

Reframing Business

When the Map Changes the Landscape

Richard Normann

JOHN WILEY & SONS, LTD

Chichester · New York · Weinheim · Brisbane · Singapore · Toronto

Reconfiguring the Value Space

2

THE DENSITY PRINCIPLE

Some years ago I received an offer from American Express:

If I went to a particular shop in Stockholm (and paid with my card), it said, I could have two suits and a certain number of shirts made to measure for me, at a very advantageous price – and with a couple of silk ties thrown in. Since I often visited Stockholm, since I happened to need new suits, and since I realized that as a resident of France I could even deduct the value added tax (this was before Sweden's entry into the European Union) I decided to try it out.

To my surprise, the shop was a very small one – but they had samples of cloth, drawings of designs, a couple of computers, and people with ideas. I ordered four suits.

A few weeks later I came back. My suits were there, made to my body measurements in Germany from cloth of a famous French brand fabricated in Italy. The shirts had been made to measure from Swiss cotton in British Hong Kong. The silk ties – not made to measure – were again of another famous French brand but also made in Italy.

This seemingly naive little story contains much of the essence of today's economy. Literally, a global system was mobilized. Activities went on in real time and in parallel, all coordinated by information technology – and by the shape of my body. The final result combined the competences of some of the best designers and manufacturers in the world (at least given the financial constraints of the transaction). And American Express and the shop made a barter deal: the shop got access to the (attractive) customer base of American Express cardholders in exchange for giving them a discount, which was perceived by the cardholders as a special benefit from American Express, enhancing cardholder ('member') loyalty.

What is illustrated here I think is that a combination of resources is mobilized for a customer at a given time in a way that creates the optimum value/cost. *Such mobilization of resources for a given time/space unit can be ever more individualized than we can handle – to us. The time/space unit that fits us to a particular orchestra can be brought into operation.*

In the new economy there are many more resources. These markets are becoming more global. The resources and assets are being recombined into new products, services, information.

What used to be bundles of resources are being recombined into new structures and in one geographic area. Activity sets are being taken to new places, global, liquid markets, to the places where they are to be performed at the moment, again being recombined – recombined, ultimately (and increasingly) by a central coordinator.

With this comes an increase in the density principle would mean that we have more or less a whole world of resources at his or her disposal.

THE EFFECTS OF TECHNOLOGICAL CONSTRAINTS

The effect of technology is – and has been – an increasing constraint. As a result of technological development, what was not economically possible. Or what was not economically possible.

Eras of progress in the history of human civilization with technological development, which allowed more effective communication of the Roman Empire was due to the invention of the printing press. The Renaissance

What is illustrated here I think of as the 'principle of *density*'. The best combination of resources is mobilized for a particular situation – e.g. for a customer at a given time in a given place – independent of location, to create the optimum value/cost result. '*Density*' expresses the degree to which such mobilization of resources for a 'time/space/actor' unit can take place. Offerings can be ever more individualized. Internet brings information – more than we can handle – to us. The mobile phone frees us to choose whatever time/space unit that fits us to communicate and trade. The symphony orchestra can be brought into our home – or our car.

In the new economy there are liquid markets for virtually all possible resources. These markets are based on dematerialized information and are global. The resources and assets include raw materials, components, manufactured products, services, information, financial services, risks, . . .

What used to be bundles of activities put together within one legal structure and in one geographical position are now being exploded. Activity sets are being taken apart, and each part is allocated along the global, liquid markets, to the most suitable actor in the most suitable place to be performed at the most suitable time. And then activities are again being recombined – rebundled – with the business company and ultimately (and increasingly) with the final customer as the actor and coordinator.

With this comes an increase in 'density'. The ultimate expression of the density principle would mean that any economic actor at any time would have more or less a whole world of specialist knowledge and specialized assets at his or her disposal.

THE EFFECTS OF TECHNOLOGY: LOOSENING OF CONSTRAINTS

The effect of technology is – and always has been – to loosen constraints. As a result of technological development, what was not possible becomes possible. Or what was not economically feasible becomes so.

Eras of progress in the history of mankind generally have been associated with technological development. Many of them were related to the art of warfare, which allowed more effective exercise of power. Much of the power of the Roman Empire was due to innovations in transportation and communication. The Renaissance saw significant change in transportation

technology (it now became possible to sail to India, or America as it turned out), and – probably even more significant for the long term – in the diffusion of information and knowledge through the invention of book printing. *Time Magazine* made Johannes Gutenberg man of the millennium.

Perhaps the most notable invention of the Industrial Revolution was that of the engine, which literally meant the liberation of energy: it was now possible to apply large amounts of energy far away from the energy sources. Energy no longer had to come from humans, the nearby waterfall, or animals. Electricity later made energy omnipresent, as if by magic.

Production of the necessities of life, such as food, housing, clothes, could now be specialized and came to take up only a smaller portion of society's resources. Specialization of economic activities was rapid. A necessary corollary to this was the dramatic development of transportation – of goods, people, and information. Specialization requires more linkages and networks than an economy of self-sufficient units. Equally necessary was the parallel development of transaction infrastructures. According to Rachline (1992), 'bank' as a concept existed prior to the concept of 'enterprise'.

Today's new technology – and here I stick conservatively to information technology without speculating about what possible new dimensions genetic technology and other round-the-corner breakthroughs might bring – liberates us from constraints particularly in terms of:

- Time *When* things can be done
- Place *Where* things can be done
- Actor *Who* can do what
- Constellation *With whom* it can be done.

By way of a simple illustration:

In *The Economist*, March 1994, the magazine attempted an analysis of the future of medicine. One scenario, 'Surgery 2010', depicted a patient in Sofia (Bulgaria) in a mobile operating room, being operated on by a surgeon from St Louis (USA), assisted by a consultant from New Delhi (India), with a simulation of the operation taking place anywhere. All these activities, taking place in real time, were linked together by satellite technology and – of course – electromechanical technology coordinating the various activities of the actors and translating their intentions into physical action.

What we see here is again most competent resources for to act in a unique, case-oriented way of illustration – I mean surgeons in a university hospital is all fine, but take away ten years

All this adds up, cumulatively more illustrations will follow. Along all these dimensions open reconfiguration. Some economic comprehensive in seizing the potential. They are Prime Movers.

DRIVERS PROMOTING DENSITY

The density opportunity is driven to a great extent by our imagination of today's new technological breakthrough activity sets – or 'reconfigurable' impossible. Such restructuring achieved by shattering activity linked to each other, and the activities and assets that used to be consuming or too expensive to produce, thus, is related to the ability to the ability to 'link', and 'push' the forces that lead to density is

Dematerialization and liquification

A car is not just a heap of steel and It bears information about the development work, about deal history (it has been conceived by the knowledgeable observer position

The more we are interested need to know how it fits into

What we see here is again a global system in which the best and most competent resources for the purpose can be mobilized in real time to act in a unique, case-oriented way, on a particular subject. When – by way of illustration – I mentioned this example to some world-class surgeons in a university hospital recently their comment was: ‘Yes, this is all fine, but take away ten years or so from 2010.’

All this adds up, cumulatively, to the issue of *what* can be done. Many more illustrations will follow. Together, the elimination of constraints along all these dimensions open up a new, much larger *opportunity space* of reconfiguration. Some economic actors will be quicker and more comprehensive in seizing the potential and thereby occupying the space. They are Prime Movers.

DRIVERS PROMOTING DENSITY

The density opportunity is driven primarily by new technology, but also to a great extent by our imagination and our mind-sets. The major thrust of today’s new technological break-throughs is in the opportunities to restructure activity sets – or ‘reconfigure’ them – in ways that were hitherto impossible. Such restructuring implies two basic processes. The first is achieved by shattering activity sets and assets which used to be closely linked to each other, and the second comes from being able to re-link activities and assets that used to be impossible or difficult or very time consuming or too expensive to put together. The first of this set of driving forces, thus, is related to the ability to ‘break up’, or to *unbundle*; the second to the ability to ‘link’, and ‘put together’ or to *rebundle*. An overview of the forces that lead to density is found in Figure 2.1.

Dematerialization and liquification

A car is not just a heap of steel and plastic. It is also an information carrier. It bears information about the existence of a factory, about research and development work, about dealer networks. It tells us something about history (it has been conceived produced, moved, etc.). It also suggests to the knowledgeable observer possibilities for future use.

The more we are interested in the *utilization* of an asset, the more we need to know how it fits into a context of future production and value

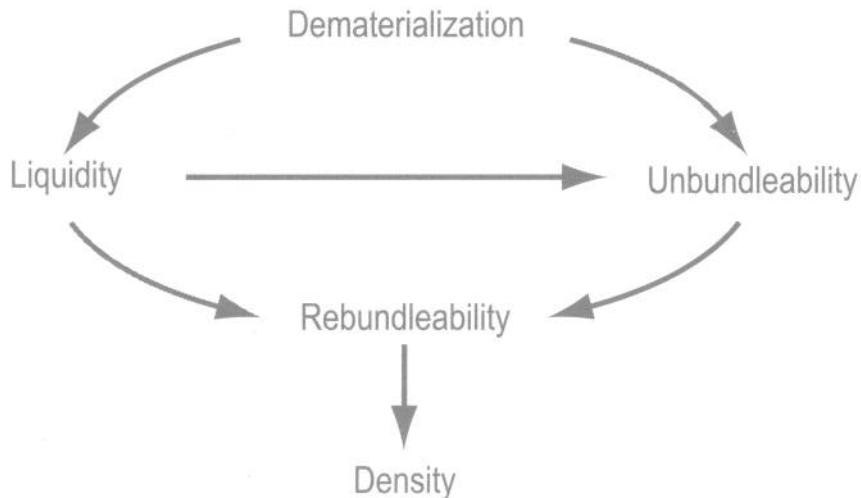


Figure 2.1 Drivers promoting density – overview.

creation. Thus, the more interested we are in *information* about its performance and characteristics, its position in time/space related to other assets. Such information also enables us to evaluate the competence requirements for use, as well as an appreciation of the risks involved. For the action (or deliberate non-action) we take related to an asset, *information about the 'asset-in-context'* and not only the asset itself is critical to us.

No wonder that political, military and economic actors throughout history have been anxious to have information about what they could not immediately and physically see and sense! Man has always striven to make information travel lighter and faster than the physical assets it pertained to. Road systems and postal systems for messengers, semaphore systems, telegraph systems, have been installed for competitive advantage since far back in history. It has been said that the real breakthrough of the Rothschild family was based on their advance knowledge of the outcome of the Battle of Waterloo, thanks to their carrier pigeon system. Pigeons have also served in other contexts:

1898 Carrier Pigeons

PARIS – The transatlantic Steamship Company is organizing a carrier-pigeon service for its Atlantic liners, and it is hoped that these birds will be useful in informing people on land of the breakdown of machinery or other accidents which may happen in mid-ocean. The

recent accident to the vessel *Char* this step (*International Herald Trib*

On the other hand, history is all information travelling slowly. In the description of the situation of Geneva because of smoke and dust and noise general to visually appreciate what to dart between him and the various does not happen the situation of the changed appreciably at their arrivals is not reliable, not the physical world, not coordinated

Even if it had been possible to travel faster, it was not until technology and digitalization that information and able to travel with infinite speed real time.

The ability to *separate the information* most important driver of today's technology requires a special infrastructure because that infrastructure is in place information has been dematerialized – the information object, not even pigeons, to carry it

As we are now well aware, this information can create a world in the physical world. The virtual world paradoxically, the most interesting aspect world from the dematerialized virtual it gives to re-link the two in new ways

In the euphoria of digital technology that dematerialization is not a new and payment systems provides us an example of dematerialization. And system combining with digital technology commercial transactions by far has international commercial transactions around dematerialized, financial assets

recent accident to the vessel Champagne induced the company to take this step (*International Herald Tribune*, 1998).

On the other hand, history is also full of stories about the vagaries of information travelling slowly. In Tolstoy's *War and Peace* there is a famous description of the situation of General Kutuzov at the Battle of Borodino. Because of smoke and dust and noise it soon becomes impossible for the general to visually appreciate what is going on; messengers die as they try to dart between him and the various scenes of the battle; even when this does not happen the situation of the local battle scene would likely have changed appreciably at their arrival. The information upon which decisions are based is not reliable, no longer representative of the change of the physical world, not coordinated.

Even if it had been possible to find technologies for making information travel faster, it was not until the breakthrough of information technology and digitalization that information became totally *dematerialized* and able to travel with infinite speed, in principle existing everywhere in real time.

The ability to *separate the information aspect from the physical world* is the most important driver of today's technological revolution. The separation requires a special infrastructure based on digital technology, but once that infrastructure is in place information is free to flow in real time. It has been dematerialized – the information no longer requires a physical object, not even pigeons, to carry it.

As we are now well aware, this complete separation of dematerialized information can create a world in itself, a virtual world as opposed to a physical world. The virtual world takes on a life of its own. Yet, paradoxically, the most interesting aspect of this separation of the physical world from the dematerialized virtual world consists of the opportunities it gives to re-link the two in new ways.

In the euphoria of digital technology infrastructures we may forget that dematerialization is not a new phenomenon. The world of finance and payment systems provides us with a centuries-old and fascinating example of dematerialization. And now, with that old but very modern system combining with digital technology, the world's largest market for commercial transactions by far has emerged: about 95 per cent of all the international commercial transactions taking place today are transactions around dematerialized, financial assets rather than physical assets!

The dematerialization of financial assets is deeply intertwined with the growth of trade and with specialization. In primitive societies people swapped physical assets: a fish for a piece of flintstone. But to enable more transactions a new neutral, symbolic 'currency' was required, and so (after local experiments with shells and other objects) the general concept of 'money' was invented. This built on the notion that the 'value' of something could be separated from the 'something', so that different 'somethings' could be neutrally compared and exchanged. A system of markets, and of market-making institutions, went along with this development.

However, the unbundling of the neutral 'value' from the asset itself did not yet mean dematerialization. Shells and copper plates are still physical objects and had to be carried about; the same goes for paper bills. The financial system has hesitated for a long time before it took major steps to dematerialize money. The USA abandoned the gold parity system in 1933.

The banking system had abandoned the distinction between the physical world and the world of capital much earlier, namely with the introduction of credit. Credit is truly dematerialized. Commerce with credits is commerce moved into the realm of the future. Credit builds on trust, and the belief that actors will perform in the future. As we know, if we all go to our banks to ask for our money in physical form we will hardly get anything and the whole system will collapse.

The dematerialization of money depended on contextual information. Somebody who wanted to trade with unknown interlocutors in another country used his or her bank, which used a correspondent bank that had local networks and knowledge about local actors, and an impeccable track record.

Sometimes that dematerialization may be much more complex than we think. An obvious example is knowledge. It is popular to say that knowledge is now available everywhere, that there is a global market for it. In fact, this is a dangerous misunderstanding. Resurrected old theories about knowledge (from Jung to Polanyi to Nonaka and Takeuchi) tell us that much knowledge is 'tacit'. It has not been explicitly coded, but it exists in the unconscious or subconscious of individuals. Therefore it cannot easily be unbundled from those individuals; some complex knowledge cannot be separated from its physical carriers. To make it even more complex and inseparable knowledge is not only embedded as 'tacit' in

individuals, but in cultures and exists in language and 'concept: between individuals and extendi which depend on the context an often only in interactive social p given cultural background and e cedures which in themselves may that the tacit knowledge may exp true that there is an explosively also true that the dematerializati relative to many other dematerial

Still, with digitalization we ha towards dematerialization of info creates the foundation for the exp

An immediate effect of demate tures are in place) is *liquification*, 1 ized can easily be moved about. 8 information about literally any as: liquid, new effective global mark and for information about infori created.

The great strength of digitali: dematerialized (this happened w the digital format. Once somethi move it and to remanifest it phy was not the case with analogue in

Yet another effect of this is the Specialization implies a continua more generally to *relieve* actors fro performed by more specialized a was one of the main thrusts behi inherently linked to specializatio

Unbundleability

For a simple but effective exampl well defined and held together in

individuals, but in cultures and established social systems. Knowledge exists in language and 'concepts' which are culture-embedded (shared between individuals and extending over generations) and the transfer of which depend on the context and on gestures and body language. It is often only in interactive social processes within a given context, with a given cultural background and expectations network, and through procedures which in themselves may not have been coded and made explicit, that the tacit knowledge may express itself through action. So while it is true that there is an explosively growing virtual information world it is also true that the dematerialization of *knowledge* does not at all keep pace relative to many other dematerialization processes.

Still, with digitalization we have taken by far the greatest single step towards dematerialization of information in the history of mankind. This creates the foundation for the expanding value space.

An immediate effect of dematerialization (once information infrastructures are in place) is *liquification*, meaning that what has been dematerialized can easily be moved about. Since it is now possible to dematerialize information about literally any assets, and since this information is highly liquid, new effective global markets for physical assets, for information, and for information about information (and we can go on!) have been created.

The great strength of digitalization is not that information becomes dematerialized (this happened with the telegraph), but the *versatility* of the digital format. Once something has been digitalized it is possible to move it and to remanifest it physically in many different shapes (which was not the case with analogue information).

Yet another effect of this is the opportunity for increased *specialization*. Specialization implies a continuation of opportunities to 'outsource', or more generally to *relieve* actors from performing tasks which can be better performed by more specialized actors elsewhere. Relieving in this sense was one of the main thrusts behind the Industrial Revolution, and it is inherently linked to specialization.

Unbundleability

For a simple but effective example of unbundling of activities hitherto well defined and held together in time and place and by actor, consider

IKEA⁶, the world's leader in home furnishing. The following represents an excerpt from their catalogue (my translation):

<i>This is done by IKEA:</i>	<i>This is done by the customer:</i>
Design and develop the products	You check, choose and pick up the goods yourself
Wrap in flat packages	You transport the furniture to your home
Manufacture and purchase large volumes	You assemble the furniture
Check the quality and the functions	You tighten the screws

Together we save money!

What is interesting about this is that it presents the very idea of a company in terms of two role descriptions: what is the role of the company, and what is the role of the customer. (What IKEA does not do in this catalogue – of course, designated for the customer – is to point out the roles of other economic actors such as various producers around the world. IKEA outsources most of their manufacturing to factories in many different countries, and they also use external economic actors for several activities including design and transportation.)

We can see that IKEA has unbundled the activities involved in home furnishing and reallocated them along the dimensions mentioned earlier:

- In *place*, by moving assembly from a factory to the customer's living-room, thus better utilizing available space already paid for
- In *time*, by moving assembly from before to after purchase
- By *actor*, enabling the customer to assemble, therefore relieving factory workers from doing it

The above analysis pertains only to the assembly activity. We will return to some less obvious but more subtle and intriguing aspects of the case later.

There is nothing new in allocating certain activities to the customer. After all, if General Motors or Volvo or Fiat produce cars, the customers drive them. *The novelty is in the way the total activity clusters, not just some pieces traditionally thought of as being 'at the end' in the system of value creation, are unbundled and reallocated to different actors, and most notably to the customers in the IKEA example.*

Why has IKEA been successful redefining many industries today? 'unbundle' the total set of activities and reallocate them to different economic actors. These activities are tied together by an overall concept towards the final determining factor: the customer.

A special case of unbundleability is the notion of *risk*. Dematerialization helps us understand risks (as well as to handle them) in the future development. As Peter Bernstein (1999) says: 'The revolutionary idea that came to the fore in the 19th century was that the fall into the future is more than a whim of the gods and that the fall into the future is the perspective of actors should and should not be present to value creation in the future. The understanding and managing risk is the key to the new economy with its focus on performance and product.'

Rebundleability

Just as dematerialization and unbundleability possible, they also promote the possibility of activity sets is helped by connectivity that leads to *interactivity* and *interactivity*.

The 'Surgery 2010' example illustrates the possibility of activity sets. The operation can be broken down into activities, and the most effective result is achieved by them, independent of place. By 1990, the concept-based knowledge of the participants was used to interactively communicate these dispersed resources re-emerge as a whole.

Also, just as the new technologies

Why has IKEA been successful? And why are so many new players redefining many industries today? Exactly because they know how to 'unbundle' the total set of activities required to create value, and then reallocate them to different economic actors, yet ensure that they are all tied together by an overall concept, and that they are all leveraged towards the final determining factor of whether value has been created – the customer.

A special case of unbundleability should be mentioned, namely the notion of *risk*. Dematerialization has resulted in ever more refined tools to understand risks (as well as to handle risks), and this in itself is a crucial development. As Peter Bernstein (1996) has said in his book *Against the Gods*: 'The revolutionary idea that defines the boundary between modern times and the past is the mastery of risk. The notion that the future is more than a whim of the gods and that men and women are not passive before nature.' Thus, 'the fall into the future' (Rachline) – the notion that the perspective of actors should and can be moved from the past and the present to value creation in the future – is highly related to this notion of understanding and managing risk better; a crucial aspect of the service economy with its focus on performance rather than production and product.

Rebundleability

Just as dematerialization and unfreezing and liquification make unbundleability possible, they also promote *rebundleability*. Rebundling of assets and activity sets is helped by *connectivity*, and especially real-time connectivity that leads to *interactivity* and *reciprocity* between economic actors.

The 'Surgery 2010' example illustrates the notion of rebundleability of activity sets. The operation can be divided into its various necessary activities, and the most effective resources can then be mobilized for each of them, independent of place. By linking them together through the concept-based knowledge of the particular type of operation and enabling them to interactively communicate with each other (and to transfer physical movements in one place to another through robot technology) these dispersed resources re-emerge as one focused and coordinated whole.

Also, just as the new technologies make increased relieving possible

they also make more *enabling* possible. If 'relieving' means that 'I can do this for you since I am more specialized and I can do it better', 'enabling' means 'I can help you do things yourself that you were never able to do before by empowering you with more capabilities and assets that you did not have access to'.

The notion of 'enabling' reminds us of one of the most interesting findings and intellectual pathways of the 'service management era', namely that of the customer not as a 'consumer', but as a 'co-producer' and 'participator'. If the notion of value creation and the scope of the 'Value-creating System' that a company needs to keep in mind, is extended from the production of a product to the value creation that will take place in the future in the client system, focus also will move to *the capabilities of the customer as a value creator*. I will develop this theme later.

One more strong source of rebundleability should be mentioned, namely that of the use of '*barter currencies*' in addition to monetary currencies for transactions and for longer-term relationships. It would be a mistake to believe that, even in modern times, the whole economy is monetarized. In fact, many transactions and relationships take place by exchange of barter currencies between actors. For example, American Express gets hotels, shops, restaurants etc. as distribution outlets for their services in exchange for bringing their strong customer base to the same places. Companies such as EF Education and JC Decaux (more about them later) to a great extent build their whole businesses on the way they manage to link various actors who have something to barter with each other. Customer communities form over the Internet based on barter of knowledge and experiences. Cooperative organizations re-emerge in different and often complex shapes, also based on transactions and relationships which go far beyond money. The innovative use of barter currencies makes it possible to link actors with each other, each having complementary resources (such as time, competence, information, etc.), therefore increasing the capacity and density of a value-creating system and process.

Technological linkages, backed up by concepts, by pedagogical enabling and by an understanding of the stakes that actors (potentially) have to work together are all instruments that can be used to 'rebundle' resources and mobilize them in a coordinated way to form a new, more effective cluster of value-creating activities.

Some Consequences of Dematerialization

COST STRUCTURES, VALUE, AND

The driving forces mentioned change asset structures and therefore force companies to reconfigure their cost structures. An obvious example is the relationship between production and distribution costs. The development of dematerialized assets and the mobilization of assets which has to be retrieved either at the front or at the back cost to every specimen sold – the

infrastructure, also for today's intangible assets (not seldom risky to build). While the costs to increase, there is certainly a shift towards dematerialized assets. Therefore, the *marginal cost* dramatically increases in the physical world. As a result, in many cases the incentives to large size, increase in the intangible world. But to complicate matters in the intangible world, an economic actor to raise the price much more than the

Economics attributes 'transaction costs' to the production of goods and services. As is well known from many experiments, it is not easy for any seller to establish an actional value. A 'market', with all its complexities, is required to handle enormous complexity, is required to say something in principle about the value that will be, or can be, established. The value is determined by the seller prepared to pay, and no lower than the value established by the buyer.

Sellers usually look at their costs (including a risk premium) as the minimum transaction