

# Constructing a Distributed Insurance Business from Building Blocks

Richard Veryard, December 2000

## Status

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## Abstract

The insurance industry is currently undergoing a transformation. Instead of large monolithic organizations handling the entire business from start to finish, there is a burgeoning market for small companies providing specialist services. This means you can subcontract your underwriting here, your claims processing there, and so on, and link all these components together dynamically over the Internet. If done well, this approach can enable an extremely rapid and cost-effective response to new market opportunities. If done badly, it can fragment the business, destroy trust, and introduce new types of strategic and operational risk. This paper identifies the opportunities and threats of component-based business within the insurance industry.

## Introduction

In past decades, the mantra for business growth and success was vertical integration. Even in insurance, whose origins were in communities and collaborations, it seemed until recently that the large multinational corporations were completely taking over the game, leaving little or no space for small, more nimble players. The writing seemed to be on the wall for the once-great institution of Lloyd's, with its complex, arcane, and apparently obsolete structure.

Even today, merger activity right across the financial services industry remains strong – with particular interest in cross-border mergers – and competition between multinational giants continues apace. This trend seems to confirm the advantage conveyed by size and uniformity.

But at the same time, there are trends pointing the other way. Small players carving out a profitable niche. Outsourcing more popular than ever. New technologies making economies of scale available to all. And even Lloyd's seems to have a new lease of life.

Meanwhile the giants themselves are not all monoliths. Most large corporations are complex assemblies of semi-autonomous business units. Recent acquisitions are typically operated as separate business. Sometimes this continues for many years, and the cultural differences between the original companies are still visible long after the formal boundaries have been erased.

So what's the right structure and strategy for an insurance company – large or small, established players or new entrants? What can we learn from other industries – perhaps with longer experience of facing turbulent markets and dynamically changing patterns of customer demand? What are the opportunities and threats, best practices and pitfalls? And what are the future prospects for the distributed insurance business?

## Articulation

Effective management of large and complex organizations demands an articulated form of internal relationship, which engineers sometimes call **loose coupling**.

Imagine an articulated truck – where the cab and container are separate but connected units. This should make it easier for the driver to negotiate corners and other awkward spaces. It should also make it easier for the scheduler to swap cabs and containers. This articulation can therefore result in greater flexibility and higher resource utilization.

Now let's apply this notion to business organizations. Industries with complex processes in dynamically fluctuating environments have long favoured articulated management structures. For example, oil majors usually separate the “upstream” production operations (exploration and refining) from the “downstream” sales and marketing operations (e.g. selling petrol at the pumps). In the past, perhaps, the financial services industries operated in a rather simpler and more stable environment than that of the oil industry. But not any more.

## From vertical integration to deintegration

For most of the twentieth century, management aimed to control and integrate as much of the business process as possible, from end to end. This strategy is known as **vertical integration**. Many industries were dominated by a small number of vertically integrated firms – and some still are today.

But by the end of the twentieth century, it became apparent that the strategy of vertical integration was vulnerable to a radically different strategy: value chain specialization. IBM's dominant position in the computer industry was challenged, and then overtaken, by such firms as Microsoft and Intel, which focused on specific steps in the computing value chain. In his book on **Profit Patterns**, Adrian Slywotzky cites this as an example of what he calls the “Deintegration” pattern, and estimates the value released at \$600 billion.

In the past, thin slices of the value chain were often overlooked by the big players, and were left as niches for small companies to occupy. Today's business dynamics can catapult a niche player into the major league almost overnight. This is particularly evident in telecommunications, where a combination of deregulation and technological change has created many opportunities for high value specialization.

## Outsourcing and unbundling

In some respects, component-based business is merely the logical extension of outsourcing. In traditional outsourcing, a firm contracts out some well-defined support processes (such as IT, property services or logistics), allowing it to focus on the primary value-adding or customer-facing processes. The benefits and dangers of outsourcing have been well rehearsed in the management literature, and I'm not going to repeat them here. Component-based business goes a step further than

outsourcing, since it typically involves partitioning the primary value-adding process between two or more independent partners. This raises critical issues about ownership of (and access to) a series of intangible assets such as customers, brands, data and knowledge. Component-based business often also takes on some elements of franchising, where the partners are jointly exploiting some brand or other assets.

If a complex business is unbundled into separate components, or if a new enterprise is configured from separate components, each component can be easier to manage. Unbundling also provides greater transparency to outsiders, including investors and regulators. When large conglomerates are demerged, the separate parts can turn out to be worth more (in market capitalization) than the whole, reflecting a perceived net benefit either to the firms themselves or to their investors.

## **Manufacturing and retail**

Within financial services companies, there is a traditional split between Front Office and Back Office.

Many banks and insurance companies have started to replace this metaphor with a split between “Manufacturing” and “Retail”. The manufacturing component owns the product; the retail component does the sales and marketing. Usually (but not always) it is the retail component that owns the brand and customer base.

This articulation is extremely useful for large corporations and conglomerates trying to implement mergers and acquisitions. For example, a recent banking merger involved creating a single “manufacturing” division to provide operational and systems support for two separate “retail” brands.

With insurance, the “manufacturing” component defines the characteristics of the insurance product, perhaps formulated as a set of underwriting and processing rules. The manufacturing component may also perform the underwriting and claims processing.

This means that the essential financial expertise resides in the manufacturing division. It is mostly (although not entirely) the manufacturing component that needs to understand and conform with industry regulations and best practices.

Meanwhile, a retail organization can sell insurance products and banking products side-by-side, under a single brand name. Indeed, this organization can sometimes be an entirely new player in the market – witness the entry of leading grocery chains into financial services.

And once you’ve got the split between manufacturing and retail, there’s no reason to stop there. Funds management, claims management, underwriting – each element of the business process can be located in a separate component.

This approach allows a multinational insurance company to gain economies of scale from those components that can legitimately be globalized, while retaining local variation for market or regulatory reasons.

## **Mergers**

Merger is increasingly seen as a high-risk strategy: the costs and risks can be huge, and the promised benefits (or synergy or economies of scale) simply don’t materialize. Executives want the benefits of merger, without being prepared for the long haul of organizational disruption and cultural change.

Wrapping up the acquired parts of the business as separately managed components allows them to continue to be managed as autonomous units. Economies of scale can be achieved in specific areas by supplying some common support services across many components or units. Indeed, some of these components can be hived off as separate companies – selling services back to the former parent, and perhaps to third parties as well.

## Plugging businesses together

What is involved in plugging businesses together? You might need to negotiate a business relationship between two or more legal entities, involving service levels, ownership of customers and intellectual property, as well as specifying the distribution of costs, benefits and risks. This could take anything from months (if the legal department gets involved) to micro-seconds (if the relationship can be based on standard protocols implemented by an electronic broker).

Plugging business components together usually involves, among other things, plugging together the computer systems on both sides. If the computer systems were already built to accommodate such relationships, this would be practically instantaneous, once the legal departments on both sides had done their stuff. In practice this is rarely the case, and the IT departments often delay things even more than the legal departments.

Notwithstanding the impatience of the typical businessman, the IT and legal departments are both essential to the success of component-based business. The role of the lawyers is to anticipate the ways in which the relationship might need to be unplugged. Putting the worst case into the contract might sometimes be a way to make sure it doesn't happen, or it may sometimes be a way of ensuring that there is a clean and efficient way of terminating something that isn't working.

In most cases nowadays, plugging the computer systems together is an obvious precondition for a successful joint operation. But if this task is difficult, it will often divert attention and resources from "softer" preconditions, such as getting the people and the human systems to work effectively together.

## Technology

Technological improvements in electronic communications have led to an explosion in the use of the Internet, and a growth in e-business. Although some wild growth projections and extravagant stock valuations have now been largely discredited, e-business remains an important growth area – both for business-to-consumer transactions (popularly known as B2C), and for business-to-business transactions (B2B).

## How IT makes a difference

Some businesses have always been distributed – shared between different agents and organizations at different locations. The Lloyd's insurance market is an excellent example of this, and illustrates the huge opportunities of this way of configuring a business, as well as some of the pitfalls.

Modern information technology (IT) starts to swing the balance of advantage back in Lloyd's favour. Traditionally, communication **inside** one company – even at multiple locations – has been quicker, safer and cheaper than communication **between** companies – which implies a built-in disadvantage for Lloyd's. But the Internet

alters this equation. Transaction costs can be reduced to a small fraction of their previous level.

Security remains a concern, of course. Although even within one company there are many potential security leaks and hazards, involving insiders or outside hackers, communication between separate companies is widely perceived as a greater security risk. However, this concern is currently being addressed, with the appearance of secure systems such as Identrus for conducting business-to-business trade over the internet.

The challenge for Lloyd's is not just to master the new technology – although clearly that's important – but to use the technology effectively to establish robust, flexible and open trading partnerships both within the Lloyd's market and with new partners elsewhere. We'll come back later to the possible Lloyd's response to this challenge.

## **Services provided by IT**

Recent developments within Information Technology have led to a growth in information services, and there are many companies specializing in the provision of such services.

In the past, if you wanted to buy an IT solution from an external supplier, the easiest way to do this was to buy it in the form of a software package, which you installed and operated on your own computer hardware. In addition to these packages, there were specific information services provided by a few specialist companies over secure telecommunications links.

Some traditional software suppliers are now starting to sell business services rather than software artefacts. This may simply involve operating software applications or other technical services for customers, perhaps charging on a different basis (e.g. pay-per-use). Companies offering these services are known as Application Service Providers (ASPs).

Some software suppliers are moving still further up the supply ladder, to provide a complete business service. A company specializing in software for insurance companies can plug in some additional capabilities, including underwriting, and then offer a full insurance back-office service to retailers.

## **From IT services to business services**

Let's say you're a retail insurer, and you want to completely outsource your underwriting. There are many different ways this could be arranged.

One possible arrangement is that a company acquires considerable actuarial and statistical expertise, plus some sophisticated and secure software and communication equipment, and sets itself up to do the calculation of the risk and premium. This company provides an encapsulated calculation service, but doesn't itself bear the risk.

If I want to use this service, don't I need to know the algorithm that the other company is using? Suppose that the algorithm is based on factors that I don't believe in, such as astrology? Suppose that the algorithm neglects factors that I believe to be important, such as genetics or genomics? Am I not accepting a huge risk by allowing another company to define an algorithm that is central to my business?

There are three main attitudes to this kind of risk. One attitude, commonly found among civil servants, lawyers and software engineers, is to break open the service “capsule”, crawl all over the algorithm in advance, and spend months testing the algorithm across a large database of test cases. If and when the algorithm is finally accepted and installed, such people will insist on proper authorization (with extensive retesting) before the smallest detail of the algorithm can be changed.

In some industries, an opposite attitude emerges. Impatient businessmen and politicians simply ignore the warnings and delays of the first group. However, an attitude of denial is unlikely in the insurance industry.

There is a third approach: which is to use the forces of competition as a quality control mechanism. Instead of insisting that we find and maintain a single perfect algorithm, or kidding ourselves that we’ve already achieved this, we deliberately build a system that sets up several rival algorithms for competitive field-testing, a system that is sufficiently robust to withstand failure of any one algorithm.

The most direct mechanism is a straight commercial one. If the company operating the underwriting algorithm also bears all or some of the underwriting risk, then its commercial success should be directly linked to the “correctness” of the algorithm.

Where this kind of direct mechanism is not available, then we’re looking for feedback mechanisms that simulate this, as closely as possible. Just as the survival of the company using these underwriting services may depend on having access to several competing services, so the survival of the underwriting services themselves may depend on being used by several different insurance companies, with different customer profiles and success criteria. (This reduces the risk that all the companies using the service cancel at the same time, and gives the service provider a better chance to fix problems.)

The bottom line is that I’m buying an underwriting service rather than an underwriting calculation service, a business service rather than an IT service.

## **Examples**

### **Bought-in solution gives rapid entry to market**

A large UK insurance company wanted to set up a new line of business in medical insurance. It plugged in a quick solution from the USA as a way of getting off the ground quickly. Given the costs and risks of developing a solution slowly inhouse, this enabled a rapid entry into a new market. The bought-in solution represented an entire customer proposition, not just a software package.

But there was a sting in the tail. The company was left with an organizational legacy (in the form of head office structures and procedures), as well as a computer legacy. The bought-in systems and procedures embedded a fixed notion of market demand, and it was difficult to move to respond to a dynamic market. Organizational learning took place – but it was ad hoc and haphazard. Energy was diverted to dealing with minor infelicities in the systems, and to correcting operational mistakes – in one instance, policies were sent to the wrong customers.

### **Claims processing specialist**

A small company was set up to perform claims processing on an exclusive contract for a large insurer. Thanks to some innovative software for analysing the claims,

plus a well-motivated staff, it achieved a level of efficiency twice that of the inhouse claims department.

The exclusivity of the contract raises some interesting issues. Such contracts appear to protect one or both parties from uncertainty – in particular, the insurer is given some level of protection against the possibility that the same service might be made available to its competitors. Meanwhile the supplier is prevented from spreading the commercial risk across many different sources of business, is more vulnerable to fluctuations in demand levels from its sole business partner, and may be correspondingly weaker at negotiating and resolving issues. This form of exclusivity is often used by large corporations as a way of dumping uncertainty and volatility onto their suppliers.

Careful studies of such arrangements indicate that they can often be counter-productive. The exclusivity can add considerably to the total cost of the service – particularly if the service provider is prevented from achieving economies of scale, and is required to carry surplus processing capacity to handle local peaks in demand volume. Furthermore, by increasing uncertainty in the supply chain, the large corporation may merely succeed in increasing turbulence in its own back yard, thus effectively re-importing the very uncertainty and volatility it was trying to export. This phenomenon has been documented by Marris.

## **Risks and Pitfalls**

At first sight, component-based business seems to offer great benefits to all and sundry. Some firms can exploit their assets (tangible and intangible) by packaging them into black boxes, for sale to other firms. These other firms can then achieve the benefits of diversification, with virtually no lead time, and at a greatly reduced cost and risk. Existing firms can grow into new markets, while well-focused start-up firms can convert a small niche into a world-beating product or service. Managers can increase the flexibility of business processes and operations while reducing their complexity. Everyone shares the benefits from reduced transaction costs. Investors can “cherry pick” the components that represent the most attractive business opportunities. Competition becomes fairer and more open. Business excellence abounds.

But there are hidden costs, and hidden risks, to all players. Many of the potential benefits of component-based business are not realised, for various reasons. Many ventures are poorly negotiated, poorly structured and poorly managed. The primary transaction costs may be reduced, but unplanned secondary costs may spring up. And some ventures are ill-conceived from the start, with no consideration of the profound ability of large complex systems to defeat any human efforts to control them. (Instead of reducing overall complexity, you may merely succeed in suppressing complexity in one place, only to see greater complexity spring up somewhere else.)

The components can be problematic. There may be a lack of quality, the component may demand too much attention or may require special effort to achieve a non-standard connection. And the usage of components can be problematic: there may be a lack of availability or choice, or there may be an effective monoculture or monopoly.

The apparent ability to enter a new market, or to make short-term gains, may discourage longer term planning and investment. A firm may rush to deliver a box of services, but the internal design may be a mess, and this may compromise many of the potential benefits of the component-based approach. A firm may rapidly plug in some new capability, and find that it's not so easy to unplug. A firm may gain commitments and risks, which it finds itself unable to control.

Benefits to some stakeholders may be at the expense of other stakeholders. For example, if investors can cherry pick, this may make it more difficult to raise funds for the less glamorous, but nonetheless essential components of the whole system. And ultimately the investors themselves may suffer, if their cherry-picking tactics damage the financial viability of the whole.

Finally, there have been some failed experiments. The UK rail system is a component-based business disaster: fragmented, with poor allocation of responsibility, and an appalling record of safety and customer service.

## **Key strategic issues**

### **Presenting a single face to the customer**

Like any enterprise, a component-based business has a primary purpose of providing products and services to its customers. It is important to maintain a single consistent relationship with each customer. Among other things, this requires consistent treatment of branding and other issues, as well as a common approach to interactions with the customer.

For example, you don't want to force the customer to phone one call centre for policy renewals, and a different call centre for claims. Even if the services are actually provided by separate companies – and perhaps the call centre itself is operated by a specialist call centre management company, this complexity should be hidden from the customer. Among other things, this means you should be able to renegotiate the internal arrangements between the separate companies, and change the division of responsibilities, without this having any impact on your customers.

### **Location of boundaries**

The drawing of internal boundaries within a large complex organization has always been a matter of some concern for management. Although the division of responsibilities is often complicated by political battles between individual managers, there are some important principles of good organization design that should be respected. For example, to ensure that the risks and responsibilities are owned by the departments that are best placed to control them.

Drawing of boundaries between partners, while often being affected by short-term market considerations, also follows some important principles. The balance of costs can change fairly rapidly, with changing technology or changing demand levels, and this can mean that a given configuration is no longer cost-optimal. Frequent renegotiation and adjustment of boundaries may be undesirable, as this adds overhead and uncertainty to the whole. It is worth devoting some attention to achieving robust boundaries in the first place.

### **Choice of partners**

Obviously the choice of partners is key. Although there may be some short-term advantage in working with weak partners, who can be dominated and commercially exploited, longer-term strategic advantage lies with strong partnerships. Although you should be prepared to switch partners if necessary, and perhaps develop new partnerships in parallel with the existing ones, you should also be willing to invest in your partner's capability – helping your partner become stronger makes the partnership itself more valuable.



## Management of change and innovation

We referred earlier to the opportunity and challenge that the new technologies present to the Lloyd's community. How will Lloyd's meet this challenge? It is well-known that some forms of coordinated change can be extremely difficult within loosely coupled systems. Such systems typically evolve organically, rather than following central direction, and this can be frustrating for people trying to implement a single coherent vision across such a complex institution. (It should be noted that change management within single supposedly integrated organizations is also far from easy.) But don't dismiss evolution – it can sometimes produce radical and rapid change, in response to clear economic forces.

## Strategic competencies

Business success in the insurance industry relies on a number of factors. Expertise in underwriting, claims processing, marketing and other areas remains crucial. The trend towards component-based business also emphasizes the importance of the overall structure – how the whole enterprise is wired together. Not just the excellence of the parts, but appropriate connecting structures, processes and mechanisms.

Dominance of the insurance market will go to those companies that not only have excellence in one or more specific areas, but also acquire mastery of the whole. This demands a new approach to strategic planning and management, and a new set of management competencies – in deal-making, partnering and relationship management, and process design. These strategic plans will need to be translated into specific action and implementation plans – including IT development and organizational change. Many firms will rely, at least initially, on specialist consultancy to provide mentoring and support.

## Final Remarks

Component-based business is proving successful within a number of industries, including insurance. However, there are some notable risks and pitfalls, and this is illustrated by some of the disasters of component-based business in other industries – notably the UK railway system.

Component-based business opens up new strategies and opportunities for established players in the insurance market, as well as openings for new entrants. There are some exciting challenges ahead for innovative companies – and serious threats for companies who lack the capacity for innovation.

## Further Reading

Peter Marris, *The Politics of Uncertainty*. Routledge, 1996. See especially Chapter 7.

Adrian Slywotzky and associates, *Profit Patterns: 30 Ways to Anticipate and Profit from Strategic Forces Reshaping Your Business*. John Wiley, 1999.

Richard Veryard, *The Component-Based Business: Plug and Play*. Springer-Verlag, 2001. See also [www.component-based-business.com](http://www.component-based-business.com).

For loads of material about software componentry, go to the CBDi Forum website – [www.cbdiforum.com](http://www.cbdiforum.com).