences of early adopting enterprises and focus on the three prime drivers they have used to deliver business benefits. The two covered in this section (Outside-In and Inside-Out) are value producing. The third, based on cost reduction, has already been covered in the previous sections around the adoption of shared, or virtualized, IT resources using a Services-Oriented Infrastructure (SOI) layer.

### Bringing the outside in

The first business driver is the so-called Outside-In, in which the impact of “outside” change in an enterprise’s business marketplace drives the need for “inside” change. In every industry sector there is a movement, usually led by the biggest players, to introduce standardized data sets and processes using Web-based services for inter-company trading. This may have started with simple XML data definitions, but is rapidly moving to through-process redesign, gaining substantial improvements in commercial flows for book-to-bill business operational interactions. When these revised process flows hit the enterprise there is a business-driven choice on the value that could be obtained from the connection.

Should this be a simple data connection to the existing applications with no other change? Or should there be a conscious move for a redesign that embraces the through process into and across the business? And if so, where and how would value be found? To make the proposition a value-based decision, using Services should improve the ability to gain more sales revenues or a higher margin. This is profoundly different from using internal applications to automate functions for cost saving that is calculated with a return-on-investment (ROI) technique.

An example of Outside-In is Wal-Mart’s insistence that its suppliers must be linked to its introduction of through-process services. However, this may bring a positive value incentive to the suppliers if adopting these interactive processes leads to increased sales revenues to Wal-Mart. A well-designed use of Services that are implemented around industry sector standards will enable the enterprise to interactively trade with other customers, too. By contrast, the traditional application approach would require a costly, time-consuming, and unique integration project for adding each new enterprise.

In his book *The Keystone Advantage*, Professor Iansiti of the Harvard Business School defines the business advantages to be gained from ecosystem membership in a series of scenarios, of which the most advantageous is to be a “keystone.” A keystone is the central brick at the top of an arch—it holds up the entire arch regardless of how many bricks there are or what type of cement is used. Take away the keystone and the arch collapses, rendering the other bricks useless. Enterprises already acknowledged for their success in recent years, such as Wal-Mart, are the keystones in their respective markets, forming an ecosystem with their trading partners; each partner’s individual success is determined by the success of Wal-Mart and the overall success of the ecosystem “arch.”

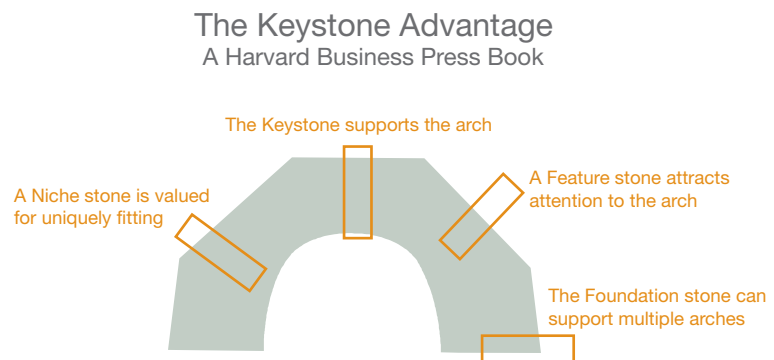
### Projecting the inside out

The first mover with the keystone position has used the second business driver, Inside-Out, to project their influence across the external business assets of their suppliers. Inside-Out is an initiative by an enterprise to competitively lead and differentiate through an activity of its choosing. The effect is to align other businesses to support its positioning. This outside influence forces change on the inside processes.

An example in retail is in-store promotion—a rewarding activity to promote increased sales, but one that is notoriously difficult to arrange and assess whilst in process. The challenge is to link and coordinate the activities of a number of enterprises: the store, the manufacturer, the logistics provider, possibly a specialist merchandizing company, etc., and be able to assess results in near real-time in order to adjust and optimize the on-going promotion. Services provide the means to achieve the collaborative interactions required through the external connectivity of the Internet.

There is a genuine opportunity for a member of the new ecosystem, or arch, to occupy the keystone position if it moves quickly enough. The store or the manufacturer could be a keystone in terms of business potential to sell goods, offering better sales to a wide range of suppliers by being able to sponsor promotions on their goods. Equally, the merchandizing company could become a keystone as a service-industry provider that can arrange promotions for both the

**Figure 4 Identification of both Business and Technology services for common use**



Enterprise Classification	Strategy Definition
Keystone	Controls the entire ecosystem of businesses in the arch and influences the assets of all members for the benefit of its business. Can use each relationship for mutual advantage as both parties will benefit from increased trade through the keystone.
Foundation Stone	A core provider to the arch that uses a standard set of integration services, allowing it low-cost yet wide access to the market through many different arches, or ecosystems.
Feature Stone	A partner who attracts attention to the arch ecosystem and will increase the prospective trade. For example, a strong brand in retail that runs an advertising promotion will increase sales opportunities in a keystone retailer for all members of the ecosystem.
Niche Stone	A unique offering that will increase business opportunities through the keystone to the benefit of all members of the ecosystem. May previously have been excluded on grounds of being too costly to maintain a relationship.

store groups and suppliers that belong to its ecosystem. There are many possibilities for those thoughtful enough to consider new externally oriented processes delivered by using Services.

Whether Outside-In or Inside-Out, the business cases are all determined by the ability to trade (i.e. sell, buy or both) more competitively in the external marketplace. As the external marketplace is volatile then the ability to change or adapt is already a key trait. But the cost and time of the change at the IT level has been a considerable barrier. This need not be the case when using Services as the changes are restricted to a handful of directly affected tasks and their Service representations, whilst most of the process is unchanged. How to achieve this? It comes from focusing on the end-to-end design of processes, increasing the common and shared elements, and removing the duplicate elements present in silo applications.

# 5 Using Services in the Enterprise

The financial sector is an example of the way Services can be introduced. The financial sector is more mature in the ubiquitous use of IT and the extent to which external outside-in and internal inside-out forces have created intra-enterprise interactions and trading. This is not without a price, both literally in terms of the immense sums spent and commercially in terms of the complexity of operational management. Most retail banks spend somewhere around 17% of their operational costs on IT and are concerned that this figure seems to continually rise in spite of considerable attention to, and success with, cost cutting wherever possible. In the light of this, some leading financial sector players have started to question their overall approach to provisioning IT. One CEO of an Australian bank has gone so far as to publicly declare that he sees Services-Oriented Architecture (SOA) as a key capability in reforming his bank's whole operating model.

The challenge is the same as in other sectors—cost constraining the back office of the existing application-based IT systems, whilst meeting the still growing demand for new market-facing systems in the front office. This is driven both by competitive needs for new differentiated products and services, as well as increasing industry regulations through various forms of compliance. The front and back offices are connected by a massive number of parallel application silo pipes built up over the years into the so-called “spaghetti” problem of increasing complexity making further additions and changes increasingly difficult. Most of these application silo pipes contain some level of technology duplication that Service-Oriented Infrastructure (SOI) may be able to address. But the real challenge is that they also duplicate business process logic as each application is a monolithic piece of code that has to contain everything required by the application.

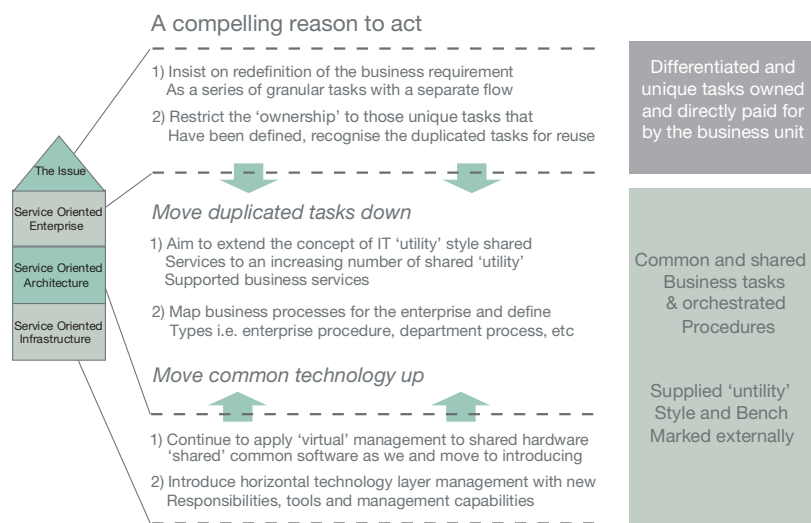
The result is that business logic and data integrity is both difficult to trace and integrate. Although Enterprise Resource Planning (ERP) and Enterprise Application Integration (EAI) offer solutions to this problem, it is still an expensive, time-consuming issue to supporting the business. Well-managed approaches to SOI start to drive upwards to consolidate and remove duplication of the technology software layers, too, creating a series of technology Services that are shared and used by the business processes and services above.

## **A common and shared capability**

The business approach to using Services requires separating out the common tasks into specific and separate Services that can be used in a common and shared capability. These Services are then orchestrated together into the relevant process flows, according to the specific task they represent. The same task or Service may be used to multiply in several different processes, not only reducing the duplication, but also simplifying the logic mapping and allowing for user-driven reconfiguration of the process when required. The principle is to reuse the larger amounts that are standardized and to have more money to spend on the representation of the truly business-valuable tasks that can be differentiated by applying Services.

Reestablishing clarity in the processes and core procedures of a business will be appreciated by CxO level management, auditors, and regulators alike. It also makes for a simplification in adding and changing the increasing number of market-facing departmental requirements. Overall, it's a strategic move to recognize the role IT plays ubiquitously throughout modern business, and to redesign the way IT is supplied to the business to suit this. The goal is to move towards a unified utilities-style model and away from a requirements-led series of separate implementations as if IT was only used occasionally and uniquely in some parts of the business. Figure 5 illustrates the principle.

**Figure 5: Identification of both business and technology services for common use**



The benefits of the concept are compelling, though it does require some thought on the cost attribution of IT services. This is easy to understand in vertical silo applications with clear business owners, but less easy when so much is common and shared. Actually, there is an increasing move throughout business towards subscription pricing—from the supply of the Internet to use of the telecoms—on the grounds that if the base cost falls sufficiently the cost of attributed, metered supply becomes unimportant and not worth the expense of monitoring.

Currently responsible IT departments use benchmarking to check the non-attributable costs for core elements in the SOI layer, such as MIPS or Desktop services. So the concept of using benchmarking higher up the stack will become increasingly possible, hastened by the resurgence of IT services companies offering Business Process Outsourcing (BPO) in one form or another. Salesforce.com could be said to have forced such a reformation of the CRM market by offering a wide range of Services that could be quickly orchestrated into whatever processes their customer required. This produced yet another case of Services changing a marketplace, with 9.6% of the CRM market in 2005 being supplied as a service by an increasing number of companies: Siebel, once the market leader in CRM applications, was forced to respond with a re-launch of its product range as granular services (Siebel Nexus introduced in Sept 2005).

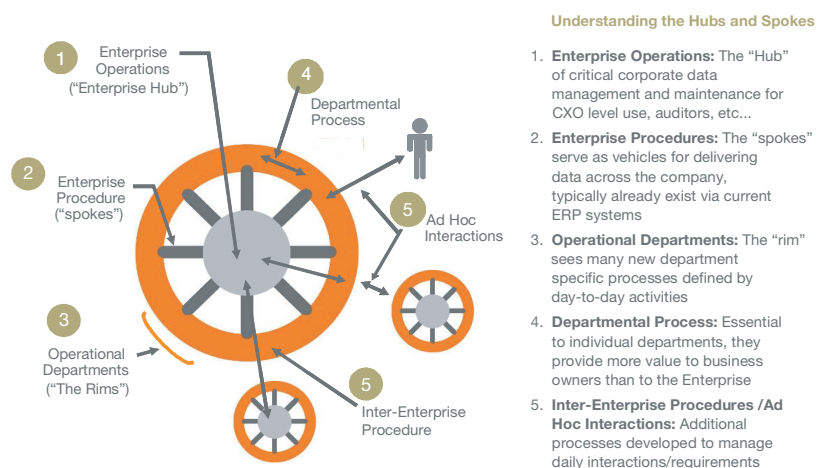
Looking at business value, differentiation, and customer-winning operations in the retail banking market shows a similar situation to other markets, such as the airline carriers. Wealthy banking customers have increasingly sophisticated PC

systems that are connected by the Internet and use standardized Services. They are looking for the kind of quality information flow, event notifications, and options that are more in tune with the level of service an internal bank employee receives. Many customers run more than one form of account-current, saving, etc.-and believe the bank should be able to support their demands through a single, comprehensive, cohesive view of their various accounts.

Already, so-called Internet banking has changed the market and is capturing an increasing share-further evidence of the external impact of Services on marketplaces. New banking products in the form of a wider range of business capabilities need to be conceived and implemented, but the work is overshadowed by the consideration of back-office integration, business process integrity, and compliance requirements. Perhaps the remarks of the retail bank CEO become more understandable when the measure of the problem is grasped at a strategic level.

A way to think strategically about the challenge is illustrated in Figure 6.

**Figure 6: Defining requirements by types of interactions**



The current IT structure consists of a data hub in the center that holds the enterprise's core data for cohesive financial and performance management. This is created by a series of procedures, meaning the inviolate rules by which this data is produced and can be checked for integrity by auditors. These procedures, represented by the spokes, connect the departments and their activities to the enterprise hub and, in some cases, will connect departments across the enterprise hub. In many companies this environment corresponds to the Enterprise Resource Planning (ERP) system, usually either SAP or Oracle.

### Edge-based processes

The challenge is the increasing amount of processes required within or between the operational departments. These are not part of any of the enterprise procedures, though the outcome may warrant recording on a local operational database. Much of this is interaction (user-to-user, user-to-machine, or machine-to-machine) and collaboration (sharing information and requests for, and answers to, operational tasks). Microsoft has continued to offer users and their managers an increasing capability in these areas, with a high degree of both inbuilt integration and drag-and-drop process orchestration. This encourages departments and users to recognize how they can set up and use such processes without

reference to the central IT department. A remarkably similar situation occurred when PCs and networks started to appear in departments in the late 1980s.

These are the so-called edge-based processes. They are defined, managed, and audited by operational departments, usually involving nothing that would require a costly connection to an enterprise procedure. If there is any critical data produced during a departmental collaborative interaction it can be collected and transferred to an enterprise procedure through an automated connector such as Mendocino, the linking product developed for this purpose by Microsoft and SAP. These linking products permit the department to change most aspects of their process without having to be aware of the automated data abstraction and its rules.

Examining these edge-based processes in more detail would show that an increasing number will involve external interactions, perhaps starting with a casual enquiry through a non-structured messaging interaction. This may be answered by a departmental process, perhaps even an interdepartmental process that may need a data record kept. But as it involves no commercial transactional commitment there is no need for integration to any enterprise procedure. However, if the interaction continued and ended with an order then it is required to connect to an enterprise procedure and be recorded in the enterprise database. Unfortunately, connecting one enterprise's internal procedure for purchasing to another enterprise's internal procedure for order acceptance is not simple, as both enterprises will have constructed their procedures based on their own internal definitions and may well use different proprietary applications.

A set of Services is required by both parties to translate the internal procedures into standardized external Services that can be understood by any enterprise and can carry out a series of checks on the authentication of the interchange. Definitions of an order or other documents in the so-called book-to-bill or order-to-cash commercial procedures are increasingly becoming globally standardized. However, elements that relate to the description of goods or services are often very market specific and are being defined by vertical industry sector standards.

### **Summary**

It's time to recognize a different way of doing things. IT is now ubiquitously present in every part of business operations and there is little that can be done to operate an enterprise without it. In addition, there is the expectation that interactive external operations will also rapidly become ubiquitous through another generation of IT technology. It is clear that the silo-type, application-centric, delivery model that requires complex costly integration will need to change. Equally clear is that the Services model will eventually be a universal replacement but currently it requires board level decision making to implement as it represents a change in the functional departmental structure and its replacement with a structure oriented towards processes.

# 6 Governance for Business Services

The move from vertical silo applications towards the shared horizontal layers of Services requires a very different sort of governance model. The SOE, SOA, and SOI classifications suggest a three-layer model. However, the fact that the SOE layer is more difficult to define for consistent governance and that existing systems need to be incorporated as well has led Capgemini to propose four key layers based on technology and a fifth layer for piloting innovation. By definition, genuine innovation must be disruptive to existing activities in the other layers and therefore should be separately examined.

**Figure 7: The Five Horizontal Governance Layers**

Technology	Definition	Value
<b>Innovation</b>	Understanding new technologies, products, and practices, to build propositions on how to improve any technology or business area.	The ability to make decisions on the best time to adopt, and in the value of changes, to ensure a persistent rate of improvement in all areas.
<b>Information</b>	The form, content, and context of data management to actively support business decisions and record both business and technology transactions.	Current information on key business processes is becoming increasingly important with faster moving markets and the demands of compliance.
<b>Integration</b>	The definition of standards, naming conventions, practices, and architecture reference models to support cost-effective integration technology aspects.	Creates the ability to be adaptive and collaborative in terms of creating business flows internally and externally to meet business requirements quickly.
<b>Infrastructure</b>	Provisioning shared-service capability to support common IT elements: networks, directories, security, and—increasingly—MIPs and storage.	Provides low-cost flexibility with high reuse of expensive fixed assets, together with high reliability and the provision of charge-management metrics.
<b>Industrial</b>	The awareness of methods and practices, even suppliers, that can be used to reduce the costs and time of operations and maintenance.	Ensures a market competitive provision of IT by matching, and maintaining the best—or at least optimal—levels of cost, manning, or time for operations.

Capgemini has created a workshop process to assist both business and IT managers to work together to set out a framework for a new form of governance, and to support the introduction of the first business services.

The first stage is to work with IT management to create a matrix that covers the activities of the IT department. This is achieved through a series of mentored exercises based on the five layers above and their interaction with major business tasks, (see next illustration). Examples of tasks include cost management, compliance activities, and, more broadly, a single crucial project delivering



competitive advantage. The horizontal layers have technology managers and the vertical columns IT business managers. At the intersection points the technology and business managers must agree on the optimum solution.

**Figure 8: MIS Organization Model using 5i by 3c matrix**

Core	Compliance	Cost Mgt	Competitive
Infrastructure			
Integration			
Industrialization	Example Detailed look at Storage		
Information			
Innovation			

<b>Technology</b>	Compliance	Cost Mgt
	Business requirement is for on line high search and retrieval rate Technology solution content addressed Storage	Business requirement is for low cost mass storage with low retrieval rates Technology solution life cycle mgt with off line storage and archiving

The second stage is the business decision-making element: who should make what decision, when, and based on what information? In application-centric IT the clarity of an application relating to a departmental function makes the business owner easy to identify, whilst the responsibility for the technology element belonged to Management Information systems (MIS). It's not so easy when the business owner may use a number of separate services in an orchestrated process to gain the required results in terms of business transactions.

There is a need for a clearly defined structure of decision makers and decision points with a method that can be mapped on to the technology layers. Peter Weill, the principal of the MIT Sloan Business School, defined the following types of decision-making roles, and these-or a specific variant for a particular enterprise-are used:

<b>Group of People</b>	<b>Characteristics</b>
Business Monarchy	Individuals or group of senior business executives, up to and including CxO level but not including IT senior executives other than the CIO.
IT Monarchy	Individuals or a group of senior IT executives, including the CTO.
Feudal	Business unit leaders, key function—or process—owners, and their delegates.
Federal	A mixed team of Business and IT senior executives representing a democratic cross-section of the enterprise to balance decisions.
IT Duopoly	IT senior executives working with only one business function or department.
Anarchy	Individual users, and/or IT staff making decisions to suit their individual needs.

The goal is to construct a decision matrix for Services governance by using the matrix in Figure 9 to bring together the roles and responsibilities previously defined in the first and second stages.

**Figure 9: Decision Matrix for Services Governance**

Decisions Community	Appointment of Governance Board		Cost/Budget		Compliance		● ● ● ● ●	Information		
	Input	Decision	Input	Decision	Input	Decision		Input	Decision	
Business Monarchy							Populate from 5i by 3c matrix			
IT Monarchy										
Feudal or Department										
Federal or Cooperative										
Duopoly or IT + Business										
Anarchy or Individuals								● ● ● ● ●		
<ul style="list-style-type: none"> <li>● Populate with roles or people</li> <li>● to suit the specific Enterprise</li> </ul>								●	●	

The third and final stage is to use a Services approach to work through the business requirements and ensure that they are defined, implemented, and delivered successfully.

The value of using Services is their modularity-the rapid ability to combine and recombine various Services into new business-valuable responses. This modular flexibility is not just a difference in the technology, it is a difference in the business model as well and requires changes to the governance model to be successful. Capgemini’s matrix-based method is built around similar principles, allowing combinations to be built as required, but assigning clear responsibilities for the various aspects of decision-making. Coupled with a properly defined business case, it provides a structured method to gain the full value from using Services.

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