

A Word About *Dynamic* Supply Chains: Delivering value through people

By John Gattorna

The key to successful supply chain management is recognising that it's people who really drive the living supply chains that are at the heart of businesses. In this article, Dr. John Gattorna, author of Dynamic Supply Chains: delivering Value Through People, 2nd edn FT Prentice Hall, Harlow, 2010, gives an overview of what he calls Dynamic Alignment: the principle of matching changing customer needs and desires with different supply chain strategies.

Opening comments

One thing is for sure. We are going to have to radically change our ideas about the design and operation of enterprise supply chains if we are to break the shackles and get to the next level of operational and financial performance in the immediate year ahead. This is not an option; it is mandatory. In essence, the world has changed so much over the last 15 years that conventional methods are no longer sufficient. The world of markets has become much more volatile, and under such conditions the old assumptions no longer stand up to scrutiny.

The way forward is there for all to see. We must cast off all the denial and come to terms, finally, with the notion that it is people (and their behaviour) that drives supply chains. All others are just enablers. So it is necessary to look at the problem of designing and operating tomorrow's supply chains by examining three areas of human activity along typical enterprise supply chains, and all enterprises have supply chains.

1. We must re-interpret the marketplace, and look for ways to understand and codify what customers (and consumers) are telling us when they set out to buy products and services;
2. We must do likewise at the supply end of the channel, and look for new ways to understand the underlying capabilities and expectations of the suppliers we draw on for raw materials, components, sub-assemblies, and packaging;
3. And finally, we must learn much more about the internal cultural capability in our businesses, represented by the employees, management, and leadership.

If we are able to 'align' all three of the above described components of the supply chain, we will achieve a quantum improvement in bottom-line results

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through improved service levels and satisfaction at both ends of the supply chain, and lower cost-to-serve through improved internal configurations.

This article attempts to give you some idea of how all this can be achieved by drawing on various excerpts from the book itself. If you want more detail you will have to read the whole book, from cover to cover.

Customer Conversations¹

The clear message is that customers, and customers alone, are the ultimate frame of reference when you are designing and operating enterprise supply chains. To convert the rhetoric into action, you inevitably have to start by re-seg-

menting your marketplace along behavioral lines. The myriad of other available techniques may be useful, but not essential. Behavioral segmentation, on the other hand, is mandatory.

Once the marketplace is interpreted in this way, we follow the behavioral thread back inside the organization, and the great news is that we only need three or four different types of supply chain configurations at any one time to cover up to 80 per cent of the market. This multiple-alignment, multi-dimensional format may on the surface sound complicated, but in fact, it's quite the opposite: it represents a significant reduction in operating complexity and, therefore, cost. This structure underpins the required dynamism in contemporary supply chains, and brings to life all the talk about 'flexibility' and 'adaptability'. Those relatively few global companies that have so far adopted *dynamic alignment* principles are already reaping the rewards of their first-mover advantage.

We have all been seeking the Holy Grail of improved operational and financial performance. The problem is we have been looking in the wrong places. The secret of designing a superior supply chain is to start by resegmenting customers along behavioral lines and then reverse engineer from there. We need to shape specific *value propositions* and underpin these with supportive organization structures, processes, technology and other building blocks². Indeed, something that we have known for some time – but have been denying – is that customers are the ultimate frame of reference. Mattias Holweg and Fritz Pil were adamant about this when they promoted the use of build-to-order strategies. Dell has done it. Nokia has done it. Why not others? We believe introducing this type of genuine customer focus is critical to a breakthrough in supply chain thinking.

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We shouldn't blame senior managers for failing to emphasize customers sufficiently because outdated organizational designs have not helped either. Rigid, hierarchical structures have often fragmented knowledge and responsibility into silos, leading to little information on customers ever filtering through to the people in back-office positions. What's more, most organizations have adopted erroneous and mostly irrelevant customer segmentation regimes. These include segmentation using Standard Industrial Classification (SIC), industry sectors, geography, size, revenue, profitability, price points, product characteristics and an assortment of institutional parameters around which sales forces and logistics operations have been mobilized. Thomas Davenport and his colleagues were right when they observed that '... a firm needs more than transactional data to gain (customer) insight'. Successful companies agree that the person behind the transaction must also be considered. We can better understand and predict customer behavior by examining behavioral data along with the corresponding transactional data. Indeed, this is where knowledge management intersects with our

interest in customer buying behaviors. Unfortunately, companies are relying too much on technology driven transactional data, which leaves big gaps in their knowledge about actual customer behavior. Something else is needed to fill this gap.

Confusion around segmentation

The segmentation of customers, together with *product differentiation*, are perhaps the two most fundamental concepts in marketing. Product differentiation is reasonably straightforward, but confusion is rife when it comes to the concept of *segmentation* and how it is operationalized. Essentially, the idea is simple: we need to group customers with common expectations together so that we can match service strategies to their unique (shared) needs. Each segment must be distinct, accessible and economically viable in size. Based on these guidelines, your ability to dissect a market is only limited by the breadth of your imagination. But therein lies the problem.

One of the earliest forms of segmentation used by enterprises was the classic *one-size-fits-all* approach; this was not segmentation. This attempt to standardize all products and services was born out of a misguided desire to simplify internal processes for the sake of managerial convenience. A pity about the customers; alignment was not even on managers' radar! However, increasingly sophisticated customers soon forced big brand companies to look for solutions that were more accommodating to their preferences. Unfortunately, some suppliers went to the other extreme and fell into the *over-customization trap*, where every customer was treated as unique. In turn, this led to further complexity and even higher cost-to-serve. In reality, the compromise (or '80 per cent' solution) lies somewhere in the middle of these two extremes: creating three or possibly four substantive behavioral segments, rather than one or many.

How do your sales and marketing people target their customers? Generally, sales and marketing managers have developed a myriad of ways to divide their markets and allocate resources, and in particular, to organize their sales forces and supporting logistics functions. But they have paid little or no attention to the consequent impact on back-office operations. Indeed, a real 'disconnect' continues between the way market-facing personnel view customers and the information they communicate back to non-market-facing personnel. Yet it's fundamental that everyone inside the enterprise who contributes to serving customers, directly or indirectly, should be on the same page. Despite advances in technology, we do not seem to have achieved this most basic level of common understanding. Moreover, while the search goes on at the front-end of organizations to find ever more subtle ways of understanding what customers want, little or no work appears to be taking place to link this ever evolving understanding to back-office fulfilment operations. Sound familiar?

Most enterprises will ultimately adopt a segmentation method to guide the design and operation of their supply chains. Unfortunately, in many cases, you pay your money and get what you deserve! We have compelling evidence from many research and consultancy projects during the last two decades that there is really only one 'right' way to group purposes of channel design, this comes from US strategic change researchers Phil Nunes and Frank Cespedes. They argue that customers have 'escaped' from

conventional channels, and this is certainly true. But then again, we need to find faster and better ways of keeping abreast of the evolving, learning customer. They identified four kinds of buyers, similar to the 'straw man', which is presented later in the book.

However, in some respects they go too far in attempting to describe how the buying behaviors of the four kinds of buyers vary across the five stages of a typical purchasing life-cycle. Of course, this can (and does) occur in practice, but their approach introduces an unnecessary layer of complexity, which paradoxically makes it more difficult to use in practice. Indeed, any new method of segmentation should be user-friendly, this one is not. We agree with the notion that 'unfettered customer behavior is inevitable', but this is not necessarily bad, or something we should openly resist. Quite the contrary. The solution is to accept that knowledge-rich customers will inevitably find ways to access products and services by selecting from the increasing number of pathways or channels on offer. We can achieve true alignment if the customers are satisfied with this process. However, to get to this point, we must first develop a much deeper understanding of the internal cultural implications for all of the parties involved along these channels and supply chains.

But we have only touched upon half the problem so far. In order to take advantage of our new found insights gleaned from the marketplace, we must configure our organisation structure in a way that properly aligns it with those customers and their differing needs. This requires us to re-shape the internals of our organization into a number of sub-cultures that match the sub-cultures of the customers, expressed as buying behaviours. We have not got the space to examine all the levers available to us for this purpose, but we can look hard at the one which is creating most of the problems in contemporary organizations- organization design.

Designing responsive organization structures³

Of all the internal capabilities in an organization, organization design is perhaps the most important, after leadership of course. The structures that we set people to work in have a major influence on the responsiveness of the enterprise. Most contemporary enterprises have fallen behind in their organizational development, and consequently their organization structures are flawed and misaligned with increasingly demanding customers and consumers.

We go in search of new organization designs to underpin the added dynamism needed to service modern customer segments. We start with the conventional wisdom and go on to critically review the designs of the last two decades. Finally, we propose a way forward that combines the strengths of functional structures with the embedded responsiveness of customer-facing, multi-disciplinary 'clusters'.

It is true that during the last four decades, and especially the last 16 years of growth, businesses and governments around the world have fallen into the apathy trap; apathy about their real operational and financial performance. Executives in many organizations have overseen high growth, bloated profits and correspondingly extreme remuneration packages. Everything seemed to work, no matter what was tried. But lurking underneath this façade were the seeds of failure. In truth, we have learned little or nothing about managing enterprises and their supply chains for sustained profitability under volatile

market conditions. In retrospect, the global financial crisis of 2008–09 was inevitable – an accident waiting to happen. The very growth we had all savored so much, because it brought such wealth, has been the very condition that hindered the development of the tools and techniques we now need so urgently in this new and difficult era. It's now time to change our ways and embrace new business models, because the old ones have clearly outlived their usefulness. In short, enterprises in their predominantly siloed formats are struggling to respond to customers who are demanding ever more responsiveness. The fault lies in the way we configure our enterprises and the supply chains within them.

Looking from outside in

It never ceases to amaze me how seemingly sophisticated enterprises go about their business. They develop plans and execute operations with only scant regard for their customers' expectations and wishes. To be brutal, many of these enterprises have been guessing for years and apparently getting away with it. Well, all that is about to change. The big banks have been the first to fail, and they will be followed by many other enterprises in the real economy.

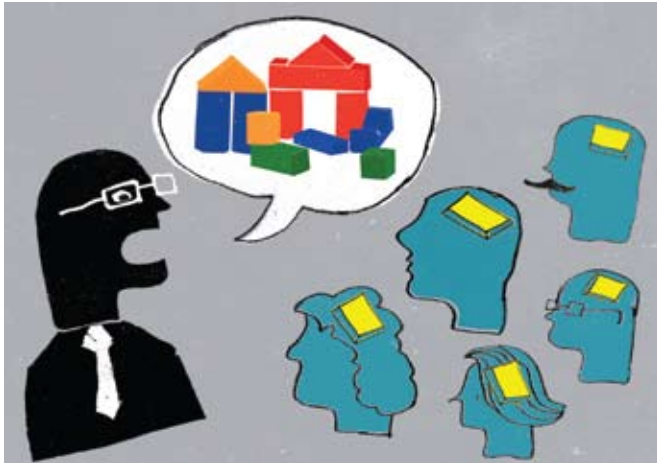
If anyone is still in doubt, let's be very clear: you simply cannot conduct a sustainable business over time in a volatile operating environment unless you stay very close to your customers, and in some cases the consumers or end users served by those customers. Everything starts with the customer and/or consumer.

The dynamic alignment model is a holistic business-to-business (B2B) concept, which involves segmenting your marketplace along behavioral lines, and then linking these customer groups to the enterprise with the appropriate value propositions.

During the last two decades I have been developing and refining, through field work, the *dynamic alignment* model described in earlier chapters. Its time has finally come. To recap, this is a holistic business-to-business (B2B) concept, which involves segmenting your marketplace along behavioral lines, and then linking these customer groups to the enterprise with the appropriate value propositions. It is no more, no less than this. Underpinning these value propositions there needs to be an array of equivalent subcultures that will be capable of, and willing to, propel these strategies into the market place in ways that meet customers' expectations.

And behind all this action a leadership team must understand and have empathy with the marketplace. It needs to develop the appropriate value propositions or strategies to serve customers and develop the corresponding subcultures inside the organization. This concept of *dynamic alignment* is one of the most significant emerging business models today. It is relevant to enterprise supply chains because businesses are in effect just an aggregation of all the supply chains running through them – and between the parties upstream and downstream.

Working back from the marketplace, through the enterprise and back to the supply base, and forward again is such a logical way of working, and yet it is seldom embraced by enterprises in practice. Little wonder that we have so much under- and over-servicing taking place, with all the attendant consequences of increased costs and lost revenue potential. Forget about taking the soap out of the bathroom and cancelling the papers in these tough times. Focus seriously on re-aligning your business (and its supply chains) with customers, suppliers and third parties and you will survive most crises.



Organization design as a major shaper of culture

I introduced the *dynamic alignment* concept as a major new business model that will revolutionize the way we work. It is important to look at one facet of the model – organization structure – as we shape and mold the appropriate subcultures inside the enterprise to enable effective linkages with our customers.

Having discovered through rigorous empirical observations over many years that there are usually no more than three or four dominant customer buying behaviors in most markets, we can extrapolate this finding into the equivalent three or four supply chain configurations. I have named these configurations: *continuous replenishment*, *lean*, *agile* and *fully flexible*. Other variations around these four types exist, but are not as common.

These very different configurations⁴ require equally disparate subcultures to propel them into the marketplace, and one of the biggest factors in shaping the necessary array of subcultures is organization design. Why? Because to be truly effective and aligned with customers and suppliers alike, an enterprise must have different organizational capabilities embedded in it. The days of one-size-fits-all organizational structure are just as 'gone' as one-size-fits-all products.

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And finally, we turn our attention to the supply side. Conventional methods of segmenting suppliers by size of spend or product characteristics again miss the point, just as marketers missed the point on the demand side. What we must now do is take a fresh look at our suppliers through the behavioural lens, and select them on the basis of their internal values and capabilities, in such a way that they match what we are trying to do with customers on the demand side.

Supplier conversations and the four generic supply-side supply chains⁵

It is important to reconnect the supply-side to the demand-side of enterprise supply chains. Each is vital to the other as we seek a full and uninterrupted view of what is going on along our multiple chains. Because we are customers of the supply base in this situation, it's even more important to listen to our suppliers. Mostly because we will benefit handsomely!

Not surprisingly, we find that it's possible to align with the supply base in much the same way as with our customer base, and this means we can translate many of the lessons learnt on the demand-side directly to the supply-side.

The two come together in the cluster organizational designs. They are the pivotal points of our enterprise supply chains!

With these new insights, we are also able to see the possibilities for improved 'reverse' supply chain pathways, a topic that deserves more attention given the growing concerns of consumers about environmental sustainability.

The whole area of supply-side sourcing is coming back into focus once again as the world recovers from the global financial crisis and seeks to reduce its impact on the real economy. Since the turn of the new millennium, multi-national corporations in particular have been pursuing global sourcing strategies in the relentless search for ever lower cost inputs to manufacturing. Research by M. Christopher and his colleagues at the Cranfield School of Management, found that this has had the effect of 'making supply chains longer and more fragmented, and this is exposing firms to greater costs and risks'. The same research also found that most firms were still largely basing their procurement decisions on a minimum price approach rather than the more sophisticated 'total cost of ownership' concept. Finally, global trade appears to be significantly contributing to the emission of greenhouse gases because of the added transportation sectors involved, and this flies in the face of the growing global effort to reduce carbon dioxide emissions. Maybe we will see a change back to regional and local sourcing as a result of the community's growing concern about the impact of climate change. Indeed, from our own work we see a clear trend towards a *sub-segment* within the overall 'collaborative' customer segment emerging, which appears to be very empathetic towards sustaining the natural environment and consequently is demanding corporate social responsibility. This sub-segment will surely penalize suppliers along the supply chain who do not take sufficient measures to minimize their carbon footprint.

The task ahead in this chapter is to re-connect the supply-side to the demand-side. I hear some of you say, 'But it's never been connected!' And you're right. The disconnection is part of the problem. It is hard to imagine how an enterprise can successfully procure the

raw materials, components, sub-assemblies, packaging and other inputs for its business if there is not a live connection with the customer-facing side of the business. But that is what has been going on for generations and, sadly, continues to this day in many enterprises.

Listening to suppliers

Just as we set out to understand customers' dominant buying behaviours, we must do something very similar at the supply-end. This means listening to our suppliers and engaging them on their terms, not ours. This may seem strange given that we are arguing the case from the customer's point-of-view, but it is a necessary reversal of convention if we are to achieve genuine *dynamic alignment*.

Suppliers are the largely ignored element in the human system that propels contemporary supply chains, along with customers at the front end and employees inside the business. According to A.T Kearney,

Companies that take the time to listen to their suppliers can eventually realize rewards beyond cost savings. Often, they can generate new ideas and concepts, determine how their performance stacks up against their best-practice competitors, and identify areas and processes on which to focus attention. In short, they are well positioned to embark on major supply chain management initiatives.

But how do you categorize your suppliers? That is the key question! We believe that you must start by segmenting them along behavioural lines.

Supplier segmentation

You rarely hear of this methodology being used these days, and the few attempts at segmenting suppliers have revealed the same flaws as similar attempts at customer segmentation revealed at the consumption end of the chain. In 2006 Diane Bueler presented a paper on segmenting suppliers, but she used the characteristics of the product/

service being purchased as the basis of her segmentation framework. The four categories she identified – 'commodity', 'strategic', 'standard' and 'key' – provide useful statistical data, but contribute little to our understanding of the way suppliers prefer to supply, or their 'selling behaviour' as I call it.

Jeffrey Dyer and his colleagues see strategic supplier segmentation as a necessary precursor to achieving best practice in supply chain management; and they are spot on! Their work identified two very different supplier management models, i.e., the traditional 'arm's length' approach, which deliberately sets out to avoid any kind of commitment or interdependence. This view is consistent with my 'efficient' buying behaviour at the customer end. 'In contrast,' Dyer and his team wrote, 'the success of Japanese firms has often been attributed to their close supplier relationships, or 'partner model' of supplier management'. Clearly, in order to get close to their suppliers, trust had to be developed over time, and it's very likely suppliers were carefully selected for their collaborative values. This is the equivalent segment to 'collaborative' customers on the demand side, and we will label the equivalent segment on the supply-side as 'trusted and reliable partners'.

Examples of both types of segments can be seen in the automotive industry, where General Motors has traditionally applied arm's length and largely transactional methods with their suppliers, while Toyota (and more latterly, Chrysler) has employed the partner or 'trusted and reliable partners' model. I will leave it to the reader to decide which has been the more successful.

Dyer and his team conducted extensive research into supplier-automaker relationships in the United States, Japan and Korea, and they found that 'firms should not have a "one-size-fits-all" strategy for supplier management'. Sound familiar? However, it should be said that while Dyer and his colleagues were on the right track (towards multiple supplier segments), they were mainly think-

ing about how each 'supplier's product might contribute to the core competence and competitive advantage of the buying firm'. They were not thinking of behavioural segmentation per se.

In summary, it appears that most buyers in the market have been focusing on finding suppliers who have the required array of supply *capabilities*, and then the relationship approach adopted has been one of the two described above. Not very sophisticated, and quite one dimensional.

We have seen enough evidence in our field work to suggest that supply-side alignment is generally the mirror image of the demand-side. Of these we can be confident that the most prevalent segments seen in practice will be similar to the demand-side.

So now it remains to bring all these threads together into an integrative framework which we will call 'hybrid' supply chains.

Mixed supply chain combinations are sometimes the best solution, but have to be applied skillfully. We called these 'hybrid' supply chains.

Hybrid supply chains⁶

We summarize the 16 possible combinations of supply chain configuration observed on the ground in enterprises worldwide. We have termed these 'hybrids', and they co-exist in various combinations depending on the marketplace being served. Indeed, the various combinations can also operate in parallel with each other, a situation that demands that multiple alignment techniques be applied at both ends of enterprise supply chains. If ever there was a final condemnation of the one-size-fits-all mentality so common in contemporary supply chain management, this is it.

If only the world was linear! Then we could more easily manage supply chains to match our customer segments. But there are inherent subtleties in different types of supply chains.

It is therefore important to understand that alignment with customers (and sup-

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pliers) does not always work on a linear one-to-one basis. Mixed supply chain combinations are sometimes the best solution, but have to be applied skillfully. We called these 'hybrid' supply chains in our discussion of organizational design. As befits the cluster organization of the future, these supply chains can be any combination of the four demand-side and four supply-side supply chains depicted in Figure 1. In Figure 2 we outline the 16 possible pathways of supply chains, but of course not all of these are feasible.

Final word

The world changed forever post GFC. No longer is it sufficient to labour over the development of a single supply chain configuration to serve all customers. The age of designing static 'set-and-forget' style supply chains is gone forever. What is badly needed now is some mechanism to cope with volatility and changing whims of customers in the marketplace. The solution to this problem is to design a limited number of supply chain configurations, and set them

up so that customers can be serviced by any one of say 3 or 4 configurations, all underpinned by clever organization design clusters and supported by appropriate process and technology combinations. The Age of dynamic supply chains has arrived just in time.

About the author

John Gattorna is Professorial Fellow in Supply Chain Management, and Co-Director, Centre for Supply Chain Research, University of Wollongong. He is also Visiting Professor at Cranfield School of Management, Cranfield University in the UK, and a regular visitor to Normandy Business School in France. John Gattorna is one of the few people who have been continuously engaged in the evolution of supply chain thinking, from the early days of 'physical distribution management' (1975), through 'logistics management' (1980s/1990s), to the current 'supply chain management' era (1990s/2000s). John has taught and researched at several universities around the world; consulted to many major multinational corporations, subsequently founding and developing Accenture's supply chain practice in Asia Pacific, and published widely on the emerging subject of 'supply chains'. John is generally regarded as one of the world's thought leaders in the supply chain management field, and continues to be much sought after as a keynote speaker on the international conference circuit.

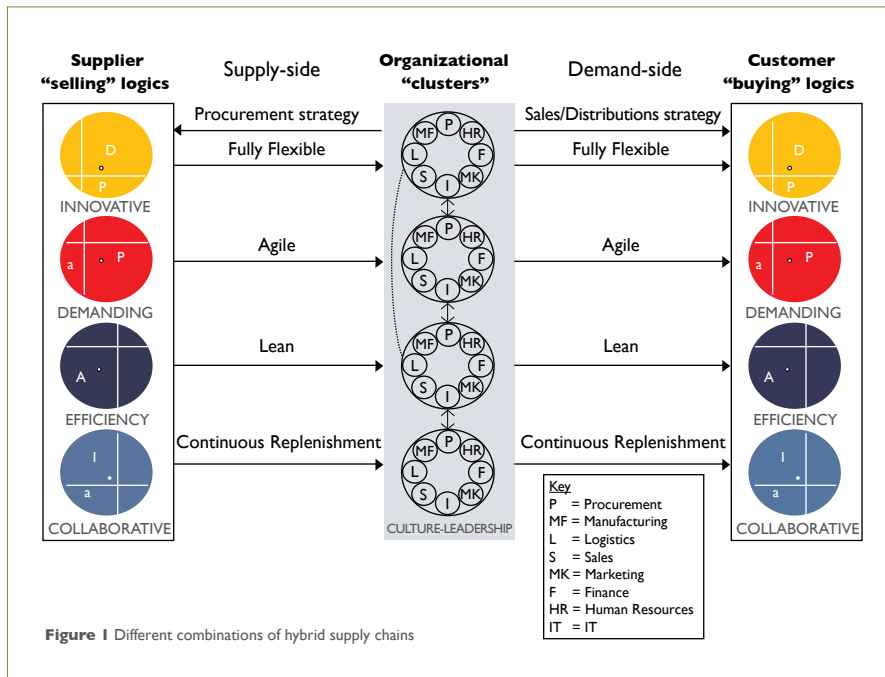
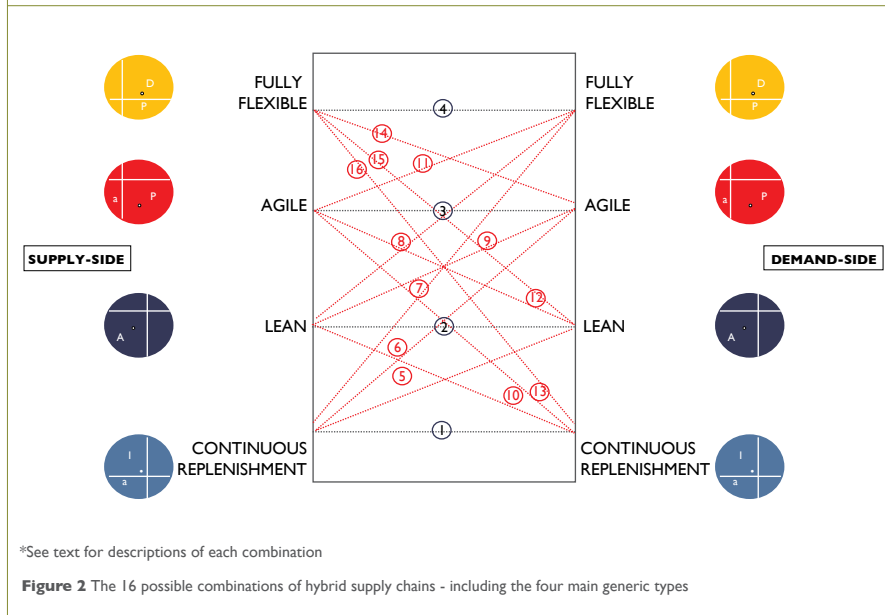


Figure 1 Different combinations of hybrid supply chains



*See text for descriptions of each combination

Figure 2 The 16 possible combinations of hybrid supply chains - including the four main generic types

References

- Notes below refer to chapters from the book Dynamic Supply Chains: delivering Value Through People, 2nd edn, by Dr John Gattorna, FT Prentice Hall, Harlow, 2010.
- 1. Chapter 2: (pp. 35-38)
- 2. Chapters 7 to 10.
- 3. Chapter 6: (pp. 141-146)
- 4. Chapter 4.
- 5. Chapter 12: (pps 291- 295)
- 6. Chapter 13: (pps317-319)